Comprehensive Plan Update

CITY OF JEFFERSON, MISSOURI

COMPREHENSIVE PLAN UPDATE

Prepared for:

City of Jefferson, Missouri

Prepared by:

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St. Louis, Missouri

Contributing Consultants:

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(Plan Consultation & Recreation Facilities Component)
and
Techniplan, Inc.
St. Louis, Missouri
(Utilities Component)

March, 1996

RESOLUTION

RS96-4

A RESOLUTION OF THE CITY OF JEFFERSON, MISSOURI, ACCEPTING AND ADOPTING A COMPREHENSIVE PLAN UPDATE.

WHEREAS, the City Council of the City of Jefferson, is responsible for establishing overall and active policies to guide City development, and

WHEREAS, an update of the Comprehensive Plan has been accomplished, to document community development goals, objectives and policies, and to guide the physical growth and development of Jefferson City; and

WHEREAS, the Parks and Recreation Commission did unanimously approve the Parks and Recreation Master Plan portion of the Comprehensive Plan Update; and

WHEREAS, the Planning and Zoning Commission adopted the Comprehensive Plan Update, after review and modification; and after holding a public hearing as required by law:

NOW THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF JEFFERSON, MISSOURI, that the Comprehensive Plan Update for the City of Jefferson, Missouri, dated February 1996, as modified by the Commission, and containing descriptive matter and maps relating to a Community Analysis, which contains Economic and Demographic Trends and Projections; Land Use, Utilities, Development Factors, Recreation Facilities, Sub-Area Analysis, Solid Waste Issues, Goals and Objectives; and a Development Plan which contains a Land Use and Major Street Plan; Sub-Area Plans; Parks and Recreation Plan; and Implementation; is hereby adopted as the official Comprehensive Plan Update for the City of Jefferson, Missouri.

BE IT FURTHER RESOLVED that the Mayor and City Clerk and hereby authorized and directed to endorse the acceptance of said Comprehensive Plan Update and to certify the approval of said Comprehensive Plan Update under the seal of the City of Jefferson.

Adopted this 3rd day of June, 1996

Mayor

ATTEST:

City Clerk

APPROVED AS TO FORM:

City Counselor

RESOLUTION

WHEREAS, the Planning and Zoning Commission of Jefferson City, hereinafter referred to as the Commission, is responsible for the update and adoption of the Comprehensive Plan for guiding the physical growth and development of Jefferson City; and

WHEREAS, the firm of Landform Urban Planning Services, a firm specializing in the preparation of Comprehensive Plans, was retained to advise and assist the Commission with the preparation of the Comprehensive Plan update; and

WHEREAS, Landform Urban Planning Services did prepare a draft Comprehensive Plan Update which has been reviewed and modified by the Commission; and

WHEREAS, the Commission held a public hearing on the Comprehensive Plan Update as is required by law:

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING AND ZONING COMMISSION OF JEFFERSON CITY, MISSOURI, THAT THE COMPREHENSIVE PLAN UPDATE FOR THE CITY OF JEFFERSON, DATED FEBRUARY, 1996, AND CONTAINING DESCRIPTIVE MATTER AND MAPS RELATING TO A COMMUNITY ANALYSIS WHICH CONTAINS ECONOMIC AND DEMOGRAPHIC TRENDS AND PROJECTIONS, LAND USE, UTILITIES, DEVELOPMENT FACTORS, RECREATION FACILITIES, SUB-AREA ANALYSES, SOLID WASTE ISSUES; GOALS AND OBJECTIVES; AND A DEVELOPMENT PLAN WHICH CONTAINS A LAND USE AND MAJOR STREET PLAN, SUB-AREA PLANS, PARKS AND RECREATION PLAN, AND IMPLEMENTATION, IS HEREBY ADOPTED AS THE OFFICIAL COMPREHENSIVE PLAN UPDATE FOR JEFFERSON CITY.

Adopted this 14th *day of* March, *1996.*

Barry W. [illegible]
Chairman

ATTEST:

Karen J. Keeney
Secretary

City of Jefferson

Duane Schreimann
Mayor

March 14, 1996

Mr. Gary Duffy, Chairman
Jefferson City Planning and Zoning Commission
320 East McCarty Street
Jefferson City, MO 65101

Dear Mr. Duffy:

The Jefferson City Parks and Recreation Commission has appreciated the opportunity to participate in the development of the City's new Comprehensive Plan over the past two years. The Plan's goals and the Parks and Recreation Master Plan portion of the study in particular were reviewed by various Committees and the Parks and Recreation Commission as a whole.

At their regular meeting of January 29, 1996, the Commission unanimously approved the Parks and Recreation Master Plan portion of the Comprehensive Plan and requests that the Planning and Zoning Commission and the City Council adopt it as the City's official policy.

The Commission is pleased to see the recognition of Parks and Recreation as an integral part of the City's future plans. The members of the Parks and Recreation Commission look forward to working with Planning and Zoning Commission and City Council members in the active implementation of the Plan to improve the quality of life for the citizens of the Jefferson City area.

Sincerely,

William M. Lockwood
Director of Parks and Recreation

CITY COUNCIL

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Louise Gardner, Past Mayor

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John D. Landwehr
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Dan Bernskoetter (past member)
Vern Scheulen (past member)

and in memory of
Thomas H. Benton, (past member & past Director of Planning and Code Enforcement)

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TABLE OF CONTENTS

INTRODUCTION 1
Purpose of Planning and Zoning 1
Planning Process 2

PART I: COMMUNITY ANALYSIS 5

CHAPTER 1: ECONOMIC AND DEMOGRAPHIC TRENDS AND PROJECTIONS 7
Employment and Income Trends 7
Trends in Retail Sales And Consumer Spending 14
Demographic Trends 19
Projections 25

CHAPTER 2: LAND USE 35
Existing Land Use 35
Undeveloped Land by Current City Zoning
and Estimated Future Land Use Requirements 48

CHAPTER 3: UTILITIES 59
Water Systems 59
Water Supply Development Support Capacity 61
Sanitary Sewer System 64
Stormwater Drainage 72

CHAPTER 4: DEVELOPMENT FACTORS 77
Introduction 77
Cole County 77
Callaway County 81
Summary and Conclusions 84

CHAPTER 5: RECREATION FACILITIES 87
Introduction 87
How Recreation is Perceived - A U.S. and Jefferson City Comparison 94
Perceived Benefits of Local Parks 96
U.S. Trends in Outdoor Recreation 99
Jefferson City - Activities and Attitudes 103
Determination of Recreational Demands & Needs 106
Recreation Patterns in Jefferson City 110
Current Facility Needs 111

CHAPTER 6: SUB-AREA ANALYSES 123
Introduction 123
High/Chestnut Street Area 123

East McCarty Street Area 133
Downtown Area 139

CHAPTER 7: SOLID WASTE ISSUES 149
Introduction 149
Recent History 149
Current Status in Jefferson City 151
Future Considerations 152

PART II: GOALS AND OBJECTIVES 153

CHAPTER 8: GOALS AND OBJECTIVES 155
Introduction 155
Overall Goals 155
Land Use 156
Transportation and Traffic 160
Utilities 164
Parks and Recreation 166
Other Public Facilities 167
Environment 168

PART III: DEVELOPMENT PLAN 169

CHAPTER 9: LAND USE AND MAJOR STREET PLAN 171
Introduction 171
Land Use 171
Implications on Zoning 181
Major Streets 184

CHAPTER 10: SUB-AREA PLANS 191
High/Chestnut Street Area 191
East McCarty Street Area 195
Downtown Area 199

CHAPTER 11: PARKS AND RECREATION PLAN 203
Introduction 203
Future Facility Requirements 204
Capital Projects for Recreation Facility Development 213
Summary 214

CHAPTER 12: IMPLEMENTATION 215
Introduction 215
Plan Adoption 216
Zoning and Subdivision Regulations 217
Annexation 221
Sewer Extension/Connection Policy 223
Redevelopment Tools 224
Major Capital Improvements 229
Comprehensive Plan Review 229

LIST OF FIGURES

Figure 1: Summary of Planning and Zoning 3

Figure 2: Community Planning Process 4

LIST OF PLATES

Plate 1: Existing Land Use 39

Plate 2: Undeveloped Land by Current City Zoning 49

Plate 3: Factors Affecting Future Development 79

Plate 4: Existing Park & Recreation Facilities 89

Plate 5: High/Chestnut Street Area 125

Plate 6: E. McCarty Street Area 135

Plate 7: Downtown Area 141

Plate 8: Development Plan 173

Plate 9: High/Chestnut Street Area Development Plan 193

Plate 10: East McCarty Street Area Development Plan 197

Plate 11: Downtown Area Development Plan 201

Plate 12: Parks and Recreation Facilities Plan 207

LIST OF TABLES

Table 1: Major Sources of Job Gains (1985 - 1990)
Cole County, Missouri 8

Table 2: Income Growth Rates (1985 - 1990)
Cole County, Missouri 9

Table 3: Major Sources of Job Gains (1985 - 1990)
Callaway County, Missouri 11

Table 4: Income Growth Rates (1985 - 1990)
Callaway County, Missouri 12

Table 5: Income Growth Rates (1985 - 1990)
Osage County, Missouri 14

Table 6: Trends In Retail Sales, 1982 - 1987 ($000)
Cole County and Jefferson City LMA 16

Table 7: Source and Amount of Patronage for Selected Retail Stores (1982 and 1987)
Cole County, Missouri 17

Table 8: City Shares of County Retail Sales (1982 and 1987)
Cole County and Jefferson City, Missouri 19

Table 9: Population and Household Changes (1980 - 1990) in Summit Township
Callaway County, Missouri 21

Table 10: Population and Household Changes (1980 - 1990) in Jefferson Township
Cole County, Missouri 21

Table 11: Number and Percent of Total Population 65 Years or Older
by Location (1980 and 1990)
Jefferson City, Missouri and Environs 22

Table 12: Trends in Household Composition (1980 - 1990)
Jefferson and Summit Townships 23

Table 13: Trends in Nominal and Real Household Income (1979 - 1989)
Jefferson City, Missouri and Environs 24

Table 14: Recent and Projected Wage and Salary Employment (1990 - 2010)
Cole County, Missouri 27

Table 15: Recent and Projected Resident Labor Force and Population (1990 - 2010)
Cole County, Missouri 28

Table 16: Recent and Projected Population (1980 - 2010)
Jefferson City, Missouri and Environs 30

Table 17: Recent and Projected Resident Households (1990 - 2010)
Cole County, Missouri 31

Table 18: Recent and Projected Household Income and Retail Sales (1990 - 2010)
in Constant Dollars
Cole County, Missouri 32

Table 19: Recent and Projected Retail Sales (1990 - 2010) in Constant Dollars
Cole County and Jefferson City, Missouri 32

Table 20: Land Use, 1992
Jefferson City Planning Area 36

Table 21: Annualized Land Absorption by Land Use Type (1977 - 1992)
Jefferson City Planning Area 37

Table 22: Undeveloped Land by Current City Zoning
Jefferson City, Missouri 51

Table 23: Estimated Future Land Use Requirements
Jefferson City Planning Area 52

Table 24: Historical Flows to the Water Pollution Control Plant (1980-84 & 1992)
Jefferson City, Missouri 67

Table 25: Comparison of Population Projections
(Comprehensive Plan Update vs. 1986 Wastewater Facilities Master Plan)
Jefferson City, Missouri 71

Table 26: Respondent Age and Gender Characteristics by Extent of Perceived Benefits
to the Community from Local Park Areas
(Nationwide Survey) 97

Table 27: Benefits of Park & Recreation Facilities by Type by Respondent Category
(Nationwide Survey) 97

Table 28: Respondent Education and Income Characteristics by Extent of Perceived Benefits
to the Community from Local Park Areas
(Nationwide Survey) 99

Table 29: Respondent Demographic Characteristics by Extent of Perceived Household Benefits from Local Park Areas (Nationwide Survey) 100

Table 30: Respondent Residence Characteristics by Extent of Perceived Benefits to the Community from Local Park Areas (Nationwide Survey) 101

Table 31: Recreational Facility Standards 107

Table 32: Population Projections Jefferson City vs. Unincorporated Area 109

Table 33: Recreation Facilities Needs Analysis Jefferson City Study Area 113

Table 34: Recreation Facility Needs Analysis Jefferson City, Missouri 114

Table 35: Comparison of Existing Parcel Use to Zoning District Classification (High/Chestnut Street Area) 127

Table 36: Proposed Land Use Jefferson City Planning Area 175

Table 37: Major Capital Improvements Jefferson City Planning Area 230

INTRODUCTION

This document represents the outcome of a comprehensive planning program update initiated by the City of Jefferson in 1992. The last full Comprehensive Plan update for Jefferson City was completed in 1969. Supplemental updates were completed in 1978 and 1986.

This Comprehensive Plan contains considerable information on the City and the region, with regard to physical and socioeconomic characteristics, and future development recommendations. This document consists of three parts which, together, make up the ***Comprehensive Plan***. They are:

Part I: ***Community Analysis;***
Part II: ***Goals and Objectives; and***
Part III: ***Development Plan.***

The findings of the Community Analysis phase was important in assessing future growth potential of the community and its ability to support such growth. The Goals and Objectives were developed to serve as a guide in preparing the Development Plan and to serve as a guide to future decisions concerning community development. The Development Plan is intended to be a policy document which sets forth the general arrangement of future land uses, major streets, and parks and open space, within and beyond the current City limits.

Purpose of Planning and Zoning

Before explaining the purpose of planning and zoning, it is important to distinguish the basic differences between the two subjects. In very general terms, planning can be defined as a scheme for making, doing or arranging something. A comprehensive plan, in essence, sets the framework for future development. It is based on a assessment of existing conditions and establishment of goals and objectives for the community's future. It is a "policy" document that recommends how the future community physical make-up should be. It is normally "comprehensive" in scope, whereby land use, major streets, utilities, parks and open space, etc. are integrated into a unified scheme.

Zoning is the "legal" tool the city uses to regulate land use. The city is afforded this regulatory authority per Chapter 89 of the Revised Statutes of Missouri (R.S.Mo.). Specifically, a zoning ordinance regulates items relating to the use of land, height and size of buildings, size of lots,

size of yards (building setbacks), and parking. It establishes definitions, standards, and procedures for the city's governing body to review and approve specific land developments.

Zoning regulations should be based on a sound and rational plan for the community. In fact, R.S.Mo., Section 89.040, states that such regulations shall be made in accordance with a comprehensive plan. Furthermore, case law reveals that land development control regulations cannot be arbitrary and capricious. For these reasons, it is imperative that a community carefully consider its development goals, objectives, and policies, and document them in a comprehensive plan. If done properly, the plan will provide a strong foundation for the city's zoning authority. Figure 1 provides a summary of the key features of a comprehensive plan and a zoning code.

The control of the use of land, through zoning, is essential to avoid/mitigate incompatible land uses, traffic congestion, environmental degradation and other negative community impacts, which are more likely to occur without development control. Also a reasonable, but relatively stringent, control is important to encouraging private development. The reason is that an individual or business, investing money into a residential or commercial property, can proceed with confidence in what the future holds for the city's land use pattern and, more particularly, their immediate surroundings.

Planning Process

Preparing a comprehensive plan is a structured process and, in order for it to have community support, it is essential to have citizen input. Figure 2 illustrates the basic planning process employed by the City of Jefferson. Citizen input was solicited, via a public workshop, early in the community analysis phase. This input was used in formulating the goals and objectives for the plan. During the plan formulation stage, several concept plans were prepared, along with a preliminary statement of goals and objectives. The attendees at the first workshop, and the community at large, were invited again to review and comment on these plan proposals, prior to preparing a pre-final plan for public hearing purposes. While a public hearing on the comprehensive plan is required by law (for purposes of public input), it was the intent of the Jefferson City planning process to involve the public at several stages prior to such hearing.

Figure 1

SUMMARY OF PLANNING AND ZONING

COMPREHENSIVE PLAN

1. Serves as a guide for decisions concerning the community's physical development.

2. Takes a comprehensive approach to a wide range of community development issues (e.g., land use, major streets, parks & open space, etc.).

3. Documents community development goals and objectives.

4. Recommends location and intensity of land uses, major street improvements, parks and open space, etc.

5. Provides a rational basis for administering the zoning code and other development regulations.

The plan is a "POLICY" document

ZONING CODE

1. Is the legal tool for achieving community development goals & objectives established through the planning process.

2. Regulates specific items relative to land development:

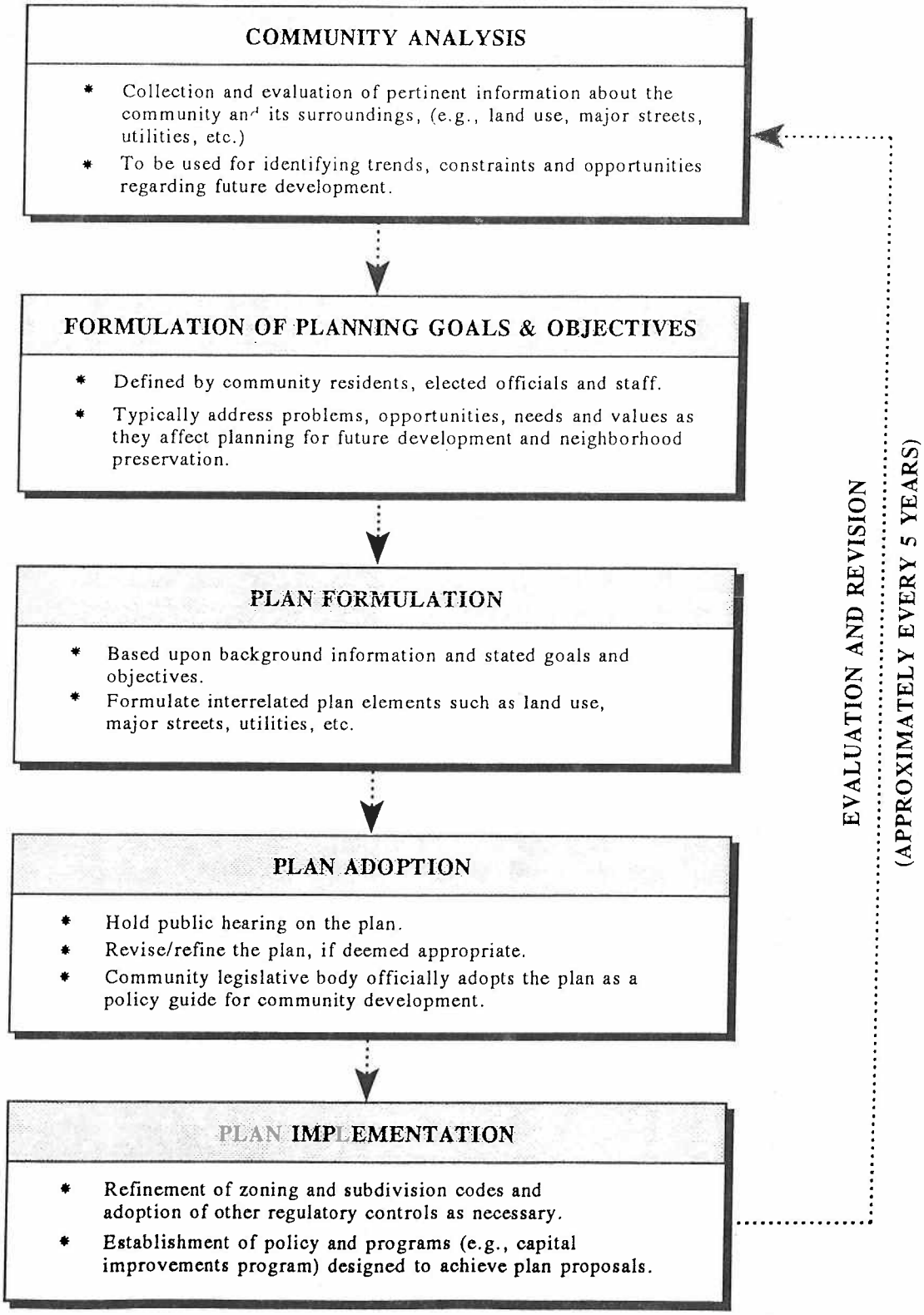
   a. use of land
   b. height and size of buildings
   c. size of lots
   d. yards and other open spaces
   e. buffers between incompatable land uses
   f. parking

3. Establishes definitions, standards and procedures for reviewing and approving land development.

The zoning code is a "LEGAL" document

Figure 2

COMMUNITY PLANNING PROCESS



PART I: COMMUNITY ANALYSIS

CHAPTER 1
ECONOMIC AND DEMOGRAPHIC TRENDS AND PROJECTIONS

Employment and Income Trends

Introduction

Place of residence data for jobholders working in Cole County in 1980 indicate that the labor market area (LMA) for Jefferson City includes both Callaway and Osage Counties, Missouri. In 1980, almost 3,000 residents of Callaway County worked in Cole County. These 3,000 workers represented 14.1 percent of the total labor force living in Callaway County at that time.

In the case of Osage County, 1,750 workers residing in that county held jobs located in Cole County. Those 1,750 residents represented 28.9 percent of the total labor force living in Osage County in 1980. At the same time, more than 1,100 residents of Cole County commuted to jobs located in Callaway and Osage Counties.

By way of contrast, only 923 residents of Boone County commuted to jobs located in Cole County. Moreover, only 413 residents of Cole County commuted to work locations in Boone County.

The above flows of workers between Cole, Callaway and Osage Counties warrant their inclusion in this analysis of recent employment and income trends within the Jefferson City LMA. Although 1990 data on place of work versus place of residence was not available at the time of this writing, it was estimated that the number of non-residents working in Cole County in 1990 was substantially greater than the 8,446 tabulated by the Department of Labor during 1980. It is estimated that the comparable 1990 number will be in the range of 10,500 to 11,000, which is confirmed by the analysis of Cole County payrolls presented later in this Chapter.

Based on employment and income totals, Cole and Osage Counties represent the two extremes. Approximately midway between these two extremes, Callaway County's 1990 employment equalled just 30 percent of the total jobs located in Cole County. In contrast, Callaway's 11,829 wage and salary jobs dwarfed the 2,014 jobs in Osage County by a factor of almost six to one.

Trends in Cole County

Between 1985 and 1990, wage and salary employment located in Cole County grew at an annual 3.0 percent rate. As a result, total employment rose from 33,800 to 39,213 -- a gain of more than 1,000 jobs annually.

Four employment sectors generated 4 of every 5 new jobs added in the period. Table 1 summarizes the separate contributions of these sectors.

Table 1
Major Sources of Job Gains (1985 - 1990)
Cole County, Missouri [1]

Employment Sector	Jobs Added	Percent of Total Gain
Services	1,977	36.5
State Government	1,451	26.8
Wholesale Trade	561	10.4
Manufacturing	483	8.9
Subtotal	**4,472**	**82.6**
All Other Sectors	941	17.4
Total	**5,413**	**100.0**

During this period of employment gains, annual earnings from wage and salaried employment grew from $548.1 million in 1985 to $786.4 million in 1990 (see Table 2). However, these two figures are not truly comparable, since a dollar earned in 1990 had less purchasing power than a dollar earned in 1985. These figures have therefore been inflation adjusted using the 1982 value of a dollar as the base. The adjusted figures of $490.5 million in 1985 and $605.5 million in 1990 reflect a compound growth rate averaging 4.29 percent per year throughout the last half of the 1980's.

Wage and salary income comprises most, but not all, money income received by individuals. Other income sources, such as interest and dividends, make up the remainder. In Cole County, these other sources grew about as rapidly as did earnings from wages and salaries -- 4.30 percent a year compounded (see Table 2).

[1] Source: Missouri Division of Employment Security (MODES); and economist N. Bradley Susman.

Since jobs added during the 1985-1990 period absorbed a significant portion of the aggregate income growth, the rate of income growth per individual job would necessarily be lower than the growth rate in aggregate income. And, indeed, it was, averaging only 1.25 percent a year on an inflation-adjusted basis (see Table 2).

Money income per individual resident of Cole County grew at an annual rate that was appreciably faster than the growth rate of money income per job -- 3.63 versus 1.25 percent, respectively. The reason for this difference in growth rates stemmed from an increase in the number of Cole County jobs per 100 residents -- 54.9 versus 61.7 jobs per 100 residents in 1985 and 1990, respectively. Accompanying this increase was a rise in the proportion of the resident population at work or looking for work. According to the Missouri Division of Employment Security, this proportion rose from 52.5 percent in 1985 to 56.1 percent in 1990.

Table 2
Income Growth Rates (1985 - 1990)
Cole County, Missouri [2]

Income Category	Thousands of Dollars		Annual Growth Rate 1985-1990
	1985	1990	
Total Wage and Salary Income [3]			
- Current Dollars	$ 548,100	$ 786,400	7.49%
- Inflation - Adjusted	490,500	605,500	4.29
Total Money Income [4]			
- Current Dollars	655,921	941,048	7.49
- Inflation - Adjusted	587,049	724,607	4.30
Inflation - Adjusted Income			
- Wages & Salaries per Job	14.5	15.4	1.25
- Total Income per Job	17.4	18.5	1.25
- Total Income per Resident	9.5	11.4	3.63

By way of comparison, the 1990 Census recorded aggregate money income (in 1989 dollars) of $834,426,000. In contrast, estimates derived from the relationship between wage and salary

[2] Source: Bureau of Economic Analysis, US Dept. of Commerce; MODES; and economist N. Bradley Susman.

[3] Place of Work Basis.

[4] Place of Residence Basis.

earnings, and total money income, indicated aggregate money income of Cole County residents in 1989 was $941,048,000. On a per household basis, average money income was only $36,174 according to the 1990 Census, but was $40,796 when derived from the earnings/total income relationship. Under-reporting of income by Census respondents has been widely acknowledged for many years.

The figures for total money income, in Table 2, exclude wages and salaries earned in Cole County by non-residents. Estimates prepared by the Bureau of Economic Analysis indicate the percentage of wage and salary income earned in Cole County by non-residents of the County stood at 23.9 percent in 1980.

By 1985, this non-resident share of earnings had risen to 26.8 percent. It subsequently rose further, to 27.4 percent in 1990. However, as will be discussed in the section on retail sales and consumer spending, a substantial portion of non-resident income earned in Cole County is recycled through Cole County retailers. In terms of 1990 commuter flows, the 27.4 percent of Cole County payrolls paid to non-residents translates into an estimated 10,744 non-resident workers in that year.

Trends in Callaway County

Between 1985 and 1990, wage and salary employment located in this county grew at an annual rate of 3.51 percent. During this period, overall employment rose from 9,956 to 11,829 -- an average gain of 375 jobs annually.

This employment growth took place despite substantial reductions in construction jobs occasioned by the completion of work on Union Electric's Callaway power generating plant. Again, just four employment sectors accounted for 90 percent of the jobs added during the period. Table 3 summarizes the separate contributions of these sectors.

During this period of employment gains, annual earnings from wage and salaried employment grew from $170 million in 1985 to $229 million in 1990 (see Table 4). As noted earlier, these two figures are not truly comparable, since a dollar earned in 1990 had less purchasing power than a dollar earned in 1985. These figures have, therefore, been inflation-adjusted using the 1982 value of a dollar as the base. The adjusted figures of $152 million in 1985 and $176.2 million in 1990 reflect a compound growth rate averaging 3.01 percent per year throughout the last half of the 1980's.

Sources of income other than wages and salaries, such as interest, dividends and rent, increased in Callaway County at an inflation-adjusted annual rate of 2.59 percent. These non-job related sources of income thus experienced a growth rate slightly below that of wage and salary earnings (see Table 4).

Table 3
Major Sources of Job Gains (1985 - 1990)
Callaway County, Missouri [5]

Employment Sector	Jobs Added	Percent of Total Gain
Services	705	37.6
State Government	438	23.4
Transportation & Utilities	324	17.3
Retail Trade	255	13.6
Subtotal	**1,722**	**91.9**
All Other Sectors	151	8.1
Total	**1,873**	**100.0**

Jobs added during the 1985 - 1990 period absorbed a significant portion of the overall growth in income. For that reason, the rate of income growth per individual job (both new and existing) would necessarily be lower than the growth rate in aggregate income. As a matter of fact, the elimination of high paying construction jobs at the Union Electric Callaway facility actually caused this growth rate to turn moderately negative -- a decline averaging 0.50 percent annually (see Table 4).

Despite the negative growth in income per job, money income per individual resident of Callaway County continued to rise by 2.50 percent annually. This rise stemmed from the increase in the number of Callaway County jobs per 100 residents -- 31.3 versus 36.1 jobs per 100 residents in 1985 and 1990, respectively. Accompanying this increase was a rise in the proportion of the resident population at work or looking for work. According to the Missouri Division of Employment Security, this proportion rose from 41.5 percent in 1985 to 49.9 percent in 1990.

By way of comparison, the 1990 Census recorded aggregate money income (in 1989 dollars) of $353,575,000. In contrast, estimates derived from the relationship between wage and salary earnings, total money income, indicated aggregate money income of Callaway County residents in 1989 was $436,565,000. On a per household basis, average money income was only $30,528 according to the 1990 Census, but was $37,693 when derived from the earnings/total income relationship. Under-reporting of income by Census respondents has been widely acknowledged for many years.

[5] Source: MODES and economist N. Bradley Susman.

Table 4
Income Growth Rates (1985 - 1990)
Callaway County, Missouri [6]

Income Category	Thousands of Dollars		Annual Growth Rate 1985-1990
	1985	1990	
Total Wage and Salary Income [7]			
- Current Dollars	$ 170,000	$ 229,000	6.13
- Inflation - Adjusted	152,000	176,300	3.01
Total Money Income [8]			
- Current Dollars	324,087	936,565	6.14
- Inflation - Adjusted	290,058	336,155	2.99
Inflation - Adjusted Income			
- Wages & Salaries per Job	15.0	14.9	(0.15)
- Total Income per Job	29.1	28.4	(0.50)
- Total Income per Resident	9.1	10.2	2.50

The above figures for total money income exclude wages and salaries earned in Callaway County by non-residents. Estimates prepared by the Bureau of Economic Analysis indicate the percentage of wage and salary income earned in Callaway County by non-residents of the County stood at 11.0 percent in 1980.

By 1985, this non-resident share of Callaway County earnings was more than offset by resident earnings in other counties. By 1990, the offset was such that resident earnings outside Callaway County represented 14.5 percent of total earnings by workers residing in Callaway County. If the 1980 pattern of commuter flows also prevailed in 1990, then some 3,750 residents of Callaway County held jobs in Cole County in the latter year.

Most of these "outside" earnings probably originated in Cole County. However, as will be discussed in the section on retail sales and consumer spending, a substantial portion of non-resident income earned in Cole County is recycled through Cole County retailers.

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[6] Source: Bureau of Economic Analysis, US Dept. of Commerce: MODES; and economist N. Bradley Susman.

[7] Place of Work Basis.

[8] Place of Residence Basis.

Trends in Osage County

Between 1985 and 1990, wage and salary employment located in this county added only 9 jobs. The manufacturing sector and government both contracted. This contraction resulted in a loss of 33 jobs. Modest gains in retail trade and in finance, insurance and real estate offset that loss. The gain of only 9 jobs over the five year period illustrates the stagnant nature of economic activity in Osage County during the last half of the 1980's.

Wage and salary trends offer further evidence of stagnation. On an inflation-adjusted basis, total wage and salary payrolls in Osage County declined at an annual rate of 1.86 percent (see Table 5).

Aggregate money income, bolstered somewhat by government transfer payments, also declined. However, the annual rate was only 1.65 percent throughout this period.

In terms of money income per individual job, another decline, this time 1.70 percent annually, was another reflection of locally stagnant economic conditions. With virtually no employment growth, the ratio of jobs per 100 residents in Osage County increased by only 0.2 percent -- from 16.6 jobs per 100 residents in 1985 to only 16.8 jobs in 1990. Consequently, the trend in inflation-adjusted money income per individual resident, as well as per individual job, was also negative.

By way of comparison, the 1990 Census recorded aggregate household money income (in 1989 dollars) of $118,471,000. In contrast, estimates derived from the relationship between wage and salary earnings, and total money income, indicated aggregate money income of Osage County residents in 1989 was $122,960,000. On a per household basis, average money income was only $27,797 according to the 1990 Census, but was $28,850 when derived from the earnings/total income relationship. Again, under-reporting of income by Census respondents has been widely acknowledged for many years.

The figures shown in Table 5 for total money income include wages and salaries earned in other counties by Osage County residents. Estimates prepared by the Bureau of Economic Analysis indicate the percentage of wage and salary income earned outside Osage County by its residents stood at 60.4 percent in 1980.

Table 5
Income Growth Rates (1985 - 1990)
Osage County, Missouri [9]

Income Category	Thousands of Dollars		Annual Growth Rate 1985-1990
	1985	1990	
Total Wage and Salary Income [10]			
- Current Dollars	$ 25,700	$ 27,200	1.14
- Inflation - Adjusted	23,000	20,900	(1.86)
Total Money Income [11]			
- Current Dollars	114,988	122,960	1.20
- Inflation - Adjusted	102,914	94,679	(1.65)
Inflation - Adjusted Income			
- Wages & Salaries per Job	11.4	10.4	(1.94)
- Total Income per Job	51.2	47.0	(1.70)
- Total Income per Resident	8.5	7.9	(1.49)

By 1985, the share of outside earnings had declined to 57.7 percent. It subsequently stabilized at 57.5 percent. However, as will be discussed in the section on retail sales and consumer spending, a substantial portion of income earned in Cole County by Osage County residents is recycled through Cole County retailers. In terms of 1990 commuter flow, the 57.5 percent share of wages and salaries which Osage County residents earn in other counties (principally Cole County) translates into an estimated 3,500 - 3,600 commuting workers during 1990.

Trends in Retail Sales And Consumer Spending

Introduction

The mobility of labor, illustrated by commuting workers who live in one county and work in another, has a parallel in the form of shoppers who patronize stores outside their county of residence. For reasons that will become evident, the retail sales potential in a county with a population similar in size to that of Osage County does not warrant development of a full range of shoppers' goods retailers. Purchase of such goods therefore requires travel to a location where such goods are available.

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[9] Source: Bureau of Economic Analysis, US Dept. of Commerce; MODES; and economist N. Bradley Susman.

[10] Place of Work Basis.

[11] Place of Residence Basis.

The flow of shoppers from Callaway and Osage Counties accounts for some, but not all of the difference between retail sales totals in Cole County and retail spending by households residing in this County. For example, motor vehicle dealers sell substantial amounts of equipment to both farm and non-farm business and to government. Service stations sell a significant amount of fuel to motorists passing through the area. These and other factors result in retail sales to a variety of buyers other than residents of the Jefferson City labor market area (LMA). Nonetheless, retail sales and spending patterns provide further evidence of the linkages between the three counties in the LMA.

Trends in Cole County

Data on retail sales from the Census of Retail Trade pertain to the two years of the 1980's when the economic census was conducted - 1982 and 1987. Data related to 1992 sales was not available at the time of this writing. However, taxable sales data collected for 1991 by the Missouri Department of Revenue provided a basis for estimating 1991 sales in Cole County.

Cole County retailers accounted for 73.3 percent of all retail sales in the three-county area during 1982 (see Table 6). By 1987, this share had risen to 76.7 percent. Between 1982 and 1987, the general merchandise, apparel, furniture and home furnishings (GAF) group, plus lumber and hardware stores, produced the most decisive gains in share of the LMA total. At the same time, food stores and automobile dealers had the most noticeable declines in share of the LMA total.

On the other side of the coin, estimates of resident spending on retail goods indicate that Cole County's 74 percent increase in retail sales between 1982 and 1987 was not due solely to increases in household incomes within Cole County. It was estimated that only 49.1 percent of 1987 sales originated from patronage by Cole County residents. In contrast, resident spending 5 years earlier equalled an estimated 61.4 percent of Cole County retail sales.

Non-resident patronage of retail establishments is generally associated with shoppers' goods merchandise -- merchandise sold by the GAF group plus miscellaneous retailers, including jewelry, photography, gift shops, sporting goods, consumer electronics stores, etc. A comparison between estimated expenditures for shoppers' goods merchandise by residents of Callaway and Osage Counties and sales by shoppers' goods stores in those two counties illustrates the volume of non-resident patronage of Cole County retailers.

In 1982, Osage County residents spent $10.4 million more on shoppers' goods merchandise than was sold by shoppers' goods stores in that county. By 1987, this difference had risen to $11.2 million.

For Callaway County, the comparable differences in resident spending versus in-county sales of shoppers' goods merchandise were much greater. In 1982, the estimated difference totalled $22.1 million. This difference rose to $41.0 million during 1987.

Table 6
Trends In Retail Sales, 1982 - 1987 ($000)
Cole County and Jefferson City LMA [12]

Year & Area		Type of Retailer							Total
		GAF [13]	Lumber/ Hardware	Food Stores	Auto Dealers	Gas Stations	Restau'ts & Bars	Misc. Stores	
1982:	LMA(2)	$ 98,239	$ 26,835	$ 84,459	$ 95,906	$ 36,919	$ 35,238	$ 87,756	$465,352
	Cole County	69,452	12,977	58,234	73,356	17,792	23,679	85,735	341,225
	% of LMA	70.7%	48.4%	68.9%	76.5%	48.2%	67.2%	97.7%	73.3%
1987:	LMA [14]	$135,707	$ 45,443	$113,727	$156,184	$ 67,124	$51,713	$204,649	$774,547
	Cole County	112,386	24,782	75,501	116,877	34,768	38,112	191,815	594,241
	% of LMA	82.8%	54.5%	66.4%	74.8%	51.8%	73.7%	93/7%	76.7%

[12] Source: *Census of Retail Trade*, 1982 and 1987; and economist N. Bradley Susman.

[13] General Merchandise, Apparel, Furniture and Home Furnishings Stores.

[14] Labor Market Area: Cole, Callaway and Osage Counties.

In addition to traditional shoppers' good merchandise, food stores, as well as restaurants and bars in Cole County also attract a certain amount of non-resident patronage. It was estimated that shoppers from Callaway and Osage Counties bought $6.6 million of merchandise in Cole County food stores during 1982. This figure rose to an estimated $7.6 million in 1987. These same shopper groups spent an estimated $3.0 million in Cole County restaurants and bars during 1982. By 1987, such patronage had climbed to an estimated $6.7 million.

To fully appreciate such non-resident patronage, Table 7 distributes retail sales in selected stores among the several type of patrons. The figures in Table 7 reveal the reasonably steady patronage from Callaway and Osage County households, as well as the dramatic increase in patronage by residents of other counties and from non-household sectors within the greater Jefferson City trade area.

Table 7
Source and Amount of Patronage
for Selected Retail Stores (1982 and 1987)
Cole County, Missouri [15]

Year & Type of Store	Source & Amount of Patronage ($000)			
	Cole Co. Households	Callaway & Osage County Households	Other Patrons	Total
1987				
- GAF Stores	$ 69,220	$ 25,465	$ 17,701	$112,386
- Miscellaneous Retail	56,055	26,674	109,086	191,815
- Food Stores	65,009	7,592	2,900	75,501
- Restaurants & Bars	28,837	6,724	2,551	38,112
Total	$219,121	$ 66,455	$132,238	$417,814
% of Total	52.4%	16.0%	31.6%	100%
1982				
- GAF Stores	$ 49,710	$ 16,162	$ 13,670	$ 79,542
- Miscellaneous Retail	40,256	16,281	19,108	75,645
- Food Stores	46,686	6,598	4,950	58,234
- Restaurants & Bars	19,709	1,999	1,971	23,679
Total	$156,361	$ 41,040	$ 39,699	$237,100
% of Total	65.9%	17.3%	16.7%	100%

[15] Source: *Census of Retail Trade*, 1982 and 1987; and economist N. Bradley Susman.

Trends in Jefferson City

Retail sales in the City of Jefferson represented 96.9 percent of all retail sales in Cole County during 1982. The comparable percentage for 1987 was 97.2 percent. Clearly, then, no major retail shopping areas were in unincorporated Cole County as of 1987.

Among the seven major retail sectors, three had 1982 shares of countywide sales that fell below the City's overall share of countywide retail sales. These sectors included lumber and hardware stores, with 89.9 percent of countywide sales, and gasoline service stations, with just 77.8 percent of service station sales countywide (see Table 8). Motor vehicle dealers also had a share slightly lower than the City's overall share of all retail sales.

In 1987, these three sectors had shares of countywide sales that were still below the City's overall share of countywide retail sales. However, they had been now joined by the City's food store group, whose share of countywide food store sales slipped below the City's overall share of all retail sales.

Other retail sectors in the City registered a reduced share of countywide sales between 1982 and 1987. However, their 1987 shares remained higher than the City's overall share of all retail sales countywide. Sectors falling into this category of declining shares included the GAF group and restaurants and bars. These two sectors are among those which attract substantial non-resident patronage and thus sales taxes from consumers living outside the City. Should the trend in declining shares for these sectors continue, the City may want to consider options for sustaining the viability of retailers in these two sectors.

Despite the declines registered by certain sectors, the City's overall share of countywide retail sales rose between 1982 and 1987. This was largely due to the dramatic increase in sales by miscellaneous retail stores within the City. This also is a sector which attracts significant non-resident patronage. The City's share of countywide sales by miscellaneous retail sales approached 100 percent in 1987. Such a share was all the more important because this sector alone accounted for 46 percent of the total gain in Cole County retail sales between 1982 and 1987.

Based on taxable sales data for Cole County in 1991, countywide retail sales totaled almost $718 million for that year. Comparable data from the City of Jefferson will allow an examination of the trend in retail sales between 1987 and 1991. However, this economic census data will not be available until the mid-1990's.

Table 8
City Shares of County
Retail Sales (1982 and 1987)
Cole County and Jefferson City, Missouri [16]

Retail Sector	Retail Sales ($000)		
	Cole County	Jefferson City	City as a % of County
1982			
- GAF [17]	$79,542	$79,195	99.6
- Lumber/Hardware	12,977	11,672	89.9
- Food Stores	58,234	56,528	97.1
- Motor Vehicle Dealers	73,356	70,300	95.8
- Gasoline Stations	17,792	13,838	77.8
- Restaurants & Bars [18]	23,679	25,002	105.6
- Drug & Other Misc. Stores	75,645	74,228	98.1
Total	$341,225	$316,925	96.9
1987			
- GAF [17]	$112,386	$110,343	98.2
- Lumber/Hardware	24,782	21,695	87.5
- Food Stores	75,501	71,607	94.8
- Motor Vehicle Dealers	116,877	112,847	96.6
- Gasoline Stations	34,768	32,251	92.8
- Restaurants & Bars	38,112	37,857	99.3
- Drug & Other Misc. Stores	191,815	191,141	99.6
Total	$594,241	$577,741	97.2

Demographic Trends

Introduction

The focus of this analysis, unlike the examination of trends in employment, income and retail sales, is restricted to the population living in just two townships. These townships encompass the

[16] Source: *Census of Retail Trade*, 1982 and 1987; and economist N. Bradley Susman.

[17] General Merchandise, Apparel, Furniture and Home Furnishings Stores.

[18] Jefferson City sales exceeded those of Cole County due to City establishments in Callaway County.

corporate limits of Jefferson City and the adjacent development in unincorporated areas of Callaway and Cole Counties. This area encompasses the Jefferson City "planning area."

Summit Township in Callaway County contains three population groups. These groups differ from one another with regard to their place of residence. One group resides in Jefferson City, another in Holts Summit, and the third in unincorporated areas of Summit Township.

Jefferson Township in Cole County contains two population groups -- those living in the City of Jefferson and those residing elsewhere in the Township. Throughout the following pages, comparisons will be drawn between attributes that characterize one group and those which characterize another.

Population and Households

Summit Township:

Population gains between 1980 and 1990 in Summit Township totalled only 205 (see Table 9). However, this total masks the fact that the town of Holts Summit lost population, while gains occurred both in the Jefferson City portion and the unincorporated areas of the Township. The Jefferson City gain was due to the consolidation of Cedar City into the corporate limits of Jefferson City in 1989.

Related to population changes, Summit Township added 123 households during the 1980-1990 decade. Again, however, these additions were not uniformly distributed. Holts Summit actually lost 80 households, whereas the area in Jefferson City added more than a hundred households, again associated with the Cedar City consolidation. Unincorporated areas of the township added almost 100 households during the 1980's.

Jefferson Township:

On the Cole County side of the river, 1980 - 1990 population changes of greater magnitude occurred in Jefferson Township. This township added 4,938 residents during the decade (see Table 10). Jefferson City gained 1,581 of these residents, while unincorporated areas of the township added more than twice that number.

Household additions between 1980 and 1990 included 1,529 in the City and 1,094 new households in unincorporated areas of the Township. Thus, the City gained only slightly more residents than it did households. In contrast, the unincorporated areas adjacent to the City attracted fewer, but larger households, during the 1980 - 1990 period.

Table 9
Population and Household Changes (1980 - 1990)
in Summit Township
Callaway County, Missouri [19]

Year	Location			Summit Twp. Total
	Jefferson City	Holts Summit	Unincorp. Area	
Number of Persons:				
1990	319	2,279	3,627	6,225
1980	25	2,526	3,469	6,020
1980-1990 Change	294	(247)	158	205
Number of Households:				
1990	115	804	1,182	2,101
1980	10	884	1,084	1,978
1980-1990 Change	105	(80)	98	123

Table 10
Population and Household Changes (1980 - 1990)
in Jefferson Township
Cole County, Missouri [20]

Year	Location		Jefferson Twp. Total
	Jefferson City	Unincorporated Area	
Number of Persons:			
1990	35,175	12,875	48,050
1980	33,594	9,518	43,112
1980-90 Change	1,581	3,357	4,938
Number of Households:			
1990	14,160	4,092	18,252
1980	12,631	2,998	15,629
1980-90 Change	1,529	1,084	2,623

[19] Source: *Census of Population*, 1980 and 1990; and economist N. Bradley Susman.

[20] Source: *Census of Population*, 1980 and 1990; and economist N. Bradley Susman.

The tendency for the population 65 years old and older to become more prominent is, with some exceptions, generally true in Jefferson City and its environs. Exceptions exist among the populations residing in the unincorporated area of Summit Township and the portion of Jefferson City within that township.

The portion of Jefferson City in Jefferson Township had the largest concentration of senior citizens in 1980 -- 4,406 persons representing 13.1 percent of the total population (see Table 11). This percentage had increased to 15.6 percent by 1990. However, relative to their 1980 values, the percentage of senior citizens in unincorporated areas grew by the same proportion as did the percentage living in the City. These unincorporated areas simply had a much smaller share of persons 65 years old and older both in 1980 and 1990. Moreover, only 6.5 percent of the population gain in these areas consisted of senior citizens. In contrast, 70 percent of Jefferson City's gain was in age groups 65 years old and older.

Table 11
Number and Percent of Total Population 65 Years or Older
by Location (1980 and 1990)
Jefferson City, Missouri and Environs [21]

Year	Location			Total
	Jefferson City	Holts Summit	Unincorporated Area	
Summit Township				
1990	36 (11.3%)	168 (7.3%)	166 (4.6%)	370 (5.9%)
1980	5 (20.0%)	147 (5.8%)	187 (5.4%)	339 (5.6%)
1980-90 Change [22]	31 (-8.7%)	21 (1.5%)	(21) (-0.8%)	31 (0.3%)
Jefferson Township				
1990	5,512 (15.6%)		566 (4.4%)	6,078 (12.6%)
1980	4,406 (13.1%)		349 (3.7%)	4,755 (10.5%)
1980-90 Change [22]	1,106 (2.5%)		217 (0.7%)	1,323 (2.1%)

Household Composition

Three very significant changes occurred during the 1980's. First, there was a substantial increase in non-family households, both nationally and throughout the Jefferson City area. A "non-family"

[21] Source: *Census of Population*, 1980 and 1990; and economist N. Bradley Susman.

[22] Change in the ratio of population 65 years and older to total population.

household is a housing unit occupied by a single person or two or more unrelated persons living together. Of the 2,746 households added in both Summit and Jefferson Townships during the 1980's, almost half (1,267 or 46.1 percent) were non-family households (see Table 12).

Table 12
Trends in Household Composition (1980 - 1990)
Jefferson and Summit Townships [23]

	Household Type		Family Households		Married Couples		
Year	Family	Non-Family	Married Couples	Other	With Children	Without Children	**One Person Households**
1990	13,858	6,495	11,519	2,339	5,657	5,862	5,780
1980	12,379	5,228	10,636	1,743	5,623	5,013	4,579
1980-90 Change	1,479	1,267	883	596	34	849	1,201
% Change	11.9%	24.2%	8.3%	34.2%	0.6%	16.9%	26.2%

Family households also changed during the decade. Families without both husband and wife present increased more rapidly than did the family that included a married couple. Households without both husband and wife present accounted for 40.3 percent of the 1,479 family households added in both townships during the 1980's.

The other significant change in family households relates to the presence of children in the household. Consistent with the national trend, married couples without children outnumbered those with children for the first time in 1990.

Each of the above changes contributed to the declining size of the average household in Jefferson City and its immediate environs. In conjunction with the growth in non-family households, growth in the number of senior citizens also resulted in an increase in one person households during the decade.

In view of the above changes, the average number of persons per household living in the vicinity of Jefferson City dropped from 2.59 in 1980 to 2.51 in 1990. This decline was led by households in Jefferson City itself. From an already low 2.39 persons per household in 1980, average household size in the City dropped to 2.28 persons in 1990. By way of comparison, the national average household size, in 1990, was 2.63. Larger households in 1990 could still be found in

[23] Source: *Census of Population*, 1980 and 1990; and economist N. Bradley Susman.

unincorporated areas -- 3.15 and 3.07 persons per household in unincorporated parts of Jefferson and Summit Townships, respectively.

Household Income Trends:

As reported by the Census, average household income in Jefferson City increased in both nominal and real terms. In current (nominal) dollars, the increase amounted to a 78 percent gain -- $20,278 versus $36,093 in 1979 and 1989, respectively (see Table 13).

Table 13
Trends in Nominal and Real Household Income (1979 - 1989)
Jefferson City, Missouri and Environs [24]

Year	Location			Overall Average
	Jefferson City	Elsewhere In		
		Jefferson Township	Summit Township	
Nominal Dollars				
1989	$36,093	$37,682	$33,997	$36,208
1979	20,278	26,917	21,700	21,567
% Change	78.0%	40.0%	56.7%	67.9%
Constant Dollars				
1989	$28,717	$29,957	$27,028	$28,801
1979	25,814	34,265	27,623	27,455
% Change	11.2%	(12.6%)	(2.2%)	4.9%

When measured in terms of dollars with equal purchasing power, the increase was a more modest 11.2 percent. Average household income in constant 1982 dollars rose from $25,814 in 1979 to $28,777 ten years later. In this regard, Jefferson City households benefitted to a greater extent than did households throughout the nation. The national average household income in 1989, expressed in 1982 dollars, was $26,969.

Households living outside the City in Jefferson Township did not fare as well. On a constant dollar basis, average household incomes dropped 12.6 percent between 1979 and 1989. Whereas the average in 1979 was 33 percent higher than that of households residing in Jefferson City, by 1989 the average for households living outside the City was only 4.1 percent above the Citywide average.

[24] Source: *Census of Population*, 1980 and 1990; and economist N. Bradley Susman.

In contrast, households living in Summit Township outside the City of Jefferson, including Holts Summit, recorded a more stable level of income. In this instance, the average household income (in constant dollars) declined only 2.2 percent between 1979 and 1989. At the same time, household income experienced gains that failed to keep pace with those in the City even though Cedar City households are included in Jefferson City in the 1990 Census. In 1979, Summit Township households (outside Jefferson City) enjoyed an average income (in constant dollars) that was 7 percent above the Citywide average. By 1989, Jefferson City households had average incomes which were 6.2 percent above those in Summit Township.

Projections

Introduction

Projections have been developed for employment, population, households, income and retail sales in the Jefferson City area. These projections are keyed to the years 2000 and 2010. Given these future horizons, certain assumptions have been used to assist in preparing the projections. Underlying all the projections is the assumption that global war, economic depression or natural catastrophe will not be part of the future. Other assumptions, relevant to one variable such as employment or population, rather than all variables, are made explicit in the text that follows.

The objective of these projections is to provide an "order of magnitude" estimate of how much the planning area will likely grow. Requirements for future land development can be roughly computed along with the requirements for public infrastructure and services.

Employment Projections

Wage and salary jobs located in Cole County have shown vigorous growth. Between 1985 and 1990, the addition of 5,413 jobs represented an annual growth rate of 3.02 percent. Over a longer time span, from 1978 to 1990, the annual growth rate for wage and salary employment was still a respectable 2.14 percent.

Although viewed as an area dominated by state government, this perception of the Jefferson City economy will be less true in the future than it is today. Government jobs in 1990 represented a slightly smaller share of total jobs in Cole County than was true in 1978 -- 42.3 versus 42.8 percent, respectively.

In Cole County, government jobs have increased rapidly since 1985. Between 1985 and 1990, the growth rate in the public sector of employment averaged 2.60 percent annually. Even over the

twelve year period, 1978 - 1990, the comparable rate was 2.03 percent. Statewide, jobs in state government have been projected to grow much more slowly between now and the year 2000 than in the recent past. The Missouri Division of Employment Security has projected an annual growth rate of just 0.93 percent. Relative to statewide jobs in state government - exclusive of jobs in state hospitals and schools - Cole County's share has been reasonably stable at 35-36 percent of the total. Accepting Employment Security's projection for the year 2000 of 46,234 statewide jobs in state government, Cole County's 35-36 percent share would represent 16,180 to 16,645 jobs. In essence, this projection allows for no growth in government employment in Cole County since 1990 levels would also prevail in the year 2000.

The prospect of zero growth in government jobs in Cole County during the 1990's is not supportable by recent trends; therefore, it is likely that some growth will occur in the future. This growth is likely to be less than the 0.93 percent annual rate projected statewide, however. At the same time, Cole County's future growth rate in government jobs is unlikely to fall below 0.5 percent annually.

Turning to private sector employment, Cole County employers increased employment at a 2.22 percent rate between 1978 and 1990. As was true of government growth, the private sector grew at a more rapid annual rate (3.33 percent) between 1985 and 1990. The parallel between step-ups in the rate of government and private sector growth suggest some degree of functional linkage between the two.

While it is beyond the scope of this analysis to estimate the multiplier effect of growth in state government, slower growth in government employment can be expected to restrain somewhat future gains in private sector employment. For that reason, the future growth rate in Cole County's private sector cannot be expected to exceed its long term rate of 2.22 percent annually. On the other hand, if growth in government employment falls to 0.5 percent annually in Cole County, the growth rate for private sector employment might drop to 1.5 percent annually.

Given these differences in projected growth rates, average annual gains in total wage and salary employment in Cole County could range from about 450 to 715 during the 1990's and from 510 to 870 during the first decade of the next century (see Table 14). These ranges can be compared to actual annual gains which averaged 735 jobs between 1978 and 1990. The average of the projections in Table 14 equals average annual job gains of 583 during the 1990's and 690 thereafter.

Population Projections

Cole County:

Population projections for Cole County have been derived from two basic relationships. The first such relationship is between employment in Cole County and the County's resident labor force. The second is the relationship between resident labor force and total resident population.

Between 1978 and 1990, the resident labor force in Cole County varied from 89 to 95 percent of total wage and salary employment. The higher percentages pertained to recessionary years, years when unemployment was relatively high and new job generation rather low. Assuming future economic conditions limit unemployment to 3.6 - 3.8 percent of the resident labor force, this labor force should equal 91 percent of total wage and salary employment in the future.

Table 14
Recent and Projected Wage and Salary Employment (1990 - 2010)
Cole County, Missouri [25]

	Year		
	1990 (Actual)	2000	2010
Low Projection: [26]			
Sector: Public	16,581	17,430	18,320
Private	22,632	26,265	30,480
Total	39,213	43,695	48,800
Moderate Projection: [27]			
Sector: Public	16,581	18,190	19,950
Private	22,632	28,190	35,110
Total	39,213	46,380	55,060

Unlike the relationship just discussed, the relationship of population to resident labor force exhibits a distinct downward trend. In 1978, there were 2.02 persons living in Cole County for every

[25] Source: Missouri Division of Employment Security, and economist N. Bradley Susman.

[26] Based on public sector annual growth rate of 0.5 percent and private sector annual growth rate of 1.5 percent.

[27] Based on public sector annual growth rate of 0.93 percent and private sector annual growth rate of 2.22 percent.

person in the resident labor force. This ratio steadily declined throughout the 1980's. By 1990, it stood at only 1.78 resident population to resident labor force.

The rate of annual change in this ratio has been approximately 1.0 percent. Projected in the future on that basis, the ratio will decline to 1.61 in 2000 and 1.46 in 2010. The direction of change in this ratio assumes that the Jefferson City area is unlikely to become either a major retirement center or a mecca for large family households in the future.

Applying these relationships, projections of resident labor force and population were computed (see Table 15). The projections of 68,000 residents in the year 2000 and 73,000 by 2010 conform closely to the Scenario "Z" (no net migration projection) developed by the State of Missouri's Office of Administration. Published in May of 1988, Scenario "Z" came closest to the actual census count of 1990 population in Cole County. This scenario envisions no dramatic increase in senior citizens in the future. Persons 65 years old and older represented 12.2 percent of the 1990 population. Scenario Z projects this percentage to rise only to 12.9 percent by the year 2010. It basically assumes that out-migration by seniors will be offset by in-migration of younger adults to fill jobs vacated by those retiring.

Table 15
Recent and Projected Resident Labor Force and Population (1990 - 2010)
Cole County, Missouri

	Year		
	1990 (Actual)	2000	2010
Low Projection:			
Labor Force [28]	35,689	39,800	44,410
Population [29]	63,579	64,100	64,800
Moderate Projection:			
Labor Force[28]	35,689	42,205	50,105
Population [29]	63,579	68,000	73,200
State Population Projection [30]	63,579	68,837	73,689

[28] Based on 91 percent of projected total county labor force (see Table 14) rounded to nearest 100.

[29] Based on ratio of population to resident labor force of 1.61 for the year 2000 and 1.46 for the year 2010. Projections rounded to nearest 100.

[30] Source: *Projections of the Population of Missouri Counties by Ages and Sex: 1985 to 2010*, Missouri Office of Administration, May 1988. Scenario "Z" (zero migration) shown in this table.

Jefferson City Planning Area:

For purposes of estimating future population for Jefferson City and its environs, recent trends in the ratio of Township to County populations were projected into the future. Holts Summit was excluded from these projections in order to more accurately reflect the potential population within the planning area of two miles from the Jefferson City limits. The ratios were then applied to the Cole County population projections (from Table 15) and the Callaway County population projections (based on scenario "Z" projections prepared by the State of Missouri).

The low projection for the Jefferson City area reflects the steady decline in the ratio of population to resident labor force in Cole County (see Table 16). The moderate projection reflects the same decline in this ratio, but assumes a greater increase in Cole County employment growth over the projection horizon. Both the low and moderate projections assume that the recent trends in the ratios of township to county population will continue -- a slight downward trend for Jefferson Township and a slight upward trend for Summit Township.

The resulting projections indicate a population range of 52,800 to 55,800 for the Jefferson City planning area by the year 2000. By the year 2010, the population is estimated to be in the range of 53,600 to 59,900.

Household Projections

The approach taken to develop household projections involves establishing a relationship between households and the segment of the population most closely related to household formation. This population segment incudes persons between 25 and 64 years of age. In 1980, there were 729 households residing in Cole County for every 1,000 persons in that age range. By 1990, this ratio had declined to 688 households per 1,000 residents.

The reason for the decline relates to differences in household formation rates between the populations living in Jefferson City and that residing elsewhere in Cole County. Household formation rates are lower outside the City. This is primarily due to the fact that far fewer persons 25 - 64 years old who live outside the City live alone. For example, in 1990, only 3.2 percent of this population segment living outside the City were living alone. In contrast, 16.3 percent of City residents in that age range were single person households.

Table 16
Recent and Projected Population (1980 - 2010)
Jefferson City, Missouri and Environs

	Year			
	1980 (Actual)	1990 (Actual)	2000	2010
Low Projection:				
Cole County [31]	56,663	63,579	64,100	64,800
Jefferson Township	43,112	48,050	48,100	48,300
% of County	76.1	75.6	75.1	74.6
Callaway County [32]	32,252	32,809	35,146	36,727
Summit Twp. [33]	3,494	3,946	4,700	5,300
% of County	10.8	12.03	13.26	14.49
Total Jefferson City Area	46,606	51,996	52,800	53,600
Moderate Projection:				
Cole County	56,663	63,579	68,000	73,200
Jefferson Township	43,112	48,050	51,100	54,600
% of County	76.1	75.6	75.1	74.6
Summit Twp [33 34]	3,494	3,946	4,700	5,300
Total Jefferson City Area	46,606	51,996	55,800	59,900

Note: Projections rounded to nearest 100.

Given the historic record of major population gains occurring outside the City, it is likely that further (but probably more moderate) declines in the household-to-population ratio will occur. The principal reason that further declines will be more modest is simply that the lower percentage living alone outside the City cannot fall much lower. Table 17 displays projection range of households for the years 2000 and 2010. This data is used to compute estimated future retail sales presented in the following subsection of this Chapter.

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[31] From Table 15.

[32] Source: *Projections of Population of Missouri Counties by Age and Sex: 1985 - 2010*, Missouri Office of Administration, May 1988. Scenario "Z" shown in this Table.

[33] Excluding Holts Summit (see text for explanation).

[34] Same as low projection.

Consumer Income and Retail Sales Projections

It is anticipated that growth in (constant dollar) household incomes will be slacked somewhat from the pace reached during the 1980's. Instead of the 3.62 percent annual rate that characterized real growth in averaged household income during the 1980's, the 1990's and the first decade of the next century appear likely to produce gains no greater than the long term national growth rate in real output, which has averaged 2.5 percent annually. Expressed in constant 1989 dollars, that growth rate and the projected gain in households (under the moderate job scenario) is computed in Table 18.

The previous discussion of retail sales trends indicated that sales by City retailers represented about 97 percent of all sales in Cole County. It has been assumed that this share will decline slightly in the future. For the year 2000, the City share has been assumed to be 96 percent with a subsequent decline to 95 percent in the year 2010 (see Table 19).

Table 17
Recent and Projected Resident Households (1990 - 2010)
Cole County, Missouri [35]

	Year		
	1990 (Actual)	2000	2010
Low Projection:			
Population Aged 25-64	33,508	36,415	39,100
No. of Households	23,067	24,340	25,400
Moderate Projection:			
Population Aged 25-64	33,508	37,035	39,765
No. of Households	23,067	24,750	25,825

[35] Source: State of Missouri, Office of Administration; and economist N. Bradley Susman.

Table 18
Recent and Projected Household Income and Retail Sales (1990 - 2010)
in Constant Dollars
Cole County, Missouri [36]

Item		Year		
		1990 (Actual)	2000	2010
Household Inc.	($000)	$834,425	$1,146,075	$1,530,775
Per Household	($)	36,174	46,305	59,225
Retail Sales	($000) [37]	675,718	928,092	1,239,620

NOTE: Expressed in 1989 Dollars

Table 19
Recent and Projected Retail Sales (1990 - 2010)
in Constant Dollars
Cole County and Jefferson City, Missouri [36]

Location	Year		
	1990 (Actual)	2000	2010
Cole County	$675,718	$928,092	$1,239,620
Jefferson City	655,446	890,968	1,177,639
City Share of County Total	97.0%	96.0%	95.0%

NOTE: Expressed in 1989 Dollars

[36] Source: Economist N. Bradley Susman.

[37] Based on earlier findings that Cole County households spend 39 - 40 percent of income on retail goods and services; and that retail sales in Cole County are roughly twice as great as resident expenditures for retail goods and services.

Conclusions

Over the past decade, Jefferson City has experienced considerable growth in employment, aggregate household income and retail sales. This positive economic growth has contributed to physical growth, both within the City and adjacent unincorporated area.

The City has continued its dominance of retail trade in the region. The fact that retail sales within the City are approximately double that of the retail spending by its resident population underscores the importance of non-resident sales. Non-resident shoppers contribute about half of the City's sales tax revenue.

There has been a considerable amount of development (principally residential) occurring in adjacent unincorporated territory. This raises two key issues pertaining to the City -- municipal finances and development control. Non-residents who work in the City contribute to road and infrastructure requirements and also benefit from basic municipal services, i.e., police and fire protection. On the other side of the coin, these same non-resident workers (and shoppers) are important to business enterprises who depend on this non-resident labor pool and source of consumer spending income. These establishments, including state government, are the beneficiaries of the commuters. Notwithstanding the contribution of sales tax paid by non-residents, cost sharing in the provision of municipal services could be made up by funds from benefitted employers -- perhaps by imposing an employee "head tax" or some other equitable charge.

Development control issues relate to development standards and provision of street networks, infrastructure support systems (i.e., water and sewer), and public services. Neither Cole or Callaway County have adopted zoning regulations. While there is informal cooperation between the City and Cole County regarding development, there is no adequate legal means to control land use location and intensities in unincorporated portions of the planning area. Also, while Cole County has subdivision regulations, Callaway County lacks such development standards which can lead to inferior streets and other elements of infrastructure. Over the long term, deterioration adversely affects the quality of development and leads to higher maintenance costs. If such conditions are prevalent when developed areas are annexed to the City, then these excessive costs become a burden on the municipal budget.

Of course, annexing territory prior to development helps to avoid these problems. However, Missouri statutes inherently limit the ability to successfully annex undeveloped territory. Another means to control external development has been provided by Missouri legislation passed and signed by the Governor in 1992. It enables certain cities, including Jefferson City, to enact legislation governing zoning, planning, subdivisions and building within unincorporated areas extending up to two miles from the City's corporate limits. However, this extraterritorial jurisdiction is subject to

approval by a majority of the county commission. As the planning program for Jefferson City proceeds, this new development control option should be further explored along with examining annexation options.

In terms of planning for physical growth of the Jefferson City area, it can be expected that a slow down in the recent rate of growth will occur in the future. The projections contained in this Chapter are based on certain sets of assumptions which result in a realistic range of future outcomes in terms of the area's economy and population. The low projections are possible, but would be unlikely. The Comprehensive Plan should accommodate the moderate projections with some excess growth capacity built in to ensure development flexibility and to have land use policy in place to deal with unanticipated growth.

The extent of future annexation will affect how much of the future development will actually be incorporated within the City limits. Because of the dynamics of the City's municipal boundaries, it is important to plan for development regardless of the location of the current City limits.

CHAPTER 2
LAND USE

Existing Land Use

The existing land use pattern, to a large extent, sets the stage for planning future development. In order for the Comprehensive Plan to be effective, careful consideration should be given to the existing use of land as well as to the suitability of undeveloped property for particular uses.

Beginning in the summer of 1992, a land use survey was initiated for the area within the City of Jefferson and most of the area within two miles of the City. This survey was completed in March, 1993. For purposes of this analysis, "1992" is the reference year for the land use survey. The results of this survey are presented quantitatively in Table 20 and graphically on Plate 1.

In order to measure development trends, comparisons of 1992 and 1977 land use data were made. Table 21 presents the land use inventory data for 1992 and 1977. Also, this table displays the average annual absorption (in terms of acres of land) for most of the land use categories. Because of differences in land use inventory techniques between the 1992 and 1977 surveys, valid comparisons could not be made for every land use category. For instance, a comparison of public/semi-public land was not made. This was because the 1977 land use survey accounted for all land owned by public/semi-public entities, regardless of whether or not the land was developed. The 1992 land use survey counted only the developed portion of public/semi-public land. If a comparison was made between the two years, it would imply that there was a loss of hundreds of acres of public/semi-public land between 1977 and 1992. Of course, this was not the case. The rationale for the 1992 land use survey methodology was to provide a more realistic measure of the City's actual physical development.

In 1992, the total incorporated area of Jefferson City amounted to nearly 17,780 acres, of which approximately 9,300 acres (52 percent) were developed. In 1977, the City encompassed approximately 15,260 acres, of which 6,400 acres (42 percent) were developed. The number of developed acres in 1977 was actually less due to overcounting of public/semi-public land uses. Excluding public/semi-public and transportation, communications, and utilities (TCU) land uses, Jefferson City's total developed area increased by nearly 2,400 acres (or 46 percent) in 15 years (adjusted to exclude land that was developed in 1977 and subsequently annexed). This equates to 159 acres of land absorbed by new development each year within the 1992 City limits, not counting the land use categories previously noted.

Table 20
Land Use, 1992
Jefferson City Planning Area [38]

Land Use Category	Jefferson City			Unincorporated Area			Total Acres
	Acres	Percent of Total Area	Percent of Developed Area	Acres	Percent of Total Area	Percent of Developed Area	
Single Family Residential	3,449	19.4	37.1	2,065	4.8	36.5	5,514
Two Family Residential	163	0.9	1.8	12	0.0	0.2	175
Multi-Family Residential	293	1.6	3.1	62	0.1	1.1	355
Mobile Home Residential	24	0.1	0.3	122	0.3	2.2	146
Subtotal	*3,929*	*22.1*	*42.2*	*2,260*	*5.2*	*40.0*	*6,189*
Commercial	757	4.3	8.1	75	0.2	1.3	832
Industrial	612	3.4	6.6	144	0.3	2.5	756
Public/Semi-Public	575	3.2	6.2	32	0.1	0.6	608
Public/Semi-Public (Government)	328	1.8	3.5	270	0.6	4.8	597
Subtotal	*903*	*5.1*	*9.7*	*302*	*0.7*	*5.3*	*1,205*
Parks & Recreation	542	3.1	5.8	860	2.0	15.2	1,402
Transportation/Communications/Utilities	438	2.5	4.7	194	0.4	3.4	632
Street & Highway Right of Ways	2,127	12.0	22.9	1,820	4.2	32.2	3,947
Total Developed Area	**9,307**	**52.3**	**100.0**	**5,655**	**13.1**	**100.0**	**14,962**
Undeveloped/Agricultural/Water	8,472	47.7		37,429	86.9		45,901
TOTAL AREA	**17,779**	**100.0**		**43,084**	**100.0**		**60,863**

[38] Based on land use survey initiated in June, 1992 and completed in March, 1993

Table 21
Annualized Land Absorption By Land Use Type (1977 - 1992)
Jefferson City Planning Area

Land Use Category	Jefferson City			Unincorporated Area			Total Avg. Annual Absorp. (Acres)
	1977 Acres	1992 Acres [39]	Avg. Annual Absorp. (Acres)	1977 Acres [40]	1992 Acres	Avg. Annual Absorp. (Acres)	
Single Family Residential	2,116	3,277	77	722	2,065	90	167
Two Family Residential [41]	93	163	5	2	12	1	5
Multi-Family Residential [41]	168	293	8	47	62	1	9
Mobile Home Residential [42]							
Subtotal	*2,377*	*3,733*	*90*	*771*	*2,139*	*91*	*182*
Commercial [43] [44]	391	750	24	27	75	3	27
Industrial [45]	334	539	14	46	144	7	20
Public/Semi-Public [46]							
Public/Semi-Public (Gov'nt) [46]							
Parks & Recreation [47]	464	542	5	752	860	7	12
Transportation/Communications/Utilities [48]							
Street & Highway Right of Ways	1,627	2,021	26	1,350	1,820	31	58
Total Developed Area [49]	**5,193**	**7,584**	**159**	**2,946**	**5,038**	**139**	**299**

See footnotes on the following page

FOOTNOTES FOR TABLE 21, ANNUALIZED LAND ABSORPTION BY LAND USE TYPE:

[39] Except as noted herein, 1992 land use acreage is reduced by a factor of 5% to account for development that existed in 1977 and was subsequently annexed into the City.

[40] Except as noted herein, 1977 land use acreage is reduced by a factor of 5% to account for development that existed in 1977 and was subsequently annexed into the City.

[41] 1992 acreage in City and 1977 acreage in unincorporated area is not reduced because no two family or multi-family residential development, which existed in 1977, was annexed.

[42] Not included in this analysis because land occupied by mobile homes in 1977 was categorized as "commercial" land use in the 1977 land use survey.

[43] 1992 commercial acreage in the City is reduced by 7 acres to account for commercially-developed land in Cedar City, which existed in 1977.

[44] 1977 commercial acreage in the unincorporated area is reduced by a factor of 80% to exclude mobile home land uses which were categorized as commercial in the 1977 land use survey.

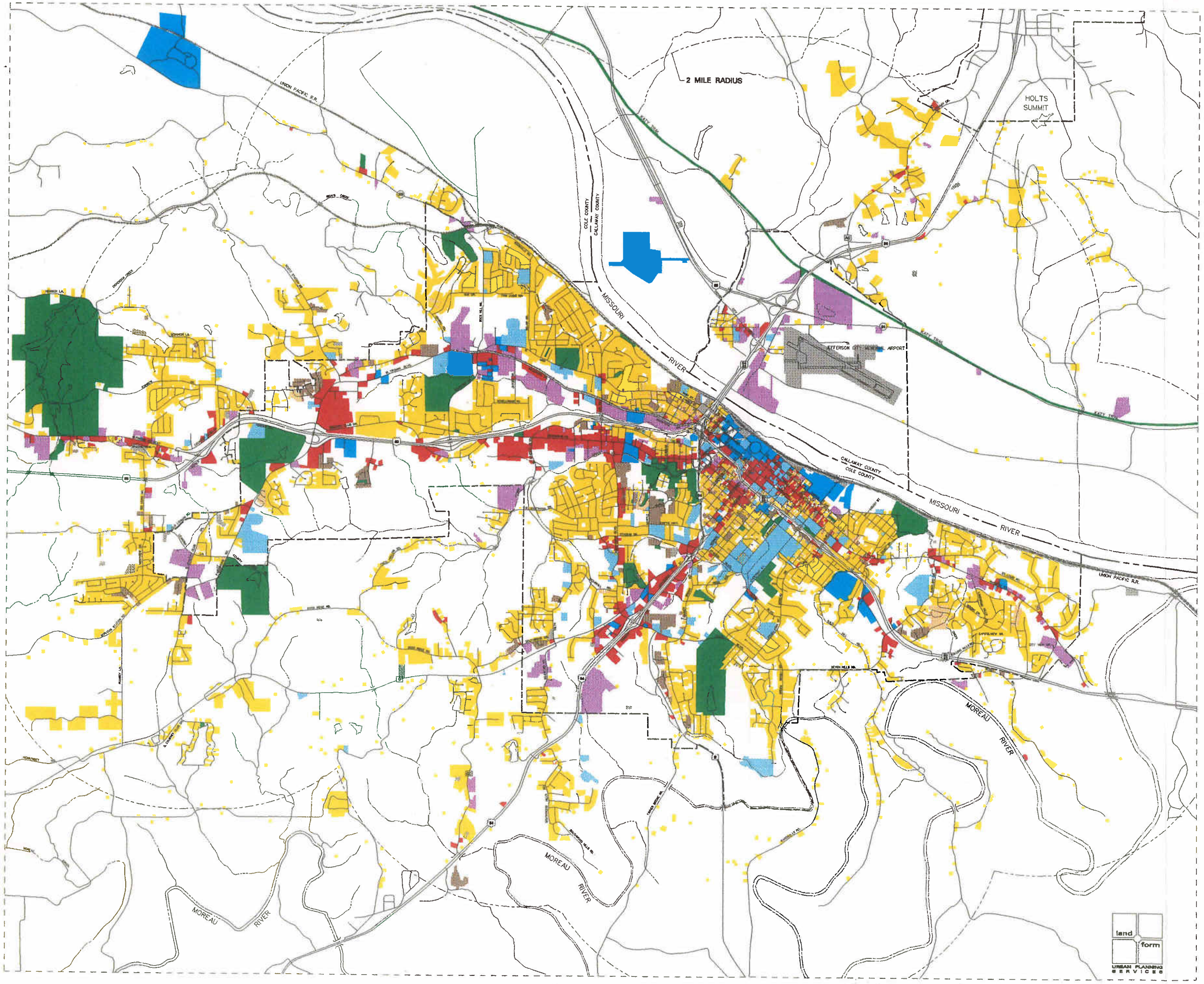
[45] 1992 industrial acreage in the City is reduced by 73 acres to account for the Modine manufacturing facility (25 acres), the ABB plant (46 acres), and 2 acres of industrial land use in Cedar City, which existed in 1977 and was subsequently annexed into the City. 1977 industrial acreage in the unincorporated area is reduced by the same amount.

[46] Not included in this analysis because the method of quantifying public/semi-public land uses in the 1977 land use survey accounted for all land owned by public/semi-public entities, regardless of whether or not the land was developed. The 1992 land use survey counted only developed public/semi-public land.

[47] 1977 parks and recreation acreage in the City is increased by 140 acres to account for the Country Club golf course, which was categorized as public/semi-public in the 1977 land use survey. The 1977 parks and recreation acreage in the unincorporated area is estimated to be approximately 752 acres, which includes Binder Park and all of the County Fairgrounds and Park.

[48] Not included in this analysis because the 1977 land use survey quantified railroads only. Other transportation, communications, and utility uses existing in 1977 were categorized as public/semi-public in the 1977 land use survey.

[49] Excludes mobile home, public/semi-public, and transportation/communication/utility land uses.



EXISTING LAND USE

- Single Family Residential
- Two Family Residential
- Multi-Family Residential
- Commercial
- Industrial
- Public and Semi-Public
- Public and Semi-Public (State Government)
- Transportation / Utilities / Communications
- Parks and Recreation
- Undeveloped/Agriculture

Based on Field Survey Completed Spring 1993

Graphic Scale in Feet

0 1600 3200 4800 6400

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 1

While the incorporated portion of the Jefferson City planning area experienced considerable growth in the 15 year period, so did the unincorporated portion. Between 1977 and 1992, the amount of land absorbed by new development was nearly 2,100 acres, a 71 percent increase. Again, this excludes public/semi-public and TCU land uses. Land absorption for the unincorporated area averaged 139 acres per year, excluding the land use categories previously noted.

However, the "density" of development was somewhat lower in the unincorporated area than the development in Jefferson City. A considerable amount of the residential development in the unincorporated area was devoted to "large lot" subdivisions (i.e., lots greater than 2 acres). Hence, the population density associated with new development, on average, was less in the unincorporated area than in the City in 1992. The Census data confirms this, whereby between 1980 and 1990 the number of households increased by only 29 percent in the unincorporated portions of the planning area. In the 15 year period between 1977 and 1992 the acreage of residential development increased by nearly 180 percent within the unincorporated area.

The above narrative described the overall development trends within the Jefferson City planning area. The following text provides a closer look at each land use category.

Residential

The largest portion of developed land within the City, and unincorporated area as well, is devoted to residential uses (nearly 6,200 acres for the total planning area). In the City, 3,929 acres (42 percent) of the developed area is residential. The majority of residential acreage in the City (about 3,450 acres or 88 percent) is in the single-family category (typically one dwelling on a lot or parcel). These proportions are similar in the unincorporated portion of the planning area. Over 40 percent (2,260 acres) of the developed land is residential, and, of this amount, 2,065 acres (91 percent) is single- family.

Residential uses also accounted for the largest portion of new growth between 1977 and 1992 (see Table 21). In Jefferson City, 57 percent of the average annual land absorption was associated with residential development (mostly single-family). The proportion of residential to total growth in unincorporated territory was even greater; at 65 percent. This larger percentage of residential growth in the unincorporated area is due mostly to the large-lot single-family developments mentioned previously.

The other residential land use categories are two family, multi-family, and mobile homes. These residential uses occupy substantially fewer acres than the single-family uses, but the densities are higher (i.e., as expressed in dwelling units per acre). The majority of multi-family acreage, in

both the City and unincorporated area, is associated with apartment complexes or "planned unit developments." Similarly, most of the mobile home acreage is in mobile home parks, though some mobile home groupings in the unincorporated area fall far short of contemporary mobile home development standards.

Aside from the apartment complexes and planned unit developments, the other two family and multi-family land uses are scattered throughout the older portions of the City. This appears to be, at least in part, a reflection of zoning practices that were intended to implement past planning proposals to eventually convert certain areas to higher density residential. In reality, the full transition from say, single family to multi-family, never took place. The same is true when existing residential areas are "pre-zoned" as commercial.

These situations make it particularly difficult to plan for these older neighborhoods. What should the planning policy be? Continue the transition; halt or reverse the transition; hold until larger, unified redevelopment proposals can be implemented; or something else? Typically, single family dwellings still dominate these neighborhoods, but unfortunately, the single family home is the most sensitive of all types of land use.

In terms of geographic distribution, residential growth has predominantly occurred in western portions of the planning area. Much of this western growth has occurred outside the City limits in single family subdivisions. This growth trend has particular significance in terms of transportation and utilities. The existing major street system serving this area is an extension of the "hub and spoke" network emanating from the central portion of Jefferson City. The further west one gets, it becomes increasingly difficult to travel north/south due to lack of sufficient north/south collector and arterial streets. If growth continues, then the number of vehicle trips will increase as well. The dispersion of this development, combined with severe topographic constraints, will make transportation network improvements difficult and expensive.

The westward expansion will impact public utilities as well, particularly sanitary sewer (see Chapter 3, "Utilities"). The Jefferson City Sanitary Sewer District expands far beyond the western City limits and the planning area boundary. The provision of sanitary sewers to the west (and other portions of the planning area) can be used as a growth management tool. This can be an intentional policy or it may become a necessity, if the capacity of interceptors and pump stations cannot keep pace with growth. Keep in mind that increased development outside the City (particularly on the Cole County side) impacts the sewage collection system inside the City as well, since all sanitary sewerage is eventually pumped across the Missouri River to the City's wastewater treatment plant.

In summary, residential land use constitutes one of the more significant planning issues because of its impact on the urban infrastructure (i.e., streets, utilities, etc.) and on public services (i.e., police protection, schools, etc.). The proportions of residential to total development is not unusual for the real estate market dynamics of a "freestanding" urban area such as the Jefferson City area. However, its distribution is inefficient from a land use management viewpoint. In planning for the future, residential land uses will constitute the largest quantity of land use, in terms of acreage.

Commercial

Commercial development takes up just over 830 acres within the planning area, three-quarters of which is located within Jefferson City. Jefferson City's majority share of commercial land uses is consistent with the fact that the City is the retail center of the region (see Chapter 1). Table 21 shows that, within Jefferson City, commercial acreage grew by an average of 24 acres per year between 1977 and 1992. This rate of growth was significantly larger than in the unincorporated area during the same period. While the population increase in the unincorporated area has been greater than within the City, the population "density" is higher in the City. Thus, commercial development tends to locate in trade areas containing higher population density with its corresponding "income density."

The largest concentration of commercial development is downtown, Missouri Boulevard, Highway 54 and the Capital Mall area. An emerging commercial node is located at Eastland Drive and Highway 50/63. Other commercial uses are scattered throughout the City, typically along arterial or major collector streets.

Outside Jefferson City, the largest concentration of commercial uses is along Business 50 West. This commercial corridor lacks traffic access control (i.e., curbing and curb cuts), and contains several business properties that are vacant and dilapidated. It appears that the extension of the Highway 50 freeway to the west has negatively impacted the commercial viability of this corridor.

Commercial land uses typically generate more traffic than other land uses. Also, commercial enterprises (particularly retail) are drawn to major traffic arteries in order to attract the attention of the traveling public. This market tendency often leads to land use policies that essentially support the idea that if the property fronts onto a major arterial street, then it should be commercial. However, the end result is often excessive curb cuts, increased traffic volumes, and more significantly, excessive traffic turning movements.

The Missouri Boulevard corridor reflects this type of development policy. Hundreds of curb cuts and traffic turning movements present many potential traffic hazards. Reducing the number of

curb cuts, turning movement controls (i.e., curbed center islands), and synchronized signalization would greatly reduce the land use/traffic conflicts. However, retrofitting this existing situation would be costly and require the cooperation of property owners, the City and the State Highway Department. Requiring or encouraging cross-access agreements between adjacent parcels and future proposed development/redevelopment will help reduce the number of necessary access points.

For the most part, Missouri Boulevard reflects older development techniques. However, there are several examples of good access control to/from commercial developments in the City. This includes the recently developed Wal-Mart supercenter located at the intersection of Missouri and Stadium Boulevards. Access is controlled via traffic signals on both Missouri Boulevard and Stadium Boulevard. While it would have been preferable for the out-parcels to have internal access only, it was impractical because of topographic conditions. If the site was flatter, this could have been accomplished.

The Capital Mall area and the Eastland Drive/Highway 50-63 commercial development institute better site development designs as well. Access to many of the commercial establishments is via internal drives or secondary streets. These developments have adequate site size and depth which enabled better control of access, internal circulation, and provision of adequate off-street parking.

In summary, existing "strip" commercial development will continue to present traffic hazards, though there are opportunities to mitigate some of the problems. Future commercial development should be encouraged to be designed in a unified scheme to limit access points with internally accessed out-parcels. In-fill or redevelopment of smaller commercial parcels along arterial streets should be encouraged to negotiate cross-access agreements with adjacent property owners whenever possible. Additionally, the City may want to consider instituting "Motor Vehicle Oriented Business" regulations in its zoning code. This increasingly popular regulatory technique requires minimum separation of certain commercial uses that typically generate a large number of traffic turning movements (i.e., fast food restaurants, gas stations, and convenience stores).

Industrial

Over 610 acres of industrial land use exist within Jefferson City (an increase of over 200 acres in fifteen years). As with commercial development, Jefferson City is the industrial center of the region. This can be attributed to the availability of utilities, the transportation network, and the proximity of the labor force. Only 144 acres of industrially developed land exists in the unincorporated area, of which approximately 30 acres are associated with a quarry located off of West Edgewood Drive.

Some of the notable industrial development that has occurred since the late 1970's include construction of a new Chesebrough Ponds facility at South Country Club Drive and Scruggs Station Road; the Maytag facility on Fairgrounds Road; the Johnson Controls facility located on West Main Street; and the new "spec" warehouse facility developed by the Jefferson City Industrial Development Authority. Other than the area around South Country Club Drive and Fairgrounds Road, there are no "industrial park" settings in the Jefferson City area. However, the County is in the process of developing an industrial park, known as Algoa Industrial Park, east of the City and the Moreau River on Highway 50/63.

One of the most significant obstacles to developing an industrial park in the City is severe topography on the Cole County side of the Missouri River. On the Callaway County side of the river, there is plenty of level ground that is serviceable with sanitary sewer and water. However, this area is within the 100-year floodplain. The 100-year floodplain limitation can be overcome, as evidenced by the development of the City's largest industrial facility, ABB Power T&D Company, which manufactures underground distribution transformers. When built, this facility was elevated above the 100-year frequency flood elevation, but proved to be insufficient during the flood of 1993.

In conjunction with the U.S. Army Corps of Engineers, the City is examining the cost/benefit of constructing a levee to protect against a 100-year frequency flood. One alternative includes a levee which would protect a portion of north Jefferson City area as well.

Industrial development is a "chicken and egg" dilemma. If a community does not have suitable sites for industrial prospects, then the chances of being selected for a new facility decrease. On the other hand, can a community afford the speculative investment of developing "industrial ready" sites? For reasons described above, Jefferson City will continue to have a greater challenge than many other communities its size to fulfill its industrial development objectives, particularly for larger developments.

Public and Semi-Public

Public and semi-public land uses include properties developed for schools, churches, cemeteries, public offices, hospitals, etc. They are uses that are often allowed in residential districts, but are subject to "conditional use" approval procedures. As far as the proportion of public and semi-public land uses in a typical city are concerned, Jefferson City is unique. Over one-third of the 900 public and semi-public land use acreage is associated with State facilities.

While some of the previous land use surveys graphically distinguished State facilities separate from other public and semi-public uses, the quantitative data did not. Also, previous land use surveys

accounted for all land owned by public or semi-public entities, regardless of whether or not the land was developed. The 1992 land use survey counted only developed public and semi-public land, which provides a more realistic indicator of urbanization. For these reasons, a comparison to 1977 could not be made.

It is important to land use analysis/planning to segregate State facilities because they are often significantly different in character than other public uses. Many of the State facilities resemble commercial office uses. In reality, the State leases a considerable amount of office space. These facilities employ many individuals and generate vehicle trips similar to private office buildings. Hence, it is important that most, if not all, State office functions be located in commercial centers with good access. For the most part, State office facilities have been located in this manner. Also, the boom in State office construction over the past decade has been somewhat disbursed outside of downtown into other commercial areas of Jefferson City. This has served to disburse their traffic generation impact, thus mitigating additional traffic congestion and parking requirements in the downtown area.

The State government is exempt from local codes and regulations. Because of the State's sovereignty and its influence on the Jefferson City economy, the potential exists for conflict between the State and local planning policy. Fortunately the current development pattern of State facilities reflects a cooperative spirit between the City and the State. It will be imperative that communication and cooperation continues, in order to maintain the integrity of the updated Comprehensive Plan for Jefferson City.

In terms of future development demands on the part of the State, it is anticipated that it will slow considerably, compared to the last decade. The research conducted in preparing Chapter 1 revealed a relatively small growth rate in State government. However, there is one significant development proposal contemplated by the State. This proposal involves consolidating Department of Revenue operations into a new facility. If this proposal advances further, the Comprehensive Plan Update needs to take this into account.

Another significant public land use in Jefferson City is Lincoln University. Located in the central part of the City, it is "land locked" on three sides by other development. The University is compact and intensely developed. Expansion opportunities exist to the south on property owned by the University. Also, the University owns considerable acreage further south, at the end of Green Meadow Drive. A portion of this property is currently being used as a research facility. This site has poor access, requiring travel through a low density single family neighborhood to get to it. Any intensive development of this property would need alternative access, perhaps from State Route B.

Parks and Recreation

Within the corporate limits of Jefferson City, there are approximately 540 acres of park land, including public and private golf courses. In the unincorporated portion of the planning area, there is 860 acres of park land. Most of this land is associated with Binder Park (644 acres), and Joseph Miller Park (66 acres), which are owned by Jefferson City, except for Binder Lake. The lake is under the control of the Missouri Department of Natural Resources.

Outdoor recreation is the only land use, other than agriculture, that is readily suitable to floodplain environments. While most of the park acreage is outside the floodplain, the City has done a commendable job in redeveloping a portion of the Ohio Street/Kansas Street area into park land (Washington Park). Also, park land can co-exist with other land use activities, such as storm retention facilities and utility rights-of-way. McKay Park is a good example of the synergy of park land and a storm water retention facility.

Another outdoor recreation activity that has recently become available to the Jefferson City area is the KATY Trail, located on abandoned railroad right-of-way north of the Missouri River. The only disadvantage of this trail is that most City residents must drive to it.

In 1991, the City prepared a "Greenway System" plan which proposes a network of pedestrian/bicycle trails throughout the City. Such systems have proved to be a major outdoor recreation amenity in other cities such as Eugene, Oregon and Denver, Colorado.

Specific details on the supply and demand for parks and open space are addressed in Chapter 5, "Recreation Facilities." Elements of the Greenway System Plan, the Deborah Cooper Riverfront Plan, and the findings contained in Chapter 5 will be considered for inclusion in the Comprehensive Plan Update.

Other Land Uses

The remainder of the City is either undeveloped or occupied by streets, railroad lines, highways, the airport, and other various utility/communication facilities (i.e., detention basins, electrical substations, water storage tanks, communication towers, etc.). The amount of undeveloped land remaining within the corporate limits amounts to nearly 8,500 acres. The following narrative examines how this vacant land is currently zoned and thus, what land development options are currently allowable within the corporate limits.

Undeveloped Land by Current City Zoning and Estimated Future Land Use Requirements

Table 22 provides a quantitative breakdown of vacant land by its assigned zoning classification in 1991. Plate 2 displays the larger portions of contiguous undeveloped land by its corresponding zoning district classification. Not all of the 8,472 acres of undeveloped land in Jefferson City is included in Table 22. The figures have been adjusted to account for the following assumptions/conditions:

1. Excludes common ground typically associated with residential developments and which is usually held in perpetuity for common ground or "open space."

2. In the Cole County portion of the City, all 100-year floodplain areas are excluded. In the Callaway County portion of the City, two-thirds of the 100-year floodplain is excluded.

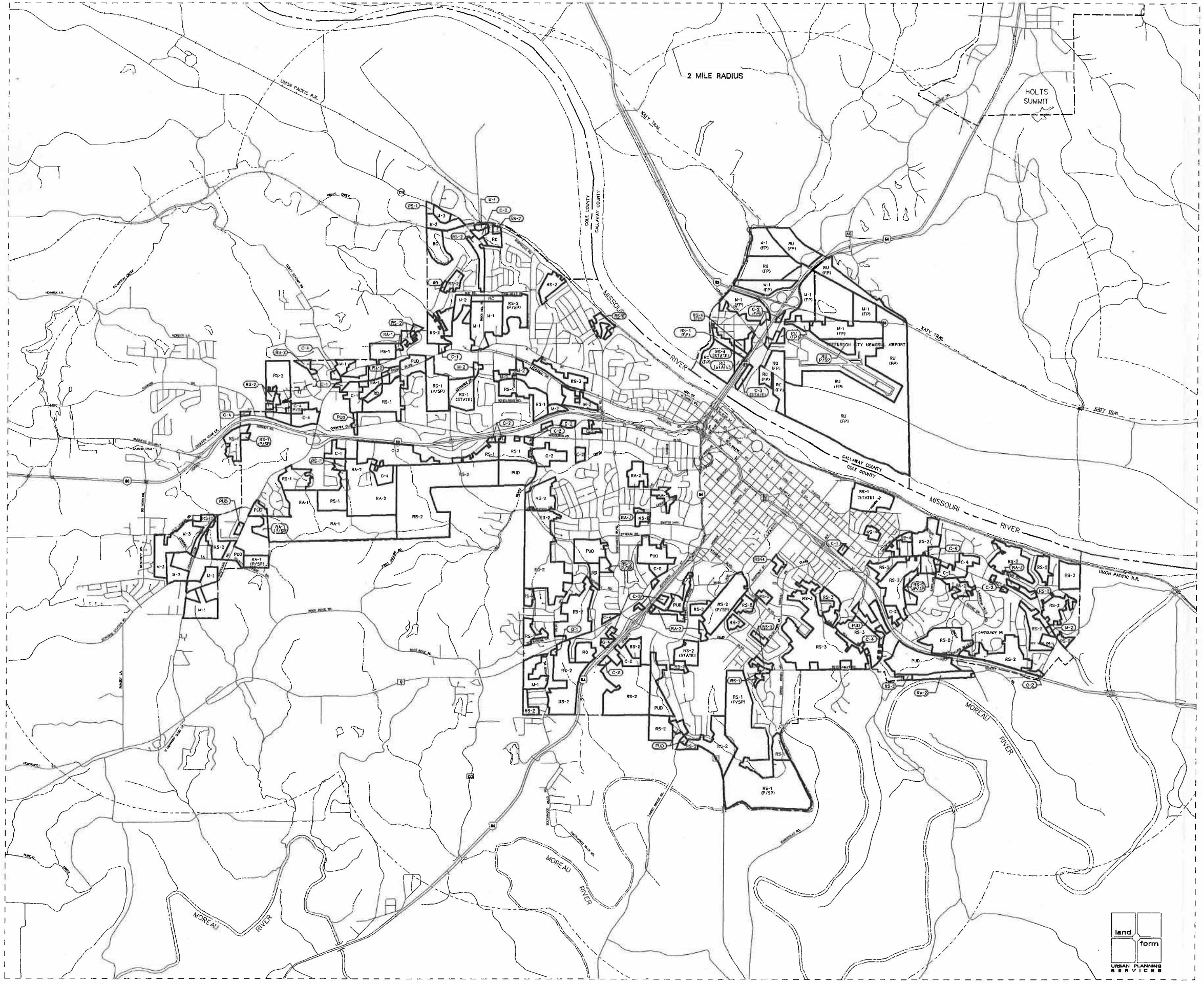
3. Individual lots, less than one-half acre in size, are not included.

4. Acreage in public or semi-public ownership, State ownership, country club ownership, and known quarry reserves are excluded.

5. After excluding the above acreage, the remainder is reduced by one-third to account for land which may present other limitations to development (i.e., severe topography or high cost to service with public utilities), or land owners unwilling to sell or develop their property within the planning horizon of twenty years.

Based on the above assumptions and excluding "RU" and "RC" acreage, there are approximately 3,420 acres of "developable" land within Jefferson City. The vast majority of this land is on the Cole County side of the Missouri River.

Table 23 provides an estimate of future land use requirements. It is based on the relationship between the amount of developed land (as recorded in 1992) and the 1990 population within the planning area. In order to estimate future land use requirements, the ratios between the various existing land use categories and population were computed. These ratios were then applied to future population estimates (from Chapter 1). The end results are "order of magnitude" estimates of future acreage required for the various land uses. These figures are not intended to be absolute, but rather provide a starting point to plan for future growth.



UNDEVELOPED LAND BY CITY ZONING

RU	RURAL (1 ACRE MIN. LOT SIZE)
RC	CONSERVATION
RS-1	SINGLE FAMILY RES. (15000 SQ. FT. LOT MIN.)
RS-2	SINGLE FAMILY RES. (10000 SW. FT. LOT MIN.)
RS-3	SINGLE FAMILY RES. (8000 SQ. FT. LOT MIN.)
RS-4	SINGLE FAMILY RES. (6000 SQ. FT. LOT MIN.)
RD	TWO FAMILY RES. (3000 SQ. FT./DWELLING)
RA-1	MULTI-FAMILY RES. (2500 SQ. FT./DWELLING)
RA-2	MULTI-FAMILY RES. (1500 SQ. FT./DWELLING)
C-0	COMMERCIAL (OFFICE)
C-1	COMMERCIAL (NEIGHBORHOOD)
C-2	COMMERCIAL (GENERAL)
C-3	COMMERCIAL (CENTRAL)
C-4	COMMERCIAL (PLANNED)
M-1	INDUSTRIAL (LIGHT)
M-2	INDUSTRIAL (HEAVY)
M-3	INDUSTRIAL (PLANNED)
PUD	PLANNED UNIT DEVELOPMENT
(FP)	FLOODPLAIN
(P/SP)	PUBLIC /SEMI-PUBLIC OWNERSHIP
(STATE)	STATE GOVERNMENT OWNERSHIP

Based on City Zoning Atlas, dated June 24, 1991

Graphic Scale in Feet

0 1600 3200 4800 6400

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 2

Table 22
Undeveloped Land by Current City Zoning
Jefferson City, Missouri [50]

Zoning District		Adjusted Acres of Undeveloped Land in Jefferson City [51]		
		Cole County	Callaway County	Total
RU	Rural	0	651	651
RC	Conservation	65	139	204
RS-1	Single Family (15,000 SF lots)	633	0	633
RS-2	Single Family (10,000 SF lots)	1,216	0	1,216
RS-3	Single Family (8,000 SF lots)	232	0	232
RS-4	Single Family (6,000 SF lots)	28	11	39
Subtotal Single Family Residential		*2,109*	*11*	*2,120*
RD	Two Family (3,000 SF/dwelling)	40	0	40
RA-1	Multi-Family (2,500 SF/dwelling)	206	0	206
RA-2	Multi-Family (1,500 SF/dwelling)	167	0	167
Subtotal Residential		*2,522*	*11*	*2,533*
C-O	Office	8	0	8
C-1	Neighborhood	37	0	37
C-2	General	145	6	151
C-3	Central	0	7	7
C-4	Planned	78	0	78
Subtotal Commercial		*268*	*13*	*281*
M-1	Light	120	105	225
M-2	Heavy	67	0	67
M-3	Planned	66	0	66
Subtotal Industrial		*253*	*105*	*358*
PUD		247	0	247
TOTAL RS-1 THROUGH PUD		**3,290**	**129**	**3,419**

[50] Based on a comparison of the City Zoning Atlas, dated 6/24/91, to the 1992 land use survey.

[51] Except for "RC" and "RU" acreage, figures do not include all undeveloped land (see narrative).

Table 23
Estimated Future Land Use Requirements
Jefferson City Planning Area

Land Use Category	1992 Acreage [54]	Acres Per 100 Persons [55]	Future Acres Rqd. Short Term [52]		Future Acres Rqd. Long Term [53]	
			Total Acreage	To Be Absorbed	Total Acreage	To Be Absorbed
Single Family Residential	5,514	10.60	5,917	403	6,352	838
Two Family Residential	175	0.34	188	13	202	27
Multi-Family Residential	355	0.68	381	26	409	54
Mobile Home Residential	146	0.28	157	11	168	22
Subtotal	*6,190*	*11.90*	*6,643*	*453*	*7,131*	*941*
Commercial	832	1.60	893	61	958	126
Industrial	756	1.45	811	55	871	115
Public/Semi-Public	608	1.17	652	44	700	92
Public/Semi-Public (Gov'nt)	597	1.15	641	44	688	91
Subtotal	*1,205*	*2.32*	*1,293*	*88*	*1,388*	*183*
Parks & Recreation	1,402	2.70	1,505	103	1,615	213
Transportation/Communications/Utilities	632	1.22	678	46	728	96
Street & Highway Right of Ways	3,947	7.59	4,236	289	4,547	600
Total Developed Area	**14,964**	**28.78**	**16,059**	**1,095**	**17,239**	**2,275**

[52] Based on moderate population projection of 55,800 for the year 2000 (see Table 16).
[53] Based on moderate population projection of 59,900 for the year 2010 (see Table 16).
[54] Total acres for the Jefferson City Planning Area, including unincorporated area.
[55] Based on 1990 population of Jefferson City, Jefferson Twp., Summit Twp. (excluding Holts Summit).

Based on these ratios, it is estimated that the developed area of the total planning area could increase from nearly 15,000 acres in 1992 to approximately 16,000 acres by the year 2000. By the year 2010, the total developed area could increase by an additional 1,180 acres. Nearly 37 percent of this new development will likely be lower-density single family residential.

The following narrative examines the amount of developable land by its current zoning category and the estimate of future acreage requirements for different land use types.

Residential Districts

Of the estimated developable land within the City, over 2,500 acres (74 percent) is zoned residential. The majority of this acreage is zoned "RS-1" or "RS-2"; the lower density single family districts. Only 11 percent (271 acres) of the single family zoned acreage is "RS-3" or "RS-4" zoned land. Assuming there is demand for more affordable single family subdivisions, there may be insufficient "RS-4" zoned land, which accounts for only 39 acres. "RS-4" zoning generally would allow smaller homes on small lots (6,000 square feet), thus enabling the cost of land and infrastructure development to be allocated to more units.

If the rate of single family development within the City over the past 15 years were to continue, the estimated available acreage would be absorbed in just under 28 years (2,120 acres/77 acres per year). If all future single family development within the planning area were to take place inside the City limits, the available acreage that is zoned single family would be absorbed in about 13 years (using the rate of growth over the past 15 years for the total planning area--167 acres per year).

As explained in Chapter 1, the rate of growth in the economy and population is not expected to be as high as the last decade. With a tempered future growth rate, the depletion of land zoned single family would take longer than indicated above. Based on the estimates contained in Table 23, it is apparent that there is considerably more land zoned single family within the City than necessary to meet the projected growth demand for the entire planning area. This assumes similar proportions of single family residential densities that existed in 1992. However, it is likely that in the future, there will be a disproportionate share of low-density single family residential development. Hence, over the long term (by the year 2010), there will likely be more than 838 acres developed into single family uses, as calculated in Table 23.

Available "RD" zoned land within the City amounts to 40 acres. This acreage would be absorbed in only 8 years if the past rate of two family residential development were to continue in the future. However, it would take nearly 27 years to absorb this land using the more moderate

projections mentioned above. This assumes that all future two family residential development in the planning area would take place inside the City.

There is an estimated 373 acres of multi-family zoned ("RA-1" and "RA-2") land potentially available for development. However, practically all of this available land zoned multi-family is located in the remote reaches of the Wears Creek watershed (south of Highway 50 and east of South Country Club Drive/Fairgrounds Road). This land was part of annexation that took place in 1985. Currently, this area of the City is inaccessible, though the proposed extensions of Wildwood Drive to the south and Edgewood Drive to the west would provide access.

The amount of multi-family zoned land far exceeds the estimate future requirements for this land use. This is true even if one assumes that the growth rate, during the last 15 years, continues. It would take over 41 years to absorb this available land under this scenario.

The updated Comprehensive Plan and the City's zoning code should take a more realistic view of future multi-family development requirements. The place to start is to consider alternative future land uses for the area of the Wears Creek watershed mentioned above.

Commercial Districts

It is estimated that there are nearly 280 acres potentially available for commercial development, half of which is zoned "C-2." It would appear that this amount of commercially-zoned land is sufficient to satisfy future development demand, at least for the next ten years. Based on the commercial land absorption rate over the past 15 years within the City, it would take about 11 years to develop the estimated 280 acres available. However, given the more moderate estimates contained in Table 23, only 126 acres would be needed for commercial development by the year 2010 for the entire planning area.

In aggregate, there is plenty of commercially-zoned land. However, much of the available commercial land is fraught with development constraints and/or less than desirable locations. Notwithstanding smaller sites that have good commercial potential, many of the larger commercial tracts have various limitations. The following briefly describes the larger contiguous (10 acres or more) commercially zoned acreage that is potentially available for development.

"C-1" Acreage: There is only one large area of contiguous vacant property zoned "C-1". Approximately 12 acres of "C-1" zoned property is located off of Missouri Boulevard (Highway 50 outer road), between Learfield Communications Corporation and the new State offices at the southwest corner of Missouri Boulevard and Howerton Court. The largest

portion of this tract is accessible from Howerton Court. Given the nature of development on each side of the site, it would appear that its greatest potential is office use. Topography will be a constraint to any commercial development on this site.

"C-2" Acreage: There are four areas in the City with vacant contiguous properties zoned "C-2." The largest tract is about 27 acres in size and is located on Missouri Boulevard (Highway 50 outer road) on the east side of Wildwood Drive. Not all of this property is readily usable since it drops off into a ravine that is a tributary to Wears Creek. This site has good visibility from Highway 50. Based on recent development in the vicinity, it would appear that this site would be more desirable for office development.

On the west side of Wildwood Drive is a tract nearly 19 acres in size. A portion of this site was part of a quarry that is no longer active. This site has similar potential as the site across Wildwood Drive.

A little further to the east on Missouri Boulevard are approximately 20 contiguous acres of land zoned "C-2". This includes currently undeveloped land owned by the new Toyota/Honda dealership. About 12 acres are in a single tract adjacent to the dealership on the west side. While this site has good visibility and access, much of it will be difficult to develop because of topographic constraints.

The properties fronting the south side of Missouri Boulevard between West Stadium Boulevard and Heisinger Road are fully developed. However, behind these properties are nearly 26 contiguous acres of "C-2" zoned land. This acreage does not have visibility from Missouri Boulevard, which is a limiting factor in its development potential. However, there is frontage onto West Stadium Boulevard. The new Wal-Mart Supercenter is located on the west side of Stadium Boulevard, which may improve the desirability of this "C-2" site.

On the north side of St. Mary's Boulevard, between its intersection with Missouri Boulevard and Heisinger Road, are approximately 18 contiguous acres of "C-2" zoned property. While this land has visibility from Highway 50, it has severe topographic constraints and is not easily accessible. Any commercial potential would likely be non-retail.

The remaining larger area of "C-2" zoned land is located off of Christy Drive, south of Ellis Drive. There is only about 200 feet of frontage. Most of the 19 acres is behind the bowling alley and the factory outlet store on either side. Visibility and topographic constraints limit the development potential of this site.

"C-4" Acreage: There are three larger contiguous properties that are currently undeveloped and zoned "C-4" Planned Commercial. The largest tract is about 25 acres, located off American Avenue, east of Wildwood Drive. The American Legion has a post located on American Avenue. Also, two other small office buildings have been recently built on properties fronting American Avenue. This site is planned for office type development. Though this site does not offer high visibility, it provides an attractive setting for future office development.

The two other larger "C-4" zoned tracts are located on East McCarty Street, east of Eastland Drive. On the south side of East McCarty Street is nearly 16 contiguous acres of "C-4" zoned land. However, seven acres are in the floodplain, netting only about nine acres of usable ground. In this case, the floodplain could serve as a buffer between future development on this site and the single family neighborhood to the south. The other "C-4" site is about nine acres and is located across East McCarty Street. It is comprised of two tracts, one of which is partially occupied by Midwest Block and Brick, an industrial type land use. The other tract is penetrated by three single family dwellings fronting Landwehr Lane. The elevation of this site rises significantly from East McCarty Street toward Old St. Louis Road, making it difficult to utilize the entire site for commercial uses. Also, the single family uses fronting Landwehr Lane may present incompatible land uses depending on the type of commercial development.

The type of commercial development recently built on Boggs Creek Road to the east appears to be unobtrusive and relatively compatible with the nearby residential areas. Development of the above mentioned properties into these types of commercial uses would have the least amount of incompatibility, if any.

In summary, there are opportunities for commercial development in Jefferson City. However, there are not as many opportunities as the available commercially-zoned acreage would suggest. Topographic constraints, accessibility problems, and the lack of larger "prime" acreage significantly limits commercial development potential. It will be prudent for the Comprehensive Plan Update to identify some new commercial areas that will be compatible with surrounding land uses and meet the potential future commercial development demand.

Industrial Districts

Estimating future industrial acreage requirements is imprecise at best. Table 23 indicates a requirement of 115 acres the year 2010, based on the population ratio technique. However, the population ratio technique (or any other estimating technique) is not very reliable for estimating future

industrial acreage requirements. One industrial development project could absorb most, if not more than, the projected requirement. And, depending on the nature of such an industrial development, it may or may not have a significant "ripple" effect on the local economy. Notwithstanding the unpredictability of industrial land use requirements, the following text examines the currently available industrial acreage in Jefferson City.

In general there are four areas in Jefferson City with larger tracts available for industrial development. The obvious location of industrially-zoned acreage is the Callaway County side of the Missouri River. There are hundreds of acres of industrially-zoned land in this area. However, the vast majority of it is located in the 100-year floodplain. Taking this into account, Table 22 indicates only 105 acres of vacant "M-1" zoned land being realistically developable (one-third of the total).

On the Cole County side of the river, there are three areas containing larger available industrial sites. The first area is located along Rock Hill Road (Highway 179) just north of Truman Boulevard. On the east side of Rock Hill Road are approximately 34 acres of relatively flat "M-1" zoned land available. The tract is accessible via Hoover Drive. This is one of the better industrial sites in Jefferson City.

On the west side of Rock Hill Road are approximately 32 acres of "M-1" zoned land that are currently undeveloped. This area is accessible via Railton Road. Topography will be a limiting factor in developing this area for industrial use. Just east of this tract is the Chesebrough Ponds manufacturing site, which has approximately 19 acres remaining that is undeveloped. However, steep slopes will inhibit expansion on this site.

Further north on Highway 179, just beyond Boonville Road are several tracts of "M-2" and "M-3" zoned property. In total, there are about 37 acres available. Approximately 11 acres is zoned "M-3" (fronting Highway 179) and the remainder is zoned "M-2." The "M-2" acreage is adjacent to the Missouri Pacific Railroad. The topography is gently rolling and will inhibit larger industrial buildings.

In the western reaches of Jefferson City, there are approximately 58 acres of undeveloped "M-1" zoned land. Off Maytag Drive, there are a total of 44 acres of undeveloped "M-1" land, of which 26 acres are available in a single tract. The remaining 18 acres are available for the expansion of the Maytag facility and the new "spec" industrial building developed by the Jefferson City IDA. On the north side of Fairgrounds Road, across from the Maytag facility, is a nine-acre tract that is available for industrial use. Adjacent to this tract is the new Chesebrough Ponds facility which still has about four acres available for future expansion. The available industrial sites described here are perhaps the best industrial sites in Jefferson City.

In summary, other large, potentially suitable industrial sites within the City limits on the Cole County side of the river are non-existent. Building a levee on the Callaway County side of the river may enhance the industrial development prospects there. However, the feasibility of building such a levee is unknown at this point. The only other option for expanding industrial development opportunities are finding sites outside the current City limits. One such area is the Algoa Industrial Park, mentioned earlier in this Chapter.

PUD District

There are nearly 250 undeveloped acres zoned Planned Unit Development (PUD). This is a special district category in that "mixed-use" developments are permitted based on a City approved site development plan. In Jefferson City, this district has been used for the development of mixed-density residential developments (i.e., single family and multi-family built in a unified development scheme). A limited amount of commercial development is sometimes permitted in such developments.

The remaining undeveloped PUD acreage is associated with previously approved projects which are not yet complete. This acreage will supply, in part, the future demand for residential construction and, to a lesser extent, commercial development.

Summary

Estimating future land use requirements is an essential element of planning for future growth. This analysis examined past land absorption trends and estimated future land use requirements based on the relationship of population to quantities of the various land use categories. Projecting the land absorption trends over the last 15 years into the future yields considerably more urban development requirements than the population ratio technique yields. However, the population ratio technique reflects a more moderate growth projection as described in Chapter 1.

Of course, the actual future requirements for a particular land use may be more or less than that shown in Table 23. The intent of this analysis is to put future development requirements into perspective. While it is important to incorporate flexibility into the plan (i.e., propose more area for potential development than required), it is equally important to maintain an appropriate scale for plan. If done properly, planning for the provision of public infrastructure and public services will be more realistic and cost effective.

CHAPTER 3
UTILITIES

Water Systems

Introduction

The Jefferson City planning area is principally served by six (6) separate water systems including a City owned and operated system serving the north Jefferson City area. Callaway County Public Water Supply District No. 1 serves the ABB plant located in north Jefferson City and is also interconnected to the City-owned system to supplement water demand, if needed. On the Cole County side of the Missouri River, roughly two-thirds of the City's current land area is served by the Capital City Water Company. Outlying areas are served by Public Water Supply Districts No. 1 and No. 2 *(Cole County)*.

United Water Missouri

United Water Missouri is franchised through the Missouri Public Service Commission to serve a portion of the current corporate area of the City of Jefferson *(approximately the corporate area which existed prior to the 1967 annexation)*. United Water Missouri uses the Missouri River as a source of supply. Raw water is pumped from the river to the main treatment facility, which has a rated capacity of 6.5 million gallons per day. Storage consists of two (2) clearwell reservoirs located at the treatment plant site having a combined capacity of 2.35 million gallons.

Three (3) booster pumping stations are located within the distribution network *(Washington Park, Southwest and Bald Hill)* to provide adequate pressures throughout the system. The water distribution system consists primarily of pipes ranging from 6 inches to 20 inches in diameter. Pipes smaller than 6 inches are found only in isolated areas and are not a part of the primary network.

United Water Missouri currently serves approximately 10,000 customers including 8,400 residential, 1,465 commercial/industrial and 125 other public and private fire protection users. The system is interconnected to Water District No. 2 at two meter points for additional reliability and storage capacity. Additionally, United Water Missouri operates and maintains four (4) water supply wells for Water District No. 2 under a contractual agreement.

Public Water Supply District No. 1 *(Cole County)*

Public Water Supply District No. 1 of Cole County serves an area generally west of Highway 179 to the Jefferson Township line immediately west of Binder Lake and from the Missouri River on the north to the Moreau River on the south. The district encompasses the western *"growth zone"* of the Jefferson City planning area.

Water supply is provided by a series of five (5) deep wells having a combined capacity of 2,890 gallons per minute *(over 4.1 million gallons per day)*. Water storage consists of two (2), one million gallon elevated tanks and a 100,000 gallon elevated tank. The distribution system is interconnected with both the United Water Missouri system and the Water Supply District No. 2 system for emergency purposes. Pipe sizes range from 4 inches to 12 inches in diameter.

Public Water Supply District No. 1 currently serves approximately 3,400 customers of which 2,900 (85 percent) are residential users. The district added approximately 90 new customers during the past year, which is about half of that experienced for several years from the mid to late 1980's.

Public Water Supply District No. 2 *(Cole County)*

Public Water Supply District No.2 of Cole County serves approximately a 65-square mile area including portions to the southern, southwestern and eastern portions of the Jefferson City corporate area. Water supply is obtained from four (4) deep wells having a combined capacity of 2,050 gallons per minute *(nearly 3 million gallons per day)*. Water storage is provided in four (4) elevated tanks having a combined capacity of 2.45 million gallons. Three (3) of the storage tanks are located near the north boundary of the District in close proximity to the United Water Missouri service area, and one (1) 250,000 gallon elevated tank is located to the south near the community of Brazito. The entire distribution system is served by gravity through pipes ranging from 2 inches to 16 inches in diameter. The system is interconnected with the Public Water Supply District No. 1 system for emergency purposes, and also with the United Water Missouri system at two (2) meter locations.

Public Water Supply District No. 2 serves approximately 3,600 customers of which 90 percent are residential connections. The district has averaged approximately 90 new customers over the past three (3) years.

North Jefferson City Water System

The north Jefferson City area is supplied water from two (2) wells having a combined production capacity of 430 gallons per minute *(about 620,000 gallons per day)*. Water from both

wells is chlorinated before entering the distribution system. Storage is provided by one 50,000 gallon elevated tank. The distribution system consists of a total of approximately 6.5 miles of pipe ranging in diameter from 2 inches to 10 inches. Of this total, 1.25 miles of 6 inch PVC pipe serves the Jefferson City Memorial Airport area.

The north Jefferson City water system serves a total of 33 residential customers and 9 large commercial/industrial customers. Service connection pipe sizes range from 5/8 inch to 3/4 inch for residential customers to 1 inch or larger for commercial/industrial users. Total water pumped from both wells during calendar year 1994 amounted to 8.74 million gallons.

Based on hydrant flow tests taken by the City of Jefferson, before the 1993 flood and the 1994 interconnection with Callaway Water District No. 1, several locations within the north Jefferson City service area recorded significantly low pressures and available fire flows. During these tests, the north Jefferson City well system in this area limited flows to 625 gallons per minute plus consumption for a two-hour duration. The interconnection with Callaway Water District No. 1 would improve hydrant flows, if the District water line was placed in service. However, the City prefers not to introduce non-chlorinated District water supply into the City system. An additional hydrant test should be conducted to determine the current suitability of fire hydrant water supply with the lower, post flood consumption rates. If the Callaway Water District No. 1 supply is considered necessary for sufficient fire protection, operational provisions should be taken to assure successful blending of water supplies.

Water Supply Development Support Capacity

Introduction

For purposes of estimating development support capacity, potential population that can be served by the existing water supply/distribution systems is computed below. For an area the size of the Jefferson City planning area, this is a reasonable method of developing an *"order-of-magnitude"* estimate of system capacity.

In considering supply and storage requirements for the planning area, one must take into account average maximum daily consumption, potential required fire fighting consumption, and supply interruption due to power outages. Thus, the following formula is used to estimate system capacity:

(Maximum Supply Capacity + Storage) - (Supply Interruption + Fire Fighting Demand) ÷ Average Maximum Daily Consumption = POPULATION SUPPORT CAPACITY

WHERE:

Maximum Supply Capacity is the total maximum capacity of all wells or treatment plants *(gallons per day).*

Storage equals the total ground or elevated storage within the system *(gallons).*

Supply Interruption is the quantity of water lost due to the largest treatment component or well being out of service *(gallons).*

Fire Fighting Demand is an established rate of flow expressed in gallons per minute (gpm) over a specific duration (hours). Varies based on the size and composition of the community. For purposes of this computation, a fire demand of 2,500 gallons per minute over a ten (10) hour period will be used for all systems, which amounts to a total of 1,500,00 gallons *(2,500 gpm x 60 minutes x 10 hours).*

Average Maximum Daily Consumption typically amounts to 1.6 to 1.8 times the average daily per capita demand. Using an average consumption rate of 125 gallons per capita per day x 1.8, the average maximum daily consumption amounts to 225 gallons per capita per day.

Approximate populations that could be supported by the water supply systems in the Jefferson City area are computed as follows:

United Water Missouri

At the present time, high service pumping capability, with one (1) pump out of service, exceeds the rated capacity of the treatment plant. In addition, two (2) separate electrical feeders currently serve the plant site. Using the current plant capacity and clearwell storage results in the following population support capacity:

$$\frac{(6{,}500{,}000 \text{ gallons} + 2{,}350{,}000 \text{ gallons}) - (1{,}500{,}000 \text{ gallons})}{225 \text{ gallons per person}}$$

$$= \frac{7{,}350{,}000 \text{ gallons}}{225 \text{ gallons per person}} = 32{,}670 \text{ persons (say } 33{,}000 \text{ persons)}$$

Public Water Supply District No. 1

The largest well has a rated capacity of 710 gallons per minute, and if out of service would produce a reduction of 1,022,400 gallons per day of a total supply capacity of 4,161,600 gallons per day. Incorporating available storage, fire fighting demand and average maximum daily consumption, the Cole County Public Water Supply District No. 1 could support the following population:

$$\frac{(4{,}161{,}600 \text{ gallons} + 2{,}100{,}000 \text{ gallons}) - (1{,}022{,}400 \text{ gallons} + 1{,}500{,}000 \text{ gallons})}{225 \text{ gallons per person}}$$

$$= \frac{6{,}261{,}600 \text{ gallons} - 2{,}522{,}400 \text{ gallons}}{225 \text{ gallons per person}}$$

$$= \frac{3{,}379{,}200 \text{ gallons}}{225 \text{ gallons per person}} = 16{,}620 \text{ persons (say 17,000 persons)}$$

Public Water Supply District No. 2

Water supply is currently obtained from four (4) wells having a combined capacity of 2,050 gallons per minute or 2,952,000 gallons per day. This supply could be interrupted by the largest well out of service. This well, located in Brazito, has a capacity of 800 gallons per minute, or 1,152,000 gallons per day. This assumed loss, combined with fire fighting demand and maximum average daily consumption would result in the following population support capacity:

$$\frac{(2{,}952{,}000 \text{ gallons} + 2{,}450{,}000 \text{ gallons}) - (1{,}152{,}000 \text{ gallons} + 1{,}500{,}000 \text{ gallons})}{225 \text{ gallons per person}}$$

$$= \frac{5{,}402{,}000 \text{ gallons} - 2{,}652{,}000 \text{ gallons}}{225 \text{ gallons per person}}$$

$$= \frac{2{,}750{,}000 \text{ gallons}}{225 \text{ gallons per person}} = 12{,}220 \text{ persons (say 12,000 persons)}$$

North Jefferson City Water System

The present water system serving the north Jefferson City area supplies water to approximately 120 persons. Before the 1993 flood, available water supply in this area limited fire flows to 625 gallons per minute plus consumption for a two (2) hour duration, and 524 gallons per minute plus consumption for a three (3) hour duration. Because of inadequate fire fighting capabilities, maximum support population can not realistically be computed. If utilized, the interconnection to Callaway County Water District No. 1 will improve fire flows, and increase the reliability of the overall system.

Summary and Conclusions

The Jefferson City planning area is currently served by several water supply entities that, in recent years, have upgraded and expanded their respective systems to meet and in most cases, exceed current demands. The total of the above computations yields a current population support capacity

of approximately 62,000 persons, not including the north Jefferson City Water System or the Callaway County Public Water Supply District No 1. This equates to 111 percent of the *"moderate"* projection of population for the Jefferson City planning area for the year 2000 *(population of 55,800; see Table 16, Chapter 1)*. By the year 2010, the current total system capacity would represent 104 percent of the projected population for the planning area *(population of* 59,900).

The computed population support capacities are conservative in that they reduce water supply capacities by the largest capacity component of the system being out of service concurrent with fire fighting demand and maximum average daily consumption. However, the capacities calculated for the Cole County Public Water Supply Districts 1 and 2 include service areas outside the Jefferson City planning area. This implies that a potential shortfall in supply versus demand could develop if population grows as projected.

Thus, water supply/distribution upgrades will be necessary in order to supply future growth demands. This will be particularly important in isolated problem areas in order to provide adequate fire protection. Furthermore, future commercial/industrial development in the north Jefferson City area will require implementation of the proposed water supply/distribution improvements.

Regarding the residential water service in the north Jefferson City area, the aftermath of the 1993 flood presents a dilemma. At current water usage and user rates, the system's annual operating expenses and revenues are nearly the same at approximately $7,000. However, the prospects of a levee in north Jefferson City may lead to increased water usage and the system's net revenue.

Sanitary Sewer System

Introduction

The Jefferson City Regional Sewer District encompasses a total of approximately 64 square miles, the majority of which is south of the Missouri River in Cole County. Fifty-seven (57) percent of the district lies outside of the present corporate limits of the City, primarily including an area to the southwest along Rock Ridge Road and a larger area to the west extending to St. Martins. Much of the current service area to the west includes portions of the Grays Creek watershed, which was served by the former Cole County Regional Sewer District (CCRSD). CCRSD has since been combined into the Jefferson City Regional Sewer District.

In addition to the above service area, the *"effective"* service area is soon to become even larger. Though the boundaries of the sewer district will not be expanded, the City entered into an

agreement with Holts Summit to accept their wastewater flows. The City of Holts Summit is preparing to construct a lengthy force main along Route AC which will convey wastewater from Holts Summit to a Jefferson City sewer line located on the northwest side of the Highway 54/Route AC interchange.

A number of comprehensive studies have been undertaken in recent years, including a Wastewater Facilities Master Plan prepared by CH_2M Hill in 1986, and a study conducted by Black & Veatch Consulting Engineers regarding treatment plant improvements and odor control. Findings from these evaluations of the major wastewater system components and the adequacy to support continued development within the planning area are summarized below:

Wastewater Treatment

The Jefferson City Water Pollution Control Plant (WPCP), located north of the Missouri River and south of the airport, was originally designed in the late 1960's as a *"primary"* treatment facility. Initial construction consisted of the headworks, with a Parshall flume and comminutors, two (2) aerated grit chambers, and two (2) primary clarifiers. A high water pumping station was also constructed at this time for use when the Missouri River stage becomes high enough to hamper plant operations. Sludge handling facilities included a gravity thickener, centrifuges, and a sludge incinerator.

During the late 1970's, the primary portion of the plant was expanded and *"secondary"* treatment facilities were added, including two (2) additional primary clarifiers, a settled sewage pump station, two (2) plastic media/high-rate trickling filters, two (2) secondary clarifiers, and chlorination facilities. Vacuum filters were also added at this time for sludge dewatering. The plant has undergone several changes since the secondary treatment expansion, including:

- A mechanically cleaned bar screen was added upstream of the Parshall flume.
- Comminutors have been removed and replaced with manually cleaned bar screens.
- The incinerator was removed from service, with land application becoming the primary method for sludge disposal.
- The gravity thickener was rehabilitated, including mechanism replacement.
- A flume was constructed on the effluent line for flow measurement.

- An emergency diesel generator was added for stand-by power.

- All underground storage tanks were removed and replaced with above ground tanks.

- A SCADA/telemetry system was installed which will allow for greater process control throughout plant and pump station processes.

- Covers were built over the headworks structures and an odor scrubber was installed.

Improvements to the Water Pollution Control Plant currently under further study and consideration include:

- Replacement of trickling filter media and repair of tower walls.

- Implementation of a large scale odor control project.

- Development of a new sludge dewatering system.

- Additional secondary treatment and clarification units.

- Expansion of the plant laboratory and administration building.

Numerous low-cost operational approaches are being taken to increase plant capacity. After evaluating the effectiveness of these approaches, the scope of any capital projects will be more clearly defined.

Treatment Plant Capacity

A complete capacity analysis of all component units of the wastewater treatment facility was conducted for the 1986 Wastewater Facilities Master Plan with values ranging from 7.1 million gallons per day (mgd) for the secondary clarifiers to 53.6 mgd for the aeration tanks. The primary clarifiers had a rated capacity of 11.3 mgd under average conditions with all units in service and the trickling filters were rated at 23.9 mgd with no recycle.

Using a peak flow of 18.1 mgd, which is the capacity of the settled sewage pump station with one of the largest pumps out of service, a hydraulic profile analysis through the plant was performed during the 1986 study. The results of this evaluation concluded that the existing plant was capable of handling this flow; however, the secondary clarifier weir was nearly submerged and the outlets of

the aerated grit chambers were submerged at this flow, although no structures were overtopped. The hydraulic capacity of the wastewater treatment facility can be assumed to be 18.1 mgd, although improvements made since 1986 could affect the prior analysis.

Historical Wastewater Flows

Average flows to the wastewater treatment plant during calendar year 1992 amounted to 7.2 million gallons per day, which is approximately fifteen (15) percent higher than flows recorded during a previous five-year period from 1980 through 1984 (see Table 24). This increase is due in part to continued growth in the area over the past several years, plus additional flows from a sizable area formerly served by the Cole County Regional Sewer District.

Table 24
Historical Flows to the Water Pollution Control Plant
(1980-84 & 1992)
Jefferson City, Missouri [56]

Month	1980	1981	1982	1983	1984	1992
January	3.4	4.1	5.7	5.6	7.8	6.1
February	4.4	5.7	6.0	6.0	10.4	8.0
March	5.9	5.2	6.1	7.3	8.7	7.1
April	--	5.7	5.6	9.2	9.2	7.3
May	5.8	7.2	6.0	8.4	7.1	6.1
June	4.3	7.2	6.8	5.9	8.3	6.2
July	4.4	7.3	4.9	5.2	7.4	8.1
August	4.5	6.1	7.3	6.2	6.7	7.4
September	3.7	5.4	6.9	4.2	7.5	8.1
October	3.8	5.3	8.2	4.7	8.6	6.6
November	6.0	5.5	5.0	6.0	7.8	7.5
December	4.1	5.0	9.1	6.7	8.6	7.5
Annual Avg.	**4.6**	**5.8**	**6.5**	**6.3**	**8.2**	**7.2**
FIVE YEAR ANNUAL AVERAGE (1980-84): 6.3						

[56] Source: Department of Public Works, City of Jefferson, Missouri. Flows expressed in millions of gallons per day (mgd).

Collection System

During the preparation of the 1986 Wastewater Facilities Master Plan, the Jefferson City wastewater collection system consisted of approximately 1,060,000 lineal feet of pipe ranging in size from 8 inches to 48 inches in diameter.

The system at that time was contained in nineteen (19) watershed basins covering a total of 27 square miles. For purposes of evaluating future flows during the 1986 study, seven (7) additional basins were added to the other tributary basins. These additional basins were principally to the east, south and southwest areas of the primary study area.

The projected peak domestic sanitary flow from the twenty-six (26) basins, plus the flows from the former Cole County Regional Sewer District, was estimated to be 8.67 mgd for the year 2005. Peaking factors used in the 1986 study varied from 1.6 to 3.5 times the average flow depending on the characteristics of each study basin. In addition to estimating the future peak sanitary flow based on population and employment projections within each tributary basin, the 1986 study also addressed other contributing design flows, such as groundwater infiltration, Missouri River inflow and rainfall-dependent infiltration/inflow. Based on a combination of flow monitoring tests and computer models, the total projected design flow to the treatment plant was computed to be 50.2 mgd (including the peak sanitary flow and all infiltration and inflow).

One of the underlying factors used to compute sanitary flows was population. While the jurisdiction of the sanitary district and the jurisdictions used in the demographic analysis in Chapter 1 are different, an attempt is made here to compare projections (see Table 25). The projections contained in Chapter 2, cover all territory within Jefferson Township and Summit Township, but exclude Holts Summit. The sanitary district does not include portions of southern Jefferson Township, nor does it include the portions of Summit Township outside of the north Jefferson City area. However, with the consolidation with the CCRSD, the Sanitary District now extends beyond the western boundary of Jefferson Township and includes the communities of St. Martins and Elston.

With these differences understood, it is reasonable to assume that the vast majority of population in the Jefferson City region is contained within either of the territories described. However, Table 25 reveals significant discrepancies, of which only a relatively small portion could be due to the differences in boundaries. While one can dispute projections, it remains inexplicable as to why the 1985 population estimates, contained in the 1986 Wastewater Study, are off by over 10,000 persons when compared to the 1990 Census figures for the demographic study area, used in Chapter 2. Furthermore, the same 1985 estimates fall short of the 1980 Census figures for the demographic study area by approximately 5,000 persons.

Based on available documentation, it is uncertain if the estimated average daily sanitary flows from the CCRSD, used in the 1986 study, represented 1985 or projected conditions. Regardless, it appears that the 1986 study underestimated population within the former CCRSD area. If true, the projected flows to the Jefferson City Water Pollution Control Plant could be off by as much as 800,000 gallons per day, by the year 2000.

The 1986 Wastewater Facilities Master Plan recommended several improvements to reduce infiltration that would lower the peak design flow to the plant to 33.4 mgd for the year 2005. The plan also recommended several system capacity improvements required to operate the collection system without surcharge during peak flow conditions. Several such improvements and changes have been made to the collection system in recent years, including:

- Flow was diverted from Westview Heights into Basin 10 in the southwest portion of the service area.
- Flow was added from Cole County Regional Sewer District to Basin 12 in the northwest portion of the service area.
- Flow was removed from the Amador and Terra Bella Pump Stations in Basin 13 and diverted to the former CCRSD area.
- The Scholastic Pump Station was constructed in the east portion of the service area, which resulted in a minor increase in flow in Basin 16.
- A 24-inch pipe in Basin 14 was replaced with a 30-inch pipe.
- The Greenberry *(Moreau)* Pump Station was upgraded in Basin 4 at the southern boundary of the service area.
- All manholes in Basin 15 were rehabilitated to reduce flows in the receiving Basin 14.
- Smoke testing, identification and correction of illegal connections, manhole and line repairs and manhole grouting was accomplished in Basins 4 and 12.

Isolated surcharge problems exist in several basins to the southwest and west of the downtown Jefferson City area. The City has an ongoing flow monitoring program to identify potential problem areas and to prioritize future capital improvements.

Summary and Conclusions

The existing Jefferson City wastewater collection system and treatment components adequately serve the present area of service under most normal, dry weather conditions. Projected peak design flows, however, identified in the 1986 Wastewater Facilities Master Plan, substantially exceeds the capacity of the plant and isolated sections of the collection system. These projections may be underestimated due to the addition of the CCRSD area and the future acceptance of the flows from Holts Summit.

Many trunk sewer deficiencies identified in the 1986 study are located in the southwestern and western portions of the service area which are likely to receive additional flows from new development in these areas. It will be necessary for the City to continue to upgrade the deficient links in the collection system in order to adequately serve existing and probable future development.

The treatment plant poses the most significant constraint on future development. As such, improvements to the wastewater treatment facility should also be programmed in accordance with studies currently underway to increase the operating capacity of major system components.

The expansion of the sewer district to include the former CCRSD area and the proposed connecting of the Turkey Creek trunk sewer *(to serve Holts Summit)*, raises serious policy questions regarding the planning for future growth. The expansive collection system of pipes *(particularly the Grays Creek trunk sewer)* opens up vast territory for potential sanitary sewer hookups. Other than mitigating existing groundwater contamination caused by the former or existing septic systems in the CCRSD area, the expanded sanitary sewer collection system may result in unintentional inefficiencies. As mentioned earlier, fifty-seven (57) percent of the Jefferson City Regional Sanitary Sewer District is outside the current corporate limits of Jefferson City. However, there is more potentially developable land within the current City limits to accommodate projected growth for the entire planning area, as revealed in Chapter 3, "Land Use." Therefore, this expanded sanitary sewer collection system affords a significant potential for additional *"leap frog"* development to occur.

Given the changes in the coverage of the sanitary sewer district, it would be appropriate to initiate a comprehensive update to the 1986 Wastewater Facilities Master Plan. In the interim, the sewer district staff is revising its sewer extension policy, with the objective of discouraging leap frog development. Furthermore, the District's decision to conduct a cost analysis of expanding the treatment plant should provide meaningful direction.

Table 25
Comparison of Population Projections
(Comprehensive Plan Update vs. 1986 Wastewater Facilities Master Plan)
Jefferson City, Missouri

Source	Year					
	1980 (actual)	1985 (estimate)	1990 (actual)	2000	2005	2010
U. S. Census [57]	46,606	--	51,946	--	--	--
Comprehensive Plan Update: [58]						
Low Projection	--	--	--	52,800	--	53,600
Moderate Projection	--	--	--	55,800	--	59,900
1986 Wastewater Facilities Master Plan:						
Within 26 Watershed Basins	--	35,695	--	--	39,836	--
CCRSD Area	--	5,875 [59]	--	--	5,875(3)	--
Subtotal	--	41,570	--	--	45,711	--

[57] Census figures are the combined total population of Jefferson Township, in Cole County, and Summit Township, in Callaway County minus the population of Holts Summit.

[58] From Table 16.

[59] Not expressly stated in the 1986 Wastewater Facilities Master Plan. This figure is based upon a back-calculation using an average daily sanitary flow of 470,000 gallons and a per-capita contribution of 80 gallons per day, as stated in the 1986 Master Plan. It is not clear it this sanitary flow figure is a projection or if it represents a 1985 estimate.

Stormwater Drainage

Introduction

In many communities, managing stormwater runoff has historically taken a second position to sanitary sewer utilities. Left unmanaged, new development in the upstream portions of a watershed creates additional stormwater runoff, causing flooding problems in areas near the watershed discharge point. In the Jefferson City area, storm drainage management is particularly challenging. This is because runoff coefficients are high, due to the hilly terrain and soils of low permeability.

Jefferson City has recognized the storm drainage problems associated with its urban development for at least 30 years. This is evident from the City commissioning Horner and Shifrin to conduct a storm drainage study in 1963. While the resultant study contained a number of valid recommendations, little was accomplished in terms of implementing a comprehensive storm drainage management program. In 1986, the City hired Black & Veatch to develop a stormwater management plan. The key findings, recommendations and subsequent actions by the City are summarized below.

Stormwater Management Plan

The 1986 Stormwater Management Plan identified several key problems associated with the City's storm drainage system:

- Lack of funds for needed storm drainage improvements.
- Many portions of the storm drainage system do not have sufficient capacity to handle a 10-year storm.
- Severe deterioration of corrugated metal pipe in some areas.

The Stormwater Management Plan also made the following recommendations:

- Create a stormwater utility to operate and maintain stormwater facilities. The utility should be funded with user fees.
- Spending of nearly $4 million *(1986 dollars)* on various stormwater facilities located in eight (8) watersheds.
- Acquisition of maintenance equipment.

- A stormwater management ordinance was drafted as part of the planning study. This Ordinance was adopted by the City Council in January 1986.

Stormwater Facility Improvements

While a stormwater utility has yet to be established, the City has invested a considerable amount of money in stormwater improvements. In 1987, Jefferson City voters passed a 5-year, 1/2 cent capital improvements sales tax which generated approximately $3 million for storm drainage improvements. Also, some of the other funds generated by this tax, which were earmarked for street and bridge work, remedied some storm drainage problems as well.

In 1992, the Jefferson City voters again approved a 5-year, 1/2 cent capital improvements sales tax. Not including storm drainage improvements associated with programmed street and bridge improvements, there is $1.65 million budgeted in this revenue source for storm drainage improvements.

While these investments by the City in storm drainage infrastructure are crucial to stormwater management, controlling stormwater runoff from private property is an important component as well. Adoption of the stormwater management ordinance in 1986, affords the City some regulatory control. However, it may be appropriate for the City to re-examine the effectiveness of this ordinance, for reasons described below:

Stormwater Management Ordinance

The stormwater management ordinance is relatively vague in its attempt to assure that stormwater runoff from new development does not adversely impact downstream or upstream properties. Specifically, the standards are vague, although reference is made to the *"Storm Drainage Design Manual,"* which is an administrative tool. It is also apparent that the ordinance gives the Director of Public Works unlimited administrative latitude in determining acceptable storm drainage facilities for particular development. It's advisable that at least fundamental design standards be incorporated in the ordinance *(i.e., design year storm for which storm drainage facilities design shall be based upon).* Detailed design standards should remain in the Design Manual.

Another apparent weakness in the ordinance is that on-site stormwater detention is an optional means for controlling stormwater runoff. A developer may elect to improve downstream drainage facilities to accommodate additional runoff caused by such a development. However, with land development occurring on an incremental basis, it becomes nearly impossible to accurately assess the downstream storm drainage infrastructure requirements. Additionally, the City cannot impose on any

one particular development greater infrastructure requirements to accommodate future developments, without just compensation.

This is why many communities have opted for requiring on-site stormwater detention. This assures that stormwater runoff from a particular site is no more than predevelopment conditions *(based on specific storm intensity and duration)*. This approach is reasonable and fair in that stormwater runoff is the responsibility of individual developments, instead of the community at large. A drawback to this approach is that maintenance of private stormwater control facilities may be deferred, making them less effective. To avoid this situation, a municipality could require that public maintenance easements be dedicated for maintenance access. Of course, this would require additional funding.

Summary and Conclusions

The City has undertaken a considerable amount of remedial action since 1987 to accommodate stormwater runoff. However, the City is still playing *"catch-up"* in its attempt to provide adequate storm drainage facilities for development which has occurred in the past several decades. No one particular development has caused the storm drainage problems. Rather, it's the aggregate of urban development, without an adequate stormwater management program, which overtaxes portions of the system.

The City should be commended for taking actions to implement portions of the 1986 Stormwater Management Plan and adopting a stormwater management ordinance. However, while the City continues to play catch-up on existing storm drainage problems, it should consider strengthening it stormwater ordinance. In areas where area-wide detention facilities are not provided or planned *(such as provided by Sunset Lake)*, the City should consider making on-site detention/retention a requirement for future development. Additionally, the City could strengthen its requirements for erosion control in the stormwater ordinance.

In addition to making stormwater ordinance modifications, the City should consider expanding upon the 1986 Stormwater Management Plan to examine, in more detail, the various watershed basins. These detailed studies can benefit from the Comprehensive Plan Update, which should provide direction with respect to proposed land uses. However, in order to conduct these detailed studies, it will be necessary to obtain detailed topographic maps (i.e., 1" = 100' scale maps with two-foot contour intervals). Though costly, these maps can serve other uses such as a base for developing a geographic information system (GIS), and other engineering and planning applications.

Another consideration for stormwater management relates to the quality of stormwater runoff. Under the revised federal Clean Water Act, the Environmental Protection Agency (EPA) now requires compliance with specific stormwater control regulations for construction projects involving more than five-acres of grading. The same is required of a variety of industries listed in the Act. Also the EPA has explored promulgating regulations for certain commercial uses, such as gas stations, but has yet to do so. While it is beyond the scope of the Comprehensive Plan Update, the City needs to evaluate what impact, if any, the Act may have on City-owned stormwater control facilities.

CHAPTER 4
DEVELOPMENT FACTORS

Introduction

There are a number of factors that have influenced the pattern of urbanization within the Jefferson City planning area. These same influences will affect future development as well. For example, economic and population trends fueled demand for various types of land development, particularly residential and commercial land uses. Other factors affecting the existing and future land use patterns include transportation systems (principally highways and streets), availability of public utilities, and physiographic conditions.

Plate 3 graphically portrays some of the factors that will influence future development options. There are two key physiographic features, floodplain and steep slopes, which have already greatly influenced development patterns. Comparing Plate 1 to Plate 3, "Existing Land Use," one can readily see the relationship of the two physiographic features and the current pattern of development. Plate 3 also displays proposals contained in the City's Thoroughfare Plan, prepared in 1988. Also, key elements of the preliminary Airport Layout Plan (ALP) are shown.

The following narrative summarizes how these factors constrain or provide opportunities for future development. For purposes of this discussion, the planning area is divided by the two counties in which it is comprised.

Cole County

By far the majority of existing development in the Jefferson City planning area is located south of the Missouri River in Cole County. Avoidance of floodplain and steep slopes is quite apparent in the existing development pattern. There are, however, portions of the older area of the City that are within the 100-year floodplain. Another section of the City, with portions of development in the floodplain, is located in the Grays Creek watershed near its confluence with the Missouri River. Much of the downtown area that is within the floodplain has been redeveloped into parking lots for State government employees.

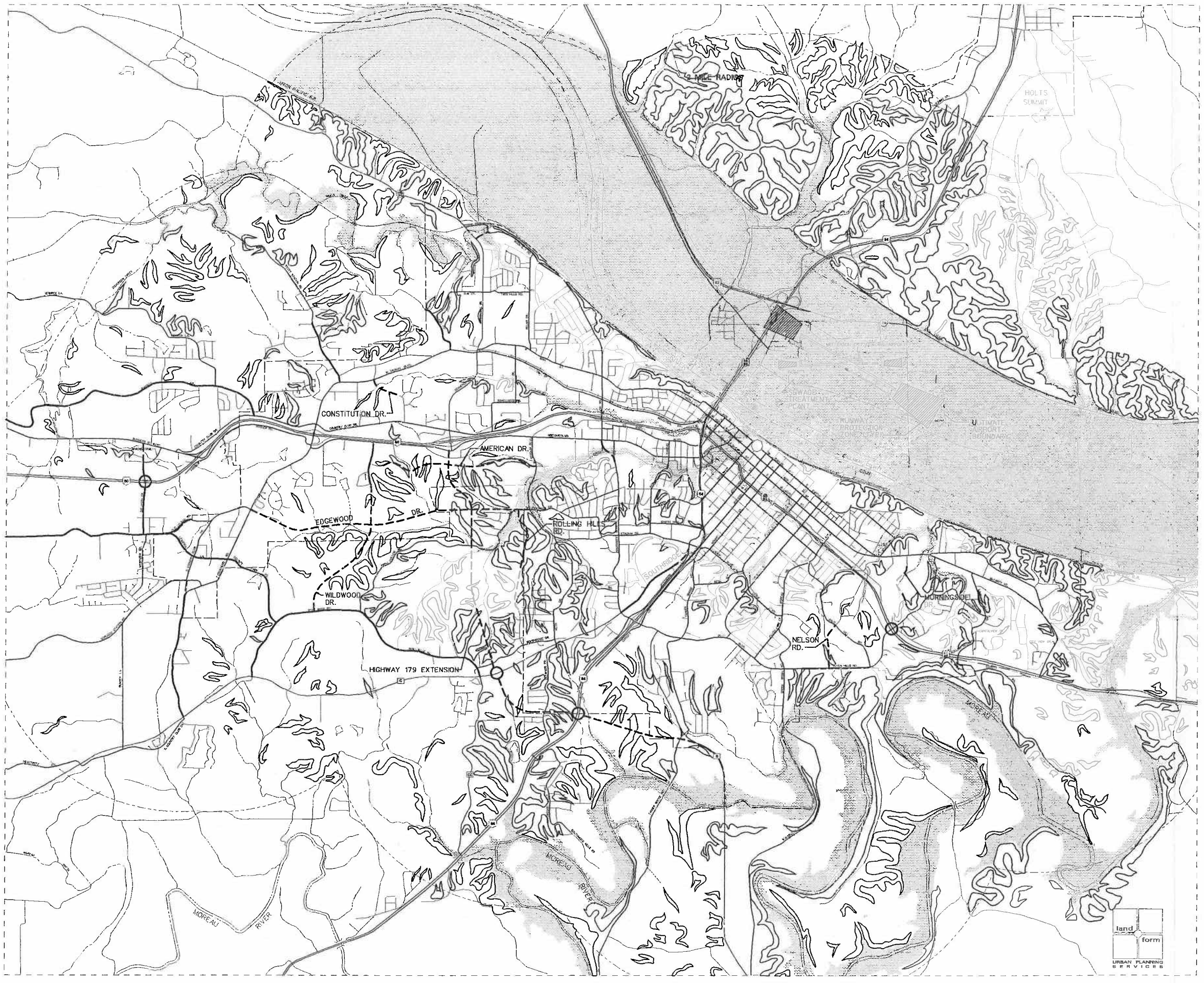
During severe flood conditions, these parking areas become useless, causing inconveniences. However, use of floodplains for surface parking is more appropriate than the previous land uses, which were subjected to significant property damage repeatedly.

Existing development within the 100-year floodplain occurred prior to the establishment of a floodplain regulation program administered by a federal agency now named the Federal Emergency Management Agency (FEMA). The City of Jefferson participates in this program and has established floodplain development regulations in compliance with federal requirements. In essence, development in a floodplain is prohibited, unless it is elevated above the floodplain and/or meets certain flood protection construction standards. However, with regard to planning future development within the Cole County side of the Missouri River, the floodplain should be avoided, except for agricultural crops and limited recreation facilities.

Steep slopes are prevalent within the west-central, southwest, and northwest areas of the Cole County side of the planning area. Further west, the occurrence of steep slopes dissipates significantly. Hence, it is not surprising to observe that most of the development in the unincorporated portion of the planning area has occurred in the west. Also, the western area contains large areas of contiguous undeveloped land with slopes less than 20 percent and is within or near the current gravity sewer service area.

The Thoroughfare Plan proposals, if implemented, will create development opportunities adjacent to the City. If implemented, the western portions of the Wears Creek watershed will likely become the predominant growth zone of the planning area. The most significant thoroughfare proposals are the extension of Highway 179, from Highway 50 south to Route C, and the extension of Edgewood Drive, west to Country Club Drive. It is proposed that Edgewood Drive be eventually built to arterial street standards. Also proposed, is the extension of Wildwood Drive which will become a north/south arterial. Hence, the area generally bounded by Missouri Boulevard, Highway 179 extension, Rock Ridge Road, and Country Club Drive will be well served by an arterial road network. An interconnecting system of collector streets will be necessary, such as the proposed extension of American Avenue.

Another significant highway improvement proposal is the construction of a grade-separated interchange at Highway 50/63 and Eastland Drive. This will improve highway access in the eastern section of Jefferson City, which has experienced considerable development over the last two decades. There remains several larger pockets of undeveloped land in this vicinity, for which access will be further improved with the construction of two proposed collector streets; Nelson Drive and Morningside Drive.



FACTORS AFFECTING FUTURE DEVELOPMENT

100 Year Floodplain [1]

Steep Slopes (20% or Greater)

CURRENT THOROUGHFARE PLAN [2]

	UPGRADE	NEW
ARTERIAL STREETS	———	- - - -
COLLECTOR STREETS	———	- - - -
INTERCHANGE		○

NOTES:

(1) BOUNDARIES OF 100 YEAR FLOODPLAIN ARE APPROXIMATE. SEE FEMA MAPS AND DATA FOR OFFICIAL FLOODPLAIN INFORMATION.

(2) FROM "THOROUGHFARE PLAN FOR JEFFERSON CITY, MISSOURI," 1988, LARKIN ASSOCIATES. PROPOSALS SHOWN ON THIS MAP INCLUDES ONLY THOSE IN WHICH CONSTRUCTION HAS NOT COMMENCED. ALIGNMENT OF STATE HIGHWAY 179 AND PROPOSED INTERCHANGES ARE PER CURRENT M.H.T.D. PLANS.

Graphic Scale in Feet

0 1600 3200 4800 6400

City of

Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 3

A drawback associated with the proposed interchange is that it improves truck access as well. Eastland Drive provides the most direct access route from Highway 50/63 to the commercial and industrial enterprises located on East McCarty Street. However, Eastland Drive serves as a major collector street for a principally single family residential area. Current truck traffic on Eastland Drive has been a concern of area residents and the new interchange may encourage additional truck traffic. There is no simple solution to this issue. However, one option to explore would be improving the intersection of Highway 50/63 and City View Drive and requiring trucks, in excess of a certain gross vehicle weight, to use this intersection as the access route to/from East McCarty Street.

Callaway County

The Callaway County side of the planning area presents development constraints of a much greater magnitude than the Cole County side. The most significant constraint is the 100-year floodplain associated with the Missouri River. The "Great Flood of 1993" exceeded the 100-year floodplain elevation and, at the time of this writing, the extent of property damage had not been determined. The greatest impact of the 1993 flood appeared to be in the former Cedar City area, now part of Jefferson City. It was questionable if the homes and businesses could be repaired or whether or not they should be replaced. Note: FEMA requirements prohibit repair/replacement of a structure damaged beyond 50 percent of its appraised value unless it is built in accordance with FEMA standards (i.e., elevated above the 100-year event flood elevation).

As mentioned earlier in this Chapter, development in a floodplain should be avoided. Even if FEMA standards are met, it remains questionable if developing in a floodplain is prudent. Of course, the Missouri River flats provide a more suitable terrain for the Airport and larger industrial facilities than the more rugged terrain which is common elsewhere in the planning area.

Unlike any other flood in recent history, the 1993 flood has clouded the future development prospects for the north Jefferson City area. From a practical standpoint, marketability of property for development in this area will be stifled until protection can be provided by an adequate levee (minimum 100-year event flood protection). For sake of comparison, the Earth City and Riverport industrial/commercial parks near St. Louis are protected by a 500-year flood event levee. These areas survived the 1993 flood. However, the Chesterfield Valley area, also near St. Louis, was protected by a 100-year flood event levee. Unfortunately, this older levee failed in the 1993 flood and hundreds of businesses were severely damaged.

The U.S. Army Corps of Engineers has initiated a flood protection planning study for the north Jefferson City area. According to a Corps representative, this study will take nearly two years to complete. Building a larger levee will be one of the options studied. If the levee option were to be selected, it would take a minimum of six years to be built, according to the Corps of Engineers.[60]

Just north of the floodplain is a dramatic rise in ground elevation and then very rugged terrain. Plate 3 illustrates the magnitude of slopes greater than 20 percent in the northern portions of the planning area. One can readily see that the development patterns in this upland area has closely followed the narrow ridge lines. This combination of rugged terrain and lack of public sanitary sewer collection systems has led to predominantly very low density residential development. It is probable that future development in this area will be similar with large portions of the hillsides remaining in its natural state. Actual homesites will be relatively small while the remaining area of the lots left undisturbed.

Impact of the New Missouri River Bridge

In 1992, a second bridge was completed, greatly improving the Highway 54/63 river crossing. This improved river crossing, and other highway improvements just south of the bridge terminus, will ease traffic flow to/from Cole County and Callaway County. Additionally, the segment of Highway 54 between Holts Summit and Fulton is being upgraded to a controlled access highway. Thus, Jefferson City will be linked to Interstate 70 via a divided, access controlled highway. The bridge and highway improvements will likely result in the following:

- Improved safety and reduced travel time to/from Jefferson City and other portions of the State, particularly the east/northeast areas. This will enhance business travel associated with State government activities and commerce travel in general.

- Reduction or elimination of traffic congestion on the bridge crossing, particularly that which has historically been attributable to "through traffic" to/from the Lake of the Ozarks.

- Improved conditions for commuter traffic to/from the north and Jefferson City employment centers.

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[60] According to an article in the *News Tribune*, June 30, 1993.

The third item, described above, raises a significant question regarding the plan for the Jefferson City area. Will the improved access stimulate urban development north of Jefferson City?

For reasons associated with the development constraints described earlier, the potential for growth within the northern portion of the *planning area* will be limited. However, the improved river crossing could lead to increased development pressure north of the delineated planning area, including Holts Summit and beyond. Furthermore, commuting to/from Columbia and Jefferson City becomes less of a chore. Other factors, such as relatively inexpensive land and the lack of zoning and subdivision regulations in Callaway County may serve to stimulate growth north of the Jefferson City planning area.

However, there are several factors that will temper development pressure in southern portions of Callaway County as a result of the improved River crossing:

- The availability of less expensive land and lack of zoning and subdivision regulations existed prior to the bridge improvements. If one concludes that the situation in Callaway County is more conducive to building affordable housing, the market for such housing would likely have responded (more than it already has), even without the improved river crossing.

- Except for the areas that can be readily connected to the planned Turkey Creek interceptor (see Chapter 3), the lack of public sanitary sewer severely limits the density of development. Standards and permitting procedures for "packaged" or lagoon-type sewage treatment systems have become more restrictive, making it less feasible to build at higher densities.

- The residential market demand will likely continue to be higher within the Cole County side of the planning area. Even though housing prices, on average, may tend to be higher on the Cole County side, people generally prefer to locate as close to their work place as possible. Also, the Cole County side has a more comprehensive array of commercial services and schools are more conveniently available.

- There is a considerable amount of developable land on the Cole County side of the river that can be readily serviced by water and sanitary sewer. Furthermore, planned thoroughfare improvements will open up even more territory for potential development. There is substantially more developable land, serviceable by utilities, on the Cole County side than required to meet the projected demand for the entire planning area.

Summary and Conclusions

Physiographic conditions have had the greatest influence on the pattern of urbanization, within the Jefferson City planning area. While real estate economics has contributed to "leap frog" growth into unincorporated areas, it has followed the path of least resistance in terms of physiographic constraints.

As development occurs over the planning horizon, it will be greatly influenced by the factors described and illustrated in this Chapter. The proposals contained in the Thoroughfare Plan have particular significance for future growth options. If implemented, the area within the upper reaches of the Wears Creek watershed may become the prime development zone of the planning area.

If sanitary sewer service is extended into the western portions of the sanitary district (e.g., west of Country Club Drive and the Capital Mall area), it will create additional development opportunities. However, extension of the current collection system may serve to scatter urban development even further, unless the revised sewer extension policy (mentioned in Chapter 3) is effective in limiting new connections.

From an urban planning viewpoint, "leap frog" development leads to inefficiencies in the provision of public infrastructure and services. Such inefficiencies result in additional costs. Furthermore, dispersion of urban development contributes to natural resource depletion and environmental degradation, by the simple fact that more petroleum-fueled vehicle miles are traveled for work, shopping, etc. Several examples of public cost inefficiencies associated with urban sprawl includes:

- More miles are traveled by public safety vehicles, relative to the population served. Also, police protection and fire safety coverage may become diminished, by increased response times to the more remote development locations.

- More school buses are required and additional miles must be traveled to transport students.

- More lineal feet of water and sewer utilities are required, relative to the population served. A specific example in the Jefferson City area is the expansion of the sanitary sewer collection system. Groundwater contamination, within the watershed of Binder Lake, was a significant factor leading to the formation of the Cole County Regional Sewer District (CCRSD). The feasibility of the CCRSD was nebulous from the start, and eventually it was annexed into the Jefferson City Regional Sewer District (JCRSD). The

JCRSD installed the Grays Creek trunk sewer to pick up the flows from the former CCRSD collection system. Divide the cost of this trunk sewer by the approximate 6,000 persons served and the cost inefficiency becomes quite evident.

As revealed in Chapter 2, "Land Use," there is already more potentially developable land within the current City limits to support projected growth requirements for the entire planning area. It would be wise to foster future growth within and adjacent to the City.

CHAPTER 5
RECREATION FACILITIES

Introduction

An important component of the Comprehensive Plan Update is planning for the recreation needs of its citizens. In order to develop a recreation plan component, several important pieces of information must be gathered and analyzed. This information includes data elements such as:

- An inventory of all the recreation facilities which are available in the area being studied. This inventory must include those facilities provided by public, semi-public, and private entities.

- Information regarding the demand for participation in the various recreation activities on the part of the residents of the area for which the plan is being developed. This data element usually involves attempting to determine the level to which the resident population participates in a particular recreation activity in any given year.

- The existing and projected population for the area being studied.

- An evaluation of the existing recreation facilities which exist in the area with respect to their quality, current level of use, service area, and segment of the resident population being served.

- Review of previous plans and studies relating to recreation facilities and/or activities which have been done for the community.

- Review of the most recent Statewide Comprehensive Outdoor Recreation Plan (SCORP) for the state in which the community is located.

- Review of key national studies regarding recent trends in the attitudes and preferences of the American public for recreation facilities and activities.

This chapter of the Comprehensive Plan for the City of Jefferson City represents the results of each of the data elements outlined above which were compiled in preparing the recreation plan

component. The work conducted for each of the data elements is briefly outlined in this introduction and then the results are discussed in greater detail in the subsequent sections of this chapter.

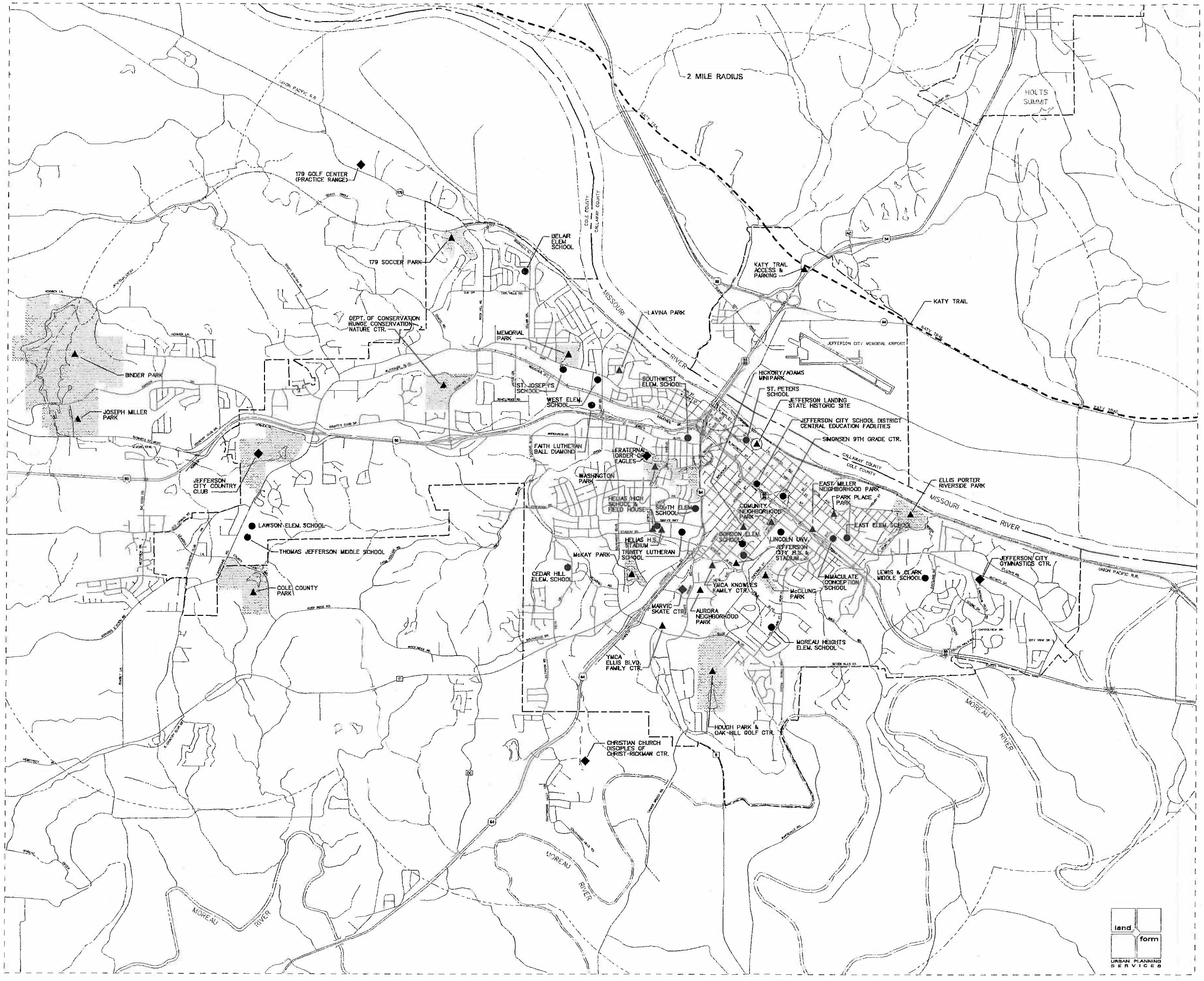
Inventory of Recreation Facilities

One of the first data elements of the recreation planning process for Jefferson City involved getting the best data possible to create an inventory of recreation facilities both in and outside the corporate limits of Jefferson City. An inventory survey form was created and sent to entities in the area so that they themselves could describe the quantity and types of facilities which they owned or for which they were responsible. The inventory survey form was based on the most recent formats which were used in the Missouri and the Illinois SCORP programs.

Using a computer data base program, the survey data was tabulated in order to create an inventory of facilities for the entire Jefferson City area. The facilities were categorized according to ownership (public, semi-public and private) and also grouped according to their location (either in or outside the city corporate limits). After the initial results were tabulated and checked, data for known facilities, which was missing in the original survey responses, was gathered. In addition, data from the original survey responses which seemed questionable were checked and modified as necessary. In addition, all existing major recreation facilities within the City and the Study Area were plotted on the Study Area base map which was developed for the Comprehensive Plan program (see Plate 4).

Resident Demand Survey

In order to develop an accurate picture of current demand for recreation facilities and activities in the City and the Study Area identified for the comprehensive planning program, a stratified, random sample telephone survey of City and Study Area residents was conducted. A survey sample of 405 households was contacted inside the City limits and an additional sample of 211 households was contacted outside the City limits but within the Study Area. The survey was directed primarily at gaining two types of information. First, the survey was designed to determine the current level of participation in various recreation activities by the City and Study Area residents. Secondly, the survey was intended to gather some basic data about the attitudes of the City and Study Area residents with respect to how they felt about the quality and availability of recreation facilities, how important they felt the availability of facilities were (particularly compared to other municipal services), and their perceptions of the cost of participating in activities where fees were involved.



EXISTING PARK & RECREATION FACILITIES

- ▲ PUBLIC / SEMI-PUBLIC
- ● SCHOOLS (PUBLIC & PAROCHIAL)
- ◆ PRIVATE

Graphic Scale in Feet

0 1600 3200 4800 6400

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 4

The survey was conducted by Attitude Research Corporation (ARC) who also designed the survey instrument (questionnaire) with input from the City and the consulting team assisting the City with preparation of the Comprehensive Plan. It was important to stratify the survey sample for several reasons. First, it was important to know if there were differences in patterns of recreation activity participation by residents of the City versus residents outside the City within the Study Area. Secondly, it was also necessary to know these patterns in order to determine what facilities might have to be constructed if the City were to annex any of the areas involved. Also, it was believed that by stratifying the sample some indication might be provided of the extent to which City recreation facilities were being utilized by non-residents.

Population

In order to conduct the demands and facilities needs analysis, it was necessary to determine the most current population for the City and the Study Area and to have an estimate of the future population. The basis for the current population was the data provided by the 1990 Census of Population. Projections of future population use the "moderate" population projection for the planning area, as presented in Chapter 1. The current and projected population data was used to extrapolate the demand survey sample data regarding the participation in recreation activities to the City and Study Area levels.

Evaluation of Existing Facilities

A general in-field review was conducted of all the principal recreation facilities operated by the City of Jefferson City, and certain key facilities operated by other public, semi-public, and/or private entities. This review was intended to provide an initial impression of the extent, usage, and quality of the facilities. A more detailed analysis of the City facilities will be conducted in conjunction with the second phase of the recreation plan component of the Comprehensive Plan. This phase will involve the development of specific recommendations and plan concepts for existing and proposed City recreation facilities.

Review of Recent Plans and Studies

In recent years Jefferson City has conducted several other studies related to recreation facilities in the City. These include:

- *The Master Plan for Deborah Cooper Riverfront Park on Adrian Island* - This study was prepared for the Housing Authority of the City of Jefferson and the Deborah Cooper Foundation by Booker Associates, Inc. in August of 1990. This study provides a plan for

the recommended development of Adrian Island along the river at the foot of the State Capitol grounds as a riverfront park.

- *Proposal for Development of the City of Jefferson Greenway System* - This report was prepared by the Department of Parks and Recreation Greenway Advisory Committee in October of 1991. This document provides a plan for the development of a multi-purpose trail system throughout the City.

- *The Jefferson City Golf Survey* - The survey and the accompanying report that was completed by Flatt Golf Services in August of 1993. This work was commissioned by the Parks and Recreation Commission in an attempt to determine if it was feasible to expand the City's existing golf course facilities.

Each of these reports was reviewed to determine what recommendations or conclusions were reached and what kinds of recreation facilities were involved. Notations regarding the pertinent data in each were made for potential future reference and incorporation into the recreation plan component. In addition to these plans and reports, other existing data about the individual parks and recreation facilities owned by the City were reviewed. This included the Park and Recreation Department's *Parks and Facilities Guide*, seasonal program guides, and data gathered in conversations with the staff. Other data which, in some instances, was provided by the respondents to the inventory survey was also reviewed.

Review of Missouri SCORP

The most recent version (1990) of the Missouri Statewide Comprehensive Outdoor Recreation Plan (SCORP) was reviewed in several respects. Since the approach and methodology being used to develop the recreation plan component of the Comprehensive Plan is based on that of a typical SCORP, the inventory survey form and the demand survey questionnaire used in the most recent Missouri SCORP was reviewed for potential adaptability to the Jefferson City project. Other components of the SCORP were reviewed for potential applicability including the various standards used in determining the statewide need for facilities such as:

- The carrying capacity standards for each type of recreation activity facility (i.e. ball diamonds, swimming pools, basketball courts, etc.);

- The recreation activity participation rates per capita; and

- The inventory of facilities in the State's data base for Cole County and the surrounding counties.

Some of this material proved to be useful in developing the facility inventory survey form and the demand survey form. The inventory of facilities was compared against the inventory data which had already been collected for the City and the Study Area and was found to be incomplete. Thus, the information from this data base was not used in developing the recreation plan component.

In addition to reviewing the Missouri SCORP, the Illinois SCORP was also reviewed for the possibility of providing further useful direction. In fact, the Illinois program proved to be far more insightful and provided a number of more detailed standards and examples which were deemed to be useful to the Jefferson City project. In particular, the inventory survey form used a much more comprehensive and yet straightforward approach to gathering the inventory of facilities information. Thus, its format and approach was used heavily in developing the Jefferson City survey for the inventory of facilities.

Review of National Data Regarding Recreation Activities

In developing a community plan for recreation facilities it is always beneficial to compare the community's facilities, activity participation patterns, and facility usage to national data. Two of the most extensive studies on the recreation preferences and patterns of the American public were used in this effort for Jefferson City. Each of these publications will be discussed in the following sections of this chapter. One of these studies is the *Report and Recommendations to the President of the United States.* This report was prepared by the President's (Reagan) Commission on Americans Outdoors and was published initially in December of 1986. The other study is the result of a nationwide survey conducted by the National Recreation and Park Association (NRPA). The report which resulted is entitled *The Benefits of Local Recreation and Park Services: A Nationwide Study of the Perceptions of the American Public.* The work was performed by Pennsylvania State University and the report was published in 1992.

Key data from each of these reports is cited in order for the City and its residents to have a fuller understanding of how recreation is perceived nationally. In addition, where possible certain of the findings at the national level are compared with the results of the recreation demand survey conducted for this project. However, it should be noted that the premise of the demand survey and those of these national studies are not completely parallel. For example, the NRPA survey focused on the public's perceived benefit of recreation activities and facilities. While the City's demand survey addressed this subject with a more limited set of questions at the end of the survey. The report of the President's Commission focused exclusively on outdoor recreation activities. The survey of

children and young adults. In the NRPA study, those persons over 55 years of age were more likely to report not using parks at all, a sizeable minority of older respondents did report either occasional or frequent park use. Those between the ages of 65-74 were more likely to use local parks "frequently" than any other age group. Thus, retirement appears to play a large role in frequency of park use. It is interesting to note that other national studies have found that preferences for recreation activities are developed earlier in life and that age is not necessarily a factor in determining what activities are engaged in by older adults.

Perceived Benefits of Local Parks

Level of Benefits From Local Parks

The National Recreation and Park Association study set out to measure the benefits received from local parks at the individual, household and community level. "By benefit we mean anything good that happens because public parks are there. To what degree do you *personally* benefit from local parks."[62] Next, they were asked about benefits to other members of the household and finally the community as a whole.

The NRPA study indicated that In terms of perceiving benefits for other members of the "household", there were significant relationships with age, gender, income, education level, marital status and the number of people in the residence. Some of this information will be portrayed in the following tables. As shown in Table 26, perceptions of "community" level benefits was statistically related to age and gender.

Table 27 indicates the perception of the respondents in the NRPA study sample regarding the possible types of benefits of park and recreation facilities. The concept of deriving economic benefits to the residents or to the city from park and recreation facilities were mentioned less than any other type, with less than 5% of the responses at any benefit level citing them. This would seem to indicate that attempts to convince the public of the economic benefits of local park and recreation services may be misguided, since such a tiny base of the public currently recognizes such benefits. The largest benefit categories are individual and social, relating to people rather than to economic or environmental considerations. Also, at the individual and household levels personal benefits were perceived to be greater than those at the community level. Social benefits scored high at all respondent levels (individual, household, and community).

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[62] Ibid

This data indicates that individuals go to local parks and playgrounds both *for* recreation and *as* recreation. That is, one may realize a benefit because they go there to exercise or one may view the simple act of going there as a benefit in and of itself.

Table 26
Respondent Age and Gender Characteristics
by Extent of Perceived Benefits
to the Community from Local Park Areas
(Nationwide Survey)[63]

	Extent of Benefits to the Community (Percent Response)		
	Not at All	Somewhat	A Great Deal
Age			
15-20	8	43	49
21-35	5	35	60
36-55	4	33	63
56-65	10	29	51
66-75	7	23	70
76-95	6	36	58
Gender			
Female	6	30	64
Male	5	37	58

Table 27
Benefits of Park & Recreation Facilities
by Type by Respondent Category
(Nationwide Survey)[64]

	Perceived Benefit (Percent Response)				
	Personal	Environmental	Social	Economic	Facility
Individual	35.5	20.1	23.5	3.2	17.7
Household	36.5	12.6	27.4	3.1	20.4
Community	20.4	12.5	36.9	4.8	25.4

[63] Ibid

[64] Ibid

To further understand the extent to which people's perceptions of benefits from public parks are tied to their direct use of these parks, the statistical relationships between these variables were examined in the NRPA study. The extent of benefits received at all three levels (individual, household and community) were examined in relation to both personal and household use of parks. At the personal benefit level, the extent of benefit received was strongly linked to the extent of both personal and household use. At the community level, on the other hand, the majority of respondents perceived a great deal of benefits from parks regardless of how much they personally used them. In the Jefferson City Study Area the vast majority of respondents (88.6%) said parks and recreation facilities and programs were extremely (25.3%) or (63.3%) very important to the quality of life in their area.

Monetary Value of Local Recreation Services

Americans nationwide believe that what is spent of their tax dollar ($45/person annual average - 1992 dollars) on their local recreation services is well worth the money. Over three-fourths believed that their own local services were worth $45/year. Only 16 % thought they were worth $25/year or less. More than 20% thought they were worth $60-$150. These results indicate that many Americans would be willing to pay more for additional services and since they generally are not opposed to paying user fees, local government would likely be supported in any well planned expansion.

As Table 28 indicates, a high degree of benefit to the community was perceived regardless of education or income level. Over 60% of respondents felt that their community as a whole receives a great deal of benefit from their local parks. This perception of benefit was strong regardless of how often the respondent personally used the facilities themselves.

The NRPA study also evaluated the extent of the survey respondents perceived level of benefit to household members. Table 29 shows the results of the responses. As the table indicates, women are more likely to perceive that parks benefit their household a great deal (36%) than men (25%). This may be due to the fact that families with children perceive a greater household benefit and female heads of households are more likely to have children than their male counterparts. Some other factors such as level of education or income, suggest that these demographic characteristics are less of a consideration in terms of the importance of benefits. Responses in all levels of education and income indicated that there was somewhat of a benefit or a great deal of benefit to household members. Not surprisingly, households with children 19 years old and younger felt that there was somewhat or a great deal of benefit.

Citizens generally believe that parks offer a great deal of benefit at the community level. Table 30 indicates that belief holds true regardless of their type of residence or the size of their community.

Table 28
Respondent Education and Income Characteristics
by Extent of Perceived Benefits
to the Community from Local Park Areas
(Nationwide Survey)[65]

	Extent of Benefits to the Community (Percent Response)		
	Not at All	Somewhat	A Great Deal
Level of Education			
High School or less	8	34	58
Some college to college grad	4	33	63
More than 4 years of college	2	31	68
Income			
Less than $20,000	9	31	60
$20,000 to $60,000	4	33	62
More than $60,000	4	37	59

U.S. Trends in Outdoor Recreation

Another study conducted at the national level reveals some notable trends in a report by the President's Commission on Americans Outdoors.[66] This document provides a comprehensive analysis of the outdoor recreational needs of the nation in the coming years. In 1985, President Reagan appointed a blue ribbon commission to review the future needs of the American people with respect to their desires and demands for outdoor recreation activities. The President's Commission on Americans Outdoors, its staff, and senior advisors sought to find out "what outdoor recreation means to the American people, and recommend ways to make sure our governments, our communities, and our actions as individuals reflect the values we attach to it. We seek the establishment of enduring processes - private and public - to meet our outdoor recreation needs today and in the future."[67]

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[65] Ibid

[66] Report and Recommendations to the President of the United States, President's Commission on Americans Outdoors, December 1986.

[67] Ibid

Table 29
Respondent Demographic Characteristics
by Extent of Perceived Household
Benefits from Local Park Areas
(Nationwide Survey)[68]

	Extent of Benefits to Household Members (Percent Response)		
	Not at All	Somewhat	A Great Deal
Age			
15-20	31	59	10
21-35	16	51	33
36-55	16	45	39
56-65	33	45	22
66-75	31	40	29
76-95	45	38	17
Gender			
Female	19	45	36
Male	23	52	25
Level of Education			
High school or less	28	46	27
Some college to college grad	17	49	35
More than 4 years of college	12	54	34
Income			
Less than $20,000	28	39	33
$20,000 to $60,000	18	50	32
More than $60,000	18	52	30
Marital Status			
Single/Divorced/Widowed	26	50	24
Married	18	47	35
Size of Household			
Single person	45	36	19
Two people	28	49	23
Three to four people	16	49	35
Five or more people	14	46	40
Age of Children in Household			
12 and Under	10	43	47
13-19	21	54	25
Both 12 and Under and 13 - 19	14	48	38
No Children Under Age 20	29	49	23

[68] The Benefits of Local Recreation and Park Services: A Nationwide Study of the Perceptions of the American Public; Godbey, Graefe, and James - Pennsylvania State University, 1992.

Table 30
Respondent Residence Characteristics
by Extent of Perceived Benefits
to the Community from Local Park Areas
(Nationwide Survey)[69]

	Extent of Benefits to the Community (Percent Response)		
	Not at All	Somewhat	A Great Deal
Type of Residence			
Single family home	6	33	61
Town House/ Condominium	5	41	55
Apartment	3	27	70
Mobile home	15	33	52
Other	4	38	58
Size of Community			
Rural area/village under 10,000	11	31	59
Town of 10,000 to 50,000	3	35	61
City of 50,000 to 100,000	2	36	62
Metropolitan area (over 100,000)	2	34	64

The President's Commission completed its work in 1988 and the results were published in 1989. The report offers some insight to various aspects of recreation activity patterns and demands of the American population which cities, counties and states should consider in planning for the future. Some of the highlights of the report are outlined below.

- Health is the primary reason that American adults say they engage in outdoor recreation, including stress relief as a means of improving health. Therefore, recreation facilities and programs (both outdoor and indoor) should promote wellness. As our lifestyles have become more physically and mentally demanding and stressful, there will be a continued emphasis on doing things which promote our physical and mental well-being. Recreational activities will continue to play a major part in the national wellness effort.

- In terms of summer activities and participation, the fastest growing activities include canoeing, bicycling, attending outdoor cultural events, camping, sailing, hik-

[69] Ibid

ing/backpacking and walking for pleasure. These activities show a trend toward more physically demanding activities. A predominant number of these activities take place on linear corridors such as roads, rivers, sidewalks, trails, greenways, etc.

- High on the demand list in the lower midwest region are activities such as swimming, fishing, picnicking, running/jogging, softball/baseball, tennis, and basketball. The ARC telephone survey revealed that in the Jefferson City study area the most popular forms of recreation were picnicking, fishing, walking or hiking, outdoor swimming and golf. The least popular were sailing and hunting for waterfowl.

- Overall participation in outdoor recreation activities continues to grow but the rate has leveled off significantly in recent years to a rate that is now about three to four percent annually. This is likely due to the decrease in the rate of population growth as a whole and to the aging of our population.

- The elderly segment of our population continues to grow and is expected to constitute between 18 and 24% of total population by 2030. By the year 2000, the median age will be 36. The recreation behavior of the population which was begun before age 40 tends to continue. Therefore, current estimates of elderly leisure patterns depend on the activities which were begun before retirement. Thus, the next two generations of the population will be high users of outdoor recreation facilities in their later years. Also, because less than one out of four Americans waits until age 65 to retire and, because life expectancy is longer, leisure time for older adults is increasing.

- The age group which tends to establish the recreation demands for the future is the 25-34 age group. In 1980, this group was up 45% as a proportion of the total population since the 1970's and represented the "baby boom" individuals which had reached this age bracket by 1980. However, between 1980 and 1990, this group leveled substantially in its rate of growth. This age group will continue to set the recreation demand trends for the future but is not likely to grow substantially as a segment of the population. In addition, this group has established a trend of having fewer children and having them toward the later years of the age group. Therefore, they will play a role in establishing the recreation facility demand for the younger segments of the population.

- There is a desperate need for information in most cities and counties to plan for recreation facilities. Many communities have never conducted surveys of their residents to determine what user demands/needs are for recreational facilities. Those communities who have surveyed their residents in the past have, in many cases, not repeated the

process. Without this data, facilities might be constructed or improved and then may not be fully utilized due to changing activity trends. The President's Commission report implies that defining community recreation needs should be based more on resident desires than applying "standards" (i.e., 1 softball diamond per 3000 population).

Therefore, Jefferson City is attempting to fulfill its needs for this critical data and is attempting to tailor its planning for parks and recreation facilities to the needs of its citizens. The demand survey conducted in accord with this recreation planning program was designed to gather the kinds of information identified by the President's Commission. In addition, by stratifying the demand survey sample between the City and the Comprehensive Plan Study Area, the City is also seeking to develop better information about how the use of City facilities are impacted by non-residents.

Jefferson City - Activities and Attitudes

The previous sections have principally examined the trends in recreation for the U.S. as a whole. While recreation demand and attitudes do vary somewhat across the country, there are more similarities than differences. However, as noted in the introduction to this chapter, a random sample telephone survey was conducted in order to plan for the specific needs of Jefferson City,. This survey, conducted by Attitude Research Corporation (ARC), involved phone interviews with 405 households residing in Jefferson City as well as 211 households in the unincorporated areas. The Jefferson City Department of Parks and Recreation was not identified as the sponsor of the study. Respondents were questioned as to their attitudes about recreation and about the frequency that they engaged in various recreation activities. The individual respondents were asked not only about their own recreational use patterns, but also about the use patterns of other household members as well as the ages of household members who engaged in those varied activities.

Over two-thirds (67.2%) of the survey area respondents said they used City-owned parks and recreation facilities at least 1 time during an average month. Nearly one-third used City-owned facilities once or twice per month. Another 17.5% used City-owned facilities 3 to 5 times per month and an additional 18.3% used them 6 times or more per month. Only about one-third of the area respondents said they never used park and recreation facilities.

With regard to the fees charged for use of City-owned facilities and programs, 91.2% of the respondents in the survey stated that fees were about right (41.6%) or had no opinion (45.1%). One and one-half percent (1.5%) of the respondents said the fees were too low and only 7.3% stated that they were too high.

When asked to compare the importance of park and recreation programs and facilities to other City services, nearly 7 out of 10 respondents (69.9%) said parks and recreation services were either more important (16.1%) or equal in importance (64.3%) to other City services. Only 10.7% said they were less important and 8.9% expressed no opinion.

When asked to compare the quality of city-owned recreational facilities to those that are semi-public or private, 14.4% of area respondents said the city-owned facilities were better, 55.5% said about the same, 9.6% said worse, with 20.5% not knowing.

Respondents primary sources for information about city park and recreation programs and facilities were the newspaper (43.5%), word of mouth (26.0%), and the city's park and recreation guide (13.0%). Other sources were radio (5.2%) and local TV (2.4%).

More than one-third (35.6%) said that Jefferson City owned a community or recreation center. Just over one-fourth (26.7%) said it did not own such a center, with 38.1% not knowing. When asked how often during an average month they used the city's center for passive forms of recreation, 3.1% said once, 1.6% said twice, 3.1% said three times or more, with 92.2% either not using the center at all or not knowing that a center was in existence.

In comparison to the more than two-thirds (67.2%) of the respondents who said they used park and recreation facilities, only slightly more than one-fourth (27.3%) said they used a semi-public facility like the YMCA for recreational programs or activities. It is important to note that this factor is taken into account when this and other data from the survey was used to evaluate the demand for facilities to be expanded or constructed by the City. In conducting the survey, data was compiled with respect to the locations/facilities where household members were engaging in each recreation activity about which they were questioned. Some activities, such as tennis and swimming for example, are likely to be conducted at semi-private or private facilities by a certain percentage of the population whether or not the City (or another public entity) had such facilities available.

Most (92.0%) respondents reported having no problems gaining access to public recreation facilities in Jefferson City. Among those saying they did have problems, the most frequent type of problem reported was the inability to secure playing time at golf courses. As will be demonstrated later in this chapter where the need for City facilities is discussed, this coincides with the findings of the Flatt survey for golf facilities which was conducted in the summer of 1993. This also is concurrent with national data which has shown a rapid rise in the popularity of golf particularly in the last 10 to 15 years. In a correlating question, most (88.5%) respondents reported that the types of recreational facilities they desired were available in their area. Among those wishing for additional facilities, the most common responses were golf courses, bike trails and racquetball courts. While

these responses would appear to place the City's parks and recreation facilities and programs in a very favorable light, they must be taken in context with the data provided by other elements of the survey.

As noted above, understanding the response to these later two questions from the survey requires comparison to the results of responses to other survey questions so that the results are not misinterpreted. An obvious assumption would be to conclude that these responses indicate no additional need for recreation facilities. In fact, other data from the survey indicated that the actual and latent demand for facilities is not being met for some of the most popular activities. Correlation of the participation demand survey data with commonly accepted standards for the carrying capacity for the various types of recreation facilities (associated with particular recreation activities) clearly indicates that there are facility needs in Jefferson City. Data presented later in this chapter supports this position.

Based on the application of proper carrying capacity standards, simple observation of the way facilities are being used, records kept by the Parks and Recreation Department, and conversations with Department staff, it is clear that many existing facilities are over-utilized and some facilities which are being used are not properly sized to meet the regulation facility sizes for particular activities. Also the City is attempting to meet the demand for certain facilities by cross-use of facilities (for example, using playfields not intended and designed for baseball, softball, or soccer to fulfill the demand for practice fields). In some instances, the City has obtained use of facilities owned by other public or semi-public entities in order to fulfill the demand.

Facilities which have too much use increase maintenance costs and negatively impacts the activity experience for the users. A facility which does not meet regulation size can also negatively impact the activity experience and in some instances can create unsafe conditions. This indicates that the Department is using creativity and program scheduling to maximize the efficient use of facilities, which is an indication of good management. However, in some instances, the lack of proper facilities is forcing this "creativity" and causing over-utilization of existing facilities.

The proper interpretation of the results of the responses to these questions is that the Parks and Recreation Department is doing a remarkably good job of attempting to meet the demand for recreation facilities with the City's existing facility inventory and those which they can arrange to use that are owned by other entities. It also appears that the Department provides the right facilities and associated programs to support the most popular recreation activities; and thus, residents are finding that the kinds of activities which they want to participate in can be found at City facilities. The responses do not indicate that additional facilities are not needed or that existing facilities should not be improved and upgraded.

Determination of Recreational Demands & Needs

The following analysis of recreational demand in the Jefferson City planning rea is based, in part, on guidelines established by State and U.S. recreation planning processes. Included are guidelines for "carrying capacity", such as the number of people that can use a softball diamond at one time, and "turnover", the number of games that can be played/day on a lighted softball diamond. Some of the guidelines were adjusted to reflect unique circumstances in Jefferson City. Before looking at these guidelines, the following section discusses how recreation standards based on population have been applied in the past.

Recreation Standards

Since the 1930's there have been standards set by various advisory bodies dealing with recreation. These standards did not deal with such issues as "carrying capacity" (how many square feet of pool was needed per swimmer) but rather made recommendations as to what was the appropriate size of a pool per 1000 residents. Table 31 provides a typical list of recreational facility standards. The usefulness of these standards based on population was that a City which had not yet measured resident demand for services could use this national standard as a guide in creating facilities. Their shortfall is that local conditions vary based on such criteria as climate or per capita income. For example, the demand for swimming in indoor pools in Minneapolis would be greater than in Phoenix.

Determination of Demand

The method of determining the demand for a particular activity is straight forward. Survey respondents were asked how many times in the past year someone in their household engaged in a particular activity (baseball, fishing, etc.). The demand survey results compiled by ARC were used as the basis and the numbers from the survey sample were then extrapolated to represent the entire population of Jefferson City.

From those results an estimate can be derived of the number of times or "activity occasions" that residents engage in specific recreation activities. (See the example below):

Person A plays baseball this many times/year	3
Person B plays baseball this many times/year	56
Person C plays baseball this many times/year	0
Number of Activity Occasions of Baseball	59

Table 31
Recreational Facility Standards[70]

Activity	Facility	Standard
Outdoor Play	Tot Lots	.25 - .50 acres/500 pop.
	Playgrounds	.50 acres/1,000 pop.
	Playfields	1 acre/1,000 pop.
Picnicking	Tables	8 tables/1,000 pop.
	Shelters	5,000 sq. ft. each park of 10 acres or more
Baseball	Diamond	1/5,000 pop.
	Lighted Diamond	1/10,000 pop.
Softball	Diamond	1/2,500 pop.
	Lighted Diamond	1/10,000 pop.
Volleyball	Court	1/3,000 pop.
Basketball	Court	1/1,000 pop.
Handball or Racquetball	Court	1/5,000 pop.
Tennis	Outdoor Court	6/1,000 pop.
	Lighted Outdoor Court	1/5,000 pop.
	Indoor Court	1/50,000 pop.
Swimming	Outdoor Pool	1,200 sq. ft./1,000 pop. (25 meter lanes)
	Outdoor Wading/Play Pool	1 located at each outdoor pool
	Indoor Pool	1 pool/25,000 pop. (25 meter lanes)
	Beach	NA
Football	Field	1/5,000 pop.
	Lighted Field	1/10,000 pop.
Soccer	Field	1/5,000 pop.
	Lighted Field	1/10,000 pop.
Ice Skating	Outdoor Rink (Artificial-Lighted)	1 rink/10,000 pop.
	Outdoor Rink (Natural Ice)	NA
	Indoor Rink	1 rink/50,000 pop.
Golf	Course (9 or 18 Holes)	.7 holes/1,000 pop. 9 holes/15,000 pop.
Trails	Nature	.4 mi./1,000 pop.
	Equestrian	.2 mi./1,000 pop.
	Walking	.25 mi./1,000 pop.
	Bicycle	.5 mi./1,000 pop.

[70] Source: National Recreation and Park Association, Missouri Statewide Comprehensive Outdoor Recreation Plan.

This method was used to determine the number of activity occasions which represents, "total demand" for a given activity. Residents were also asked whether these activities occurred at public, private or semi-private facilities. If there were 100 activity occasions of baseball and 72% of those occasions occurred at public facilities, that equals a demand of 72 baseball occasions at public baseball facilities. This demand was then compared with the capacity of the City's own recreation facilities to determine the need, if any, for additional facilities.

Population Projections

As noted in the introduction to this chapter, among the key data elements used to develop a recreation plan are the most recent population data available for the area being studied, as well as projections of future population. The manner in which the population data is mathematically used in developing the park and recreation facilities needs analysis is discussed in detail in the preceding sections of this chapter. Therefore, the methodology for using the information will not be discussed again here. This section focuses on how the population data was used in more general terms and notes how it will be used in later stages of development of a recreation plan for the City.

The data regarding the current population were used to analyze the current need for park and recreation facilities based on per capita demand information from another source (usually a demand survey such as the one conducted in the Jefferson City area). Once the demand for various types of recreation facilities is determined based on the current population, this information can be compared with the current inventory of facilities. This comparison will then yield information indicating whether there is an excess or a shortage of facilities for supporting recreation activities of a particular type.

The data regarding the projected future population were used to analyze the future need for park and recreation facilities based on whatever time frame into upcoming years has been established for the plan. The same methodology discussed above is then used to determine what the facility needs will be if the projected population scenario comes to pass in later years.

This chapter has focused on the current needs and supply of facilities. In order to determine the future need for park and recreation facilities, it will be necessary to establish goals and objectives with the City's parks and recreation department staff and the Parks and Recreation Commission. It is also important to have a sense of the directions which the City wants to pursue with respect to annexation. If some parts of the Study Area are annexed in favor of others, the potential population growth scenarios may be different. Therefore, the facility needs may be different as well. In light of this need for further input, there has been no attempt at this time to apply the projected population data to the demand data and calculate a resultant facility needs scenario. Nonetheless, population

projections have been made for the comprehensive planning program. These projections are briefly outlined below for the benefit of the reader of this chapter and as a prelude to the narrative, contained in Part III of this document, describing the recreation plan.

The basis used in determining the existing needs data was the 1990 Census of Population for Jefferson City and the census tracts comprising the Study Area. Projections of future population, presented in Chapter 1, were based on physical and subjective evaluation of the planning area's historical growth patterns. This resulted in the development of a "moderate" population projection which reflects the results of these evaluations. For the purposes of making land use and recreation facilities planning decisions, this moderate growth scenario will be used in developing the Plan. The current and projected population for the City and the Study Area are outlined in Table 32.

The table depicts the data for the Study Area, the City, and the unincorporated portion of the Study Area and segregates the population according to the two age groups for which the demand survey data was gathered. Projected population is shown for the years 2000 and 2010. The table demonstrates that the unincorporated area is projected to grow almost 19% in population between 1990 and 2000. In this same time frame the City is expected to grow by only 2%. By 2010 the unincorporated area is expected to grow 39% from its 1990 population, while the City's population would only increase by approximately 4% in this same period.

Table 32
Population Projections
Jefferson City vs. Unincorporated Area

	1990 Population	1990 Persons <18 Yrs. Old	2000 Population	% Change From 1990	2010 Population	% Change From 1990
Study Area [71]	51,996	24.1%	55,800	7.3%	59,900	15.2%
Jefferson City	35,481	21.6%	36,200	2.0%	36,900	3.9%
Unincorporated Study Area	16,515	29.4%	19,600	18.6%	23,000	39.3%

This difference in growth rate is important in at least two respects. First, in the case of any future annexation and since the population growth is almost entirely in the unincorporated portions of the Study Area, new facility construction may need to occur outside the City's current corporate limits in the area which is annexed. Secondly, the unincorporated portions of the Study Area have a different type of household makeup which has important implications for recreation planning. Specifically, these households have a higher proportion of persons under the age of 18 (29.4%)

[71] Study area population figures from Table 16 (Moderate Projection).

compared to households within the City limits (21.6%). This higher percentage of school age children in the unincorporated area would indicate that future facility capital improvement programs which would be made in any annexed area should place a strong emphasis on facilities which serve families with children 18 and younger. Based on the demand survey data, facilities to support families and children would include things such as ice rinks, picnic tables and shelters, playground equipment, softball and baseball diamonds, and soccer fields.

Determining Capacity of City Public Facilities

While identifying the total demand of residents for a specific activity is straight forward, identifying the capacity of a facility is more involved. Issues that need to be considered include the number of persons that can use a facility at one time, rate of "turnover" per day (i.e., how many baseball games can be played per day on a field), the number of days in a typical season for baseball, and so forth. With this information one can identify the capacity or occasions that can be serviced at a facility during the normal activity season.

Recreation Patterns in Jefferson City

The Recreation Demand Survey conducted by Attitude Research Corporation contains a wealth of information about the recreation activity participation and attitudes of Jefferson City and Study Area residents. The summary reports and detailed survey cross-tabulations contain nearly 1000 pages of information which resulted from the stratified random sample telephone survey of 605 City and Study Area households. For the City Parks and Recreation Department Staff, these documents will prove to be very useful in many respects. However, for the purposes of developing a recreation plan for Jefferson City, only certain data from the survey was used in developing the needs analysis. Thus, this chapter discusses and highlights only a small part of the information which is available from this effort. Due to the size of the documents which comprise the survey results, it is not anticipated that the City will print copies of this material for distribution. These documents will be available in the Parks and Recreation Department offices for anyone who wishes to review them. In addition to the citation of some of the survey data in the preceding sections of this chapter, the following section discusses the key findings in the process of determining the recreation demand, facility inventory, and facilities needs analysis which utilized some of the demand survey and facilities inventory data.

Recreation Participation and Age

Recreation requires leisure time and since youth (18 years and younger) have more leisure time than adults, it would seem logical that youths would use recreation proportionately more. In this

instance what would seem logical does not prevail. The Jefferson City Recreation Demand Survey indicated that, of the activities under study here, adults and youth use facilities fairly equally, relative to their numbers. Adults, who comprised 76% of the population, were the participants in these activities approximately 66% of the time. Adults were the majority of the users for most of the individual activities. In fact, the only activities where youths were the major users were on playgrounds, ice skating, and using picnic tables and shelters.

Facility Use

Jefferson City area residents use a variety of recreation facilities, both City-owned and those that are not. The residents not only have differing preferences in the type of recreation they enjoy, but they also have differing preferences in terms of whether they prefer public, semi-private or private facilities. For example, in Jefferson City the vast majority of softball play (80%) or use of playground equipment (95%) is at public recreation facilities (measured in time spent). Activities that are not typically done at public facilities include indoor walking or jogging (49%), weight training (37%) and indoor swimming (45%).

Another issue that comes into play in determining facility use and capacity is the multi-use character of some facilities. For example, an outdoor playfield can be used for soccer, or softball if soccer or softball fields are being used to capacity. This is discussed further in the Multi-Use Facilities section later in this chapter.

Current Facility Needs

Residents of Jefferson City and the Study Area have recreation activity needs that can be met through a variety of facilities. The purpose of the Recreation Plan is to determine how those needs can be met. Part of this process involved looking at the demand by City residents alone compared with the City-owned facilities that were designed to satisfy that demand.

The needs of the planning area, as a whole, were also studied. For purposes of analysis, the planning area was studied as one entity so that data could be viewed and evaluated and a needs analysis made based on a comparison to the incorporated area. The purpose of this treatment was to estimate the needs for Jefferson City should a portion or all of the unincorporated planning area be annexed into the City at a future date. Whether or not any future incorporation was to take place is beyond the scope of this chapter, however, it is useful to know the recreational needs to determine what facilities might have to be constructed if the city were to annex significant portions of the unincorporated Study Area.

In order to review and analyze the recreation activity demand and facility needs of the City and the Study Area, the data contained in detailed working tables used to calculate these factors was summarized into two more simplified tables. Tables 33 and 34 depict various key data elements from the needs analysis calculation methodology. For each type of recreation facility (which is associated with a particular recreation activity) the tables show the following data:

- Total Activity Occasion Demand to be met at Public Facilities;
- The Number of Existing Facilities;
- Total Activity Occasion Capacity of Existing Facilities;
- The Unmet Demand (indicated by parentheses) or Excess Capacity Expressed in Activity Occasions; and
- The Unmet Demand (indicated by parentheses) or Excess Capacity Expressed in Number of Facilities.

Table 33 depicts this information for the Jefferson City Study Area and Table 34 shows this information for only the City portion of the Study Area. It needs to be mentioned that certain assumptions must be made in order to assign numbers to the items listed above. For example, the "instant capacity" of an ice rink (the number of people that can skate at one time) is subjective but, for purposes of analysis a standard must be assigned. In some cases, math calculations are made which may conflict with programmatic needs in the real world.

Two important factors should be noted about Tables 33 and 34. In Table 33, the inventory basis (the existing facilities shown in the column entitled *"Number"*) for the total Study Area includes facilities of all types (e.g. public, semi-public and private). Therefore not all of these facilities are available at an affordable charge to the general public. In this same table, the basis for the demand, shown in the column entitled *"Total Activity Occasions of Demand for Facilities,"* represents the total number of activity occasions for each recreation activity derived from the demand survey. Thus, the last column on the right, entitled *"Excess Capacity or (Unmet Demand) in Number of Facilities,"* indicates the need for recreation facilities in the Study Area without regard for the provider entity.

Table 34 represents the data for Jefferson City only and uses a different basis for the demand and inventory data which derives the needs analysis. In this table, only those facilities which are owned by the City are shown in the inventory basis (the existing facilities shown in the column entitled *"Number"*). The data in the column entitled, *"Total Activity Occasions of Demand for Public Facilities,"* shows only that portion of the total demand which needs to be met at publicly owned facilities. Therefore, the data indicated in the far right column, entitled *"Excess Capacity or (Unmet Demand in Number of Facilities,"* reflects only the need for recreation facilities necessary to support City resident demand.

Table 33
Recreation Facilities Needs Analysis
Jefferson City Study Area

Facility	Total Activity Occasions of Demand for Facilities	Existing Facilities			
		Number	Capacity in Activity Occasions	Excess Capacity or (Unmet Demand) in Activity Occasions	Excess Capacity or (Unmet Demand) in No. of Facilities
Playgrounds	386,399	28	462,000	75,601	5
Playfields	311,487	22	946,000	634,513	18
Picnic Tables	238,224	291	279,360	41,136	43
Picnic Shelters	157,920	11	105,600	(52,320)	(6)
Baseball/Softball Diamonds	539,700	26	564,440	24,740	0
Volleyball Courts	113,846	20	230,400	116,554	8
Basketball Courts	173,040	31	305,400	132,360	11[72]
Handball/ Racquetball Courts	99,456	16	99,360	(96)	0
Tennis Courts	123,480	39	193,320	69,840	13
Swimming Pools	561,845	8	614,640	52,795	0[73]
Football Fields	59,220	8	33,660	(25,560)	(3)[74]
Soccer Fields	63,252	19	79,200	15,948	4
Ice Skating Rinks	116,424	1	270,000	153,576	1
Golf Courses	397,824	2	172,800	(225,024)	(2.6)
Nature Trails (in miles)	272,664	14 Miles	248,864	(23,800)	(1.3)
Multi-Purpose Trails (in miles)	189,504 (cycling only)	9 Miles	108,000	(81,540)	(7)

[72] There exists an excess of basketball courts but the restrictions involving the use of many of the existing basketball facilities makes them unusable much of the time for public play. See Basketball Courts later in this section.

[73] Swimming pool size varies greatly. The data displayed in this table makes no distinction between the demand for outdoor versus indoor facilities. See Swimming Pools later in this section.

[74] Football is often played on multi-purpose practice fields. See Multi-Use Facilities.

Table 34
Recreation Facility Needs Analysis
Jefferson City, Missouri

Facility	Total Activity Occasions of Demand for Facilities	Existing Facilities			
		Number	Capacity in Activity Occasions	Excess Capacity or (Unmet Demand) in Activity Occasions	Excess Capacity or (Unmet Demand) in No. of Facilities
Playgrounds	214,709	12	198,000	(16,709)	(1)
Playfields/Practice Fields	163,755	1	43,000	(120,755)	(3)
Picnic Tables	155,232	111	106,560	(48,672	(50)
Picnic Shelters	102,144	5	96,000	(6,144)	0
Baseball/Softball Diamonds	258,419	12	245,280	23,777	1
Volleyball Courts	41,463	1	9,600	31,863	3
Basketball Courts	66,679	5	30,000	(36,679)	(6)[75]
Handball/ Racquetball Courts	29,474	4	23,040	(6,434)	(1)
Tennis Courts	66,407	11	59,400	(7,007)	(2)
Swimming Pools	118,445	2	320,000	201,555	0[76]
Football Fields	24,570	0	0	(24,570)	(6)[77]
Soccer Fields	25,805	2	11,880	(13,925)	(2)
Ice Skating Rinks	68,040	1	78,000	10,000	0
Golf Courses	185,808	1	86,400	(99,408)	(1)
Nature Trails (in miles)	153,292	0 Miles	177,760	24,468	1
Multi-Purpose Trails (in miles)	119,448	3.2 Miles	38,400	81,048	(5)

[75] See Basketball Courts, later in this section.

[76] See Swimming Pools, later in this section.

[77] See Multi-Use Facilities, later in this section.

The following narrative provides an analysis of the needs of both City residents and residents of the Study Area. Specific recreation activities and their associated facilities are grouped in this discussion according to the type of facility where a given activity takes place.

Mention should also be made of the manner in which the facility need is expressed in the tables. The unmet demand (shortage) or excess capacity for facility need is expressed in the tables and noted in the following discussion in terms of the number of facilities. This number is based on the activity occasions carrying capacity of the type of facility required for the particular activity involved. In some cases, this yields numbers of facilities which are shown in figures with decimal extensions. Thus, the tables or the discussion may show a need for 2.6 golf courses.

Obviously, the City or other entities can't practically build two 18-hole golf courses one of which has an additional number of holes which are the equivalent of six-tenths of a course. In developing the actual recreation facilities plan for the City, decisions will have to be made about what facilities to build or expand. These partial facility needs have not been rounded upward at this time in order that they may provide indicators at later planning stages. For example, in our golf course scenario the data suggests that there is a need for at least two golf courses to be built to serve the demand indicated in the Study Area. The additional .6 facility need might be satisfied by building an additional nine holes at one new facility. Therefore, these figures representing partial facility needs have been retained without rounding up or down so that later decisions regarding the construction of facilities can take these partial needs into account.

In reviewing the data presented in Tables 33 and 34, further notation should be made about the use of this data in developing the Parks and Recreation Plan for the City. The mathematical calculations used to develop the need analysis results in output which is only as good as the data which is input and is influenced by the assumptions which are made and current usage patterns of existing facilities. Some of the factors which affect the data output are discussed below.

The City staff had some difficulty in receiving quality data from respondents to the recreation facility inventory. Some of the data had to be rechecked and in some instances, had to be re-inventoried by City staff. An attempt to cross-check the inventory data with that which had been compiled in the 1990 Missouri SCORP proved to be useless, since gross errors were found to exist in the data which had been supplied by the State from this work. In addition, in some cases certain judgments had to be made as to how certain facilities were classified.

Certain biases and judgments are also inherent in the data which evolved from the demand survey. In spite of attempts to ensure that the structure of the questions regarding recreation activity participation patterns would evolve unbiased and accurate data, it is likely that some error exists in

the data resulting from the different ways in which the respondents might have estimated the recreation activity patterns for themselves and their families.

In light of these comments it is important to understand that the needs for recreation facilities presented in Tables 33 and 34 should not be taken too literally. It is certain that these tables present a more accurate reflection of the potential needs of the residents of the City and the Study Area than would be derived using more abbreviated methods based on generalized and generic "community"data compiled by others. On the other hand, the actual parks and recreation facilities which are ultimately recommended in the Parks and Recreation Plan may differ in some instances from the more mathematically-derived evaluation of potential facilities need which is discussed in the subsequent pages of this chapter.

Single-Purpose Facilities

The Jefferson City Study Area, as a whole, generally has the ability to meet the identified demand for recreation facilities. Since this part of the discussion of facility needs will focus on single-purpose facilities, it is important to first define what this term means. Some recreation facilities have the capability to support only one type of recreation activity. Single-purpose facilities include, tennis courts, playgrounds, picnic tables and shelters, handball/racquetball courts, swimming pools, ice rinks, golf courses and nature trails.

For example, ice skating facilities are normally-single purpose facilities since ice skating is done at ice rinks, and ice rinks would not be used for other activities besides ice skating (although some outdoor ice skating rinks are converted for use as roller skating rinks in the summer). In contrast, football, for example, will be discussed under the Multi-Use Facility section. This is because football play can occur on fields which are also used for other activities such as soccer. This is particularly the case in Jefferson City where football and soccer activities are conducted on the same field in many instances. The physical constraints of the topography within much of the area bounded by the City limits makes it difficult to find land suitable for conducting the activities.

Table 33 shows that there is an unmet demand or shortage for 6 picnic shelters, 2.6 golf courses and 1.3 miles of nature/interpretive trails. Conversely, the area has a surplus of facilities including playgrounds, playfields, and tennis courts. As noted above, bear in mind the inventory basis depicted in this table includes existing facilities in the Study Area owned by all types of providers (public, semi-public, and private). Therefore, not all of the facilities may be available to the general public and those which are may not be available at an affordable charge.

Table 34 outlines the unmet demand and excess capacity for City-owned facilities. Please note that the activity occasion demand figures on this table represent the demand of City residents only. Also, the inventory basis for this table represents only those facilities which are owned by the City. Since many City facilities do not have a method of controlling access, these facilities are being used by residents and non-residents alike. In effect, taxes collected from City residents are being used to "subsidize", or pay for facilities used by non-residents. At the same time, some facilities such as softball diamonds generate fees through organized league play which partially recover maintenance and program operating expenses.

Table 34 demonstrates a need for 2 additional tennis courts. However, based on input from the City Department of Parks and Recreation staff, the shortage occurs primarily on weekends, so a recommendation for construction of additional courts is not being made at this time.

Analysis of City-owned facilities reveals that the City is in need of 1 additional playground and 50 picnic tables. Of course, picnic table demand could be met by construction of additional shelters and the associated tables (8 tables per shelter). The City is in need of 1 more racquetball court and the equivalent of 1.2 golf courses. Demand for golf is described in more detail under its own section later in this chapter.

Multi-Use Facilities

The Jefferson City Study Area is fortunate in that it has facilities which are multiple use, and therefore, can be used interchangeably for certain activities (if, in some instances, regulation facility sizes or field layouts can be ignored). For example, the unmet demand for youth baseball can be met on softball fields, if activity occasion demand for softball compared against the carrying capacity of the inventory of existing softball facilities shows that there is excess capacity for these facilities.

In fact, Jefferson City uses these facilities interchangeably. Also, the City is using playfields owned by other entities to provide space for practice softball and baseball games for its youth baseball program. The City needs 25 playfield/practice fields to meet this demand, therefore, the number of playfields needed as displayed on these tables is misleading.

Another such example is the ability to satisfy unmet demand for soccer fields at surplus playfields. Obviously, each situation where use of facilities for multiple activities is concerned must be evaluated more specifically than the calculation methodology used herein would suggest. When it is time to devise an actual plan for the expansion/addition of existing facilities in the later stages of this planning program, a variety of factors will have to be considered. For example, whether or

not there is really an excess of facilities to support a particular activity is related to many factors including the size of the facilities under consideration and where they are located.

The analysis of football activity for the Study Area reveals a special situation. This analysis concluded that the area was in need of additional football fields, however, it is believed that some of this need may be artificial. The way in which the household respondent answered this question was probably more dependent than that for many other activities on what they interpreted to be playing football. Because football play can occur on practice fields, or even on vacant lots, the activity occasions of demand for this activity may be somewhat overstated.

Based on the data compiled in the needs analysis, for some activities the Study Area has a surplus of facilities. The recreation facilities associated with particular activities which have surplus facilities includes playgrounds, picnic tables and tennis courts, among others. The area is in need of picnic shelters, indoor pool space, golf courses and nature trails. Golf and nature trails will be discussed further under separate golf course needs and trails sections which follow later in this document.

The City of Jefferson, in general, has more unmet demand for facilities relative to the study area. Note that for purposes of reviewing unmet demand at the City level, we are concerned with demand for public facilities. As relates to the Study Area, no determination has been made as to whether or not demand for public facilities should be met by the City as opposed to Cole County or Callaway County or some other public entity. Some further evaluation of this issue can be made once the City's potential annexation interests are determined. Also, unmet demand for 6 football fields can be partially met on surplus playfields. Again, certain kinds of play such as "touch" football doesn't require a formal field. As Table 34 indicates, the City is also in need of a playground, picnic tables, racquetball and tennis courts and soccer fields.

Swimming Pools

The Study Area and the City have a surplus of outdoor pool space based on the needs analysis. Most of this capacity can be met by the large public pools owned by the City, but there are also several private pools in the area. One of these pools is an indoor facility owned by the YMCA (the City does not own an indoor pool). Based on the survey data, standards applied in the demand calculation process, and the heavy usage of this facility, a need for additional indoor pool space for Jefferson City residents is derived. However, only about half of the activity occasions for swimming in general occur at public facilities and the rest of the demand is fulfilled at semi-public or private facilities. Thus, where swimming is concerned, only about half of the overall demand by City residents needs to be met by the City. This has been traditionally true for swimming as a recreation

activity and has been supported by other recreation demand surveys which have been done in the Midwest over the years.

In this instance the survey data and demand calculations are suggesting that there is demand for indoor swimming facilities which is not being met and which should be met by the City. However, this demand would only support about half of the carrying capacity of one indoor pool. Therefore, it is not feasible to build such a facility at this time. This is particularly true given the apparent excess capacity of outdoor pools within the Study Area and the City. With a combination of actual population growth and annexation, it might be feasible for the City at some point in the future to justify the construction of an indoor pool. Although, the City must be mindful of the typically higher cost of construction, operation, and maintenance of such a facility (compared to outdoor pools) and would need to recognize the likely need to charge larger fees for its use by residents and non-residents alike.

Basketball Courts

Analysis of basketball demand in the Study Area indicates there is a surplus of courts. However, most of these courts are located in public schools at the elementary and secondary level. These facilities are often unavailable for use by adults and furthermore may be undesirable for adult use because they may not be regulation size.

In reviewing City-owned facilities, there appears to be an unmet demand for courts. However, it is difficult to determine what constituted "public" demand for facilities because the survey questions defined public facilities as those owned by City, County, or State government. Survey respondents may not have interpreted play at schools as public use based on this definition. On the other hand, there may be significant unmet demand because many basketball courts are located in school gymnasiums. These gymnasiums are usually multi-purpose facilities with other activities (such as volleyball), which consume some of their use and thus may diminish their ability to provide activity occasions capacity for basketball.

Trails

The Jefferson City Study Area has approximately 9 miles of multi-purpose trails for use by cyclists and walkers. It is difficult to determine the capacity of activity occasions for a multi-use path because the number of people who can safely utilize one mile of trail varies greatly depending on the specific activity. For example, cyclists require much more room to move than walkers or joggers. Therefore, an activity occasion for cycling requires much more space than an activity occasion for walking. Even though in our survey there were approximately 2 occasions of walking for every 1

occasion of cycling, cyclists still require more trail miles than walkers. Because of this dynamic, it is best to build multi-use paths sufficient to meet cycling demand by itself. In this scenario, there will automatically be enough path to meet the demand of walkers, assuming that the path is wide enough to handle 2 lanes of cyclists and 2 lanes of walkers simultaneously.

Based on this analysis, the study area needs an additional 7 miles of multi-use paths. In Jefferson City there are 5 miles of public multi-use paths, including City owned miles and mileage that is part of the KATY Trail within the City limits. Jefferson City is in need of 5 more miles of multi-use trails. However, if one considers that 1.8 of the 5 miles of existing path belongs to the KATY Trail which is inaccessible to the majority of Jefferson City residents except by car (most residents must transport their bicycles by car across the Highway 54 bridge to access the trail) a case could be made that more than 5 miles is needed. This additional need could be met by implementing recommendations of the Greenway Plan which is discussed later in this section.

Golf Course Needs

Some residents cited overcrowded golf facilities as being a problem. A study of golf needs in the Jefferson City area was conducted by Flatt Golf Services in 1993. The preliminary findings of this Study indicated that any new public golf course or any new golf holes should possess certain characteristics. For example, the course should be attractive to all levels of golfers and provide for 4-5 sets of tees on each hole. It should be 4800-6800 yards and should have a fully automatic irrigation system. Course difficulty should be moderate and teeing areas should vary to offer challenges to all level of players. It should include a clubhouse with a snack bar/dining area and have small meeting rooms for tournaments or special events. The City is considering several options in dealing with golf demand. Those include developing a new 18-hole course within Binder Park and/or acquiring property adjacent to the existing course to build a par 3, nine-hole course. Given the high demand for golf in the overall Study Area, it is likely that at some time in the future private investors may also build an additional course if land is available.[78]

A successful new municipal public golf course in Jefferson City will need to optimize revenue opportunities and this will necessitate it being operated differently than most of the existing public golf courses in the area. The most evident differences would be that typical annual green fees, membership fees or discount passes should not be offered, daily green fees will need to be higher and private riding golf carts will not be permitted. Aggressive, professional management will operate the golf pro shop, driving range and concessions as profit centers and fee structures will be evaluated and

[78] Golf Feasibility Study for the City of Jefferson, Missouri - Flatt Golf Services, August 1993.

modified frequently to insure the revenue flow necessary to sustain the operation, maintenance and debt payments.[79]

Other Park and Recreation Facility Needs

In 1991, the Jefferson City Department of Parks and Recreation Advisory Committee recommended development of a greenway network. A "greenway" is land that typically runs along a linear corridor such as a creek, a river or floodplain, a ridge top, or abandoned rail right-of-way. Ideally, a greenway plan creates a system of such corridors in a coordinated fashion so that, to the extent possible, residents of a community are within easy access to a greenway and can enjoy its recreational benefits such as walking or cycling. In addition, a greenway can provide a buffering effect between land uses and aid in ensuring that open space is provided throughout the community. In order to implement the greenway system envisioned, the Committee determined that the goals of the program should include:

- identifying how such a network can benefit the community;
- incorporating greenway planning into other planning functions; and
- completing a demonstration project.

The Committee report suggested that the greenway network should link and provide access to city parks, schools, the riverfront, the Capitol, the Moreau River, the KATY Trail and places where people work. The committee recommended that the city should proceed with a pilot project in Washington Park to be constructed between Dunklin and Ohio Street. It also recommended completion of a greenway from the Missouri River through Washington Park to Fairgrounds Road.

If the Greenway Plan is viewed in the light of the needs analysis for trail facilities, the demand and resulting needs data would suggest that an extensive greenway network is not necessary to fulfill the demand either in the Study Area or the City. However, if the KATY Trail is taken out of consideration in the inventory or its heavy non-resident use is taken into consideration, a greenway system such as that envisioned by the Committee continues to be a valid concept. In addition, it should also be noted that the facility needs analysis does not take into account the significant enhancement such a system would provide for the City's parks facilities. In developing the recreation plan, the Greenway System Plan will need to be considered along with the need for other facilities which are required to fulfill unmet demand for other activities.

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[79] Ibid

An important element of the Jefferson City Comprehensive Plan process has to do with the development plan for Adrian Island. This plan was completed in 1990 and is known as the Master Plan for the Deborah Cooper Riverfront Park on Adrian Island. The major design elements incorporated into the final master plan include:

- two pedestrian overpasses to the island;
- a river's-edge pedestrian promenade with various activity nodes;
- recreation open space;
- a grass amphitheater;
- a dredged harbor and excursion boat mooring;
- a visitor concession building; and
- a nature/bicycle trail.

Review of the Plan document suggests that a significant amount of the recommended development on the island would be subject to flooding. In recreation planning it has often been a planning tenet that flood plain areas have ideal development potential for park and recreation facilities. This tenet has been based on the notion that if the facilities developed are not of a major nature involving buildings or other extensive facilities that occasional flooding would be "acceptable". As can be seen from the list above, the Adrian Island plan contains some costly and significant improvements (estimated to cost $7-8 million), some of which are necessary simply to provide access to the island.

As a result of the floods of 1993 throughout the midwest but particularly in Missouri, the advisability of development of any kind in a flood plain is being re-thought. In addition, city Parks and Recreation operations are typically strapped for operating, maintenance, and new facility development monies. Jefferson City's situation is not an exception to this condition. In many parts of the State (particularly in the St. Louis area), expenditures for cleaning up and repairing park and recreation facilities which were located in the Mississippi and Missouri floodplains amounted to millions of dollars. In light of these factors, it may be prudent for the City to review the Adrian Island plan to determine if the development program continues to be valid in its current form (or if development is desirable at all). This review should be carried out before the recreation plan is finalized so that a determination can be made as to what extent park and recreation use of the island is appropriate, and more importantly, whether or not facilities can be developed which will serve any of the recreation facility needs of the community.

CHAPTER 6
SUB-AREA ANALYSES

Introduction

This chapter of the Community Analysis contains an assessment of existing and potential future development issues affecting the stability of the following neighborhood areas:

1. ***High/Chestnut Street Area:*** Generally the area bounded by the Rex Whitton Expressway, Jackson Street, Jefferson City Correctional Center, and Clark Avenue / Dawson Street.

2. ***East McCarty Street Area:*** A corridor along East McCarty Street, that is principally developed with commercial uses, from Eastview Drive to City View Drive.

In addition to these two sub-areas, this chapter reviews the status of current plans and programs for the ***downtown area***. Commentary and suggestions are provided that relate to changes in current conditions which will affect goals, objectives, and plan proposals associated with the Comprehensive Plan Update.

High/Chestnut Street Area

The High/Chestnut Street area is located immediately east of the downtown area. It is one of the older areas of Jefferson City, platted in a traditional "gridiron" street pattern with relatively small lots (see Plate 5). The area is almost fully developed with the predominant land use being residential.

From a land use standpoint, it is evident that some properties have converted from residential to commercial use, or from single family residential to two-family or multi-family residential. Furthermore, it's apparent that many of these conversions in land use took place at least several decades ago. Without historical evidence of specific pre-1969 planning policy and zoning codes, it appears that the neighborhood transition is, at least in part, due to such policies and ordinances. The land use plans prepared in 1969, 1978, and 1986 have perpetuated the idea of converting much of this neighborhood to more intensive land uses. The current zoning code permits more intensive use of many properties than what currently exists.

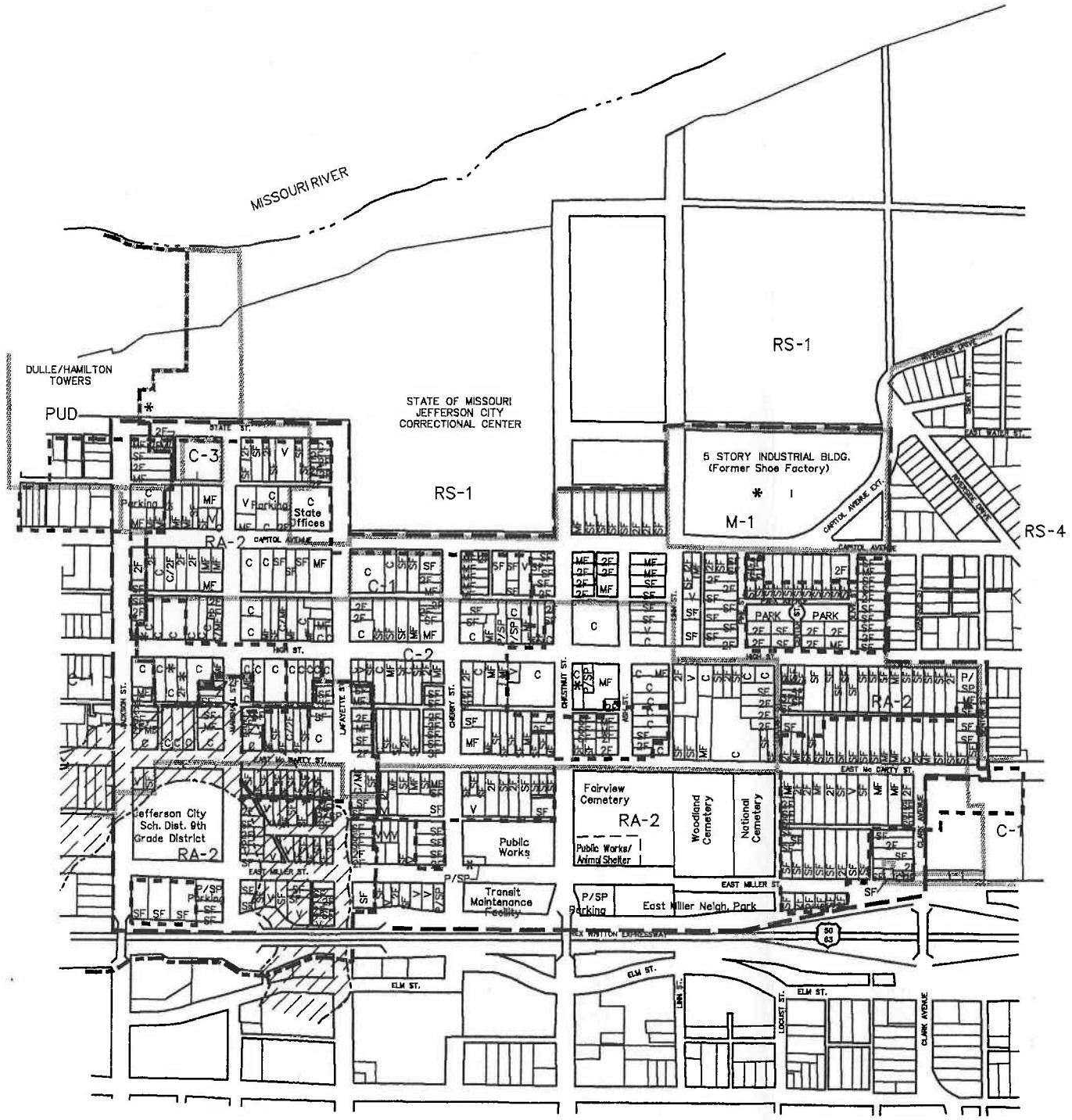
The 1969 Comprehensive Plan proposed an extension of the downtown commercial area along High Street to Lafayette Street. Also, commercial nodes are proposed for groups of lots farther east. The 1978 Land Use Plan proposed a similar arrangement of land uses for this neighborhood. The 1986 Land Use Plan was the most aggressive in terms of the amount of commercial development proposed for this area. Also, the 1986 Plan was specific in designating much of the area for medium to high density residential (7 to 29 dwelling units per acre).

Some of the typical thinking behind these previous plans is the theory that certain developed areas will eventually be under pressure to redevelop into higher intensity land uses. The premise is that real estate demand will increase for areas adjacent to more intensely developed areas, such as the City's central core. Another approach is to designate different land uses than currently exist (usually higher intensity) to facilitate a transition that may already be taking place. The previous plans also reveal some traditional general planning techniques whereby the proposed intensity of land use transitions from the heaviest in the City's central core, and along major arterials, to lower intensity land uses in outlying areas. This planning technique is proper in many situations, and is easy to implement, if a community is dealing with undeveloped territory. However, it can have unintended consequences if applied to existing developed areas. Often what happens is that reuse or redevelopment to higher intensity uses occurs on a piecemeal basis, creating land use conflicts between the new land uses and adjacent uses. In the High/Chestnut area, it's a particular problem, because the individual lots are insufficient in size to provide adequate off-street parking and buffering between incompatible uses.

The High/Chestnut Street area presents a classic planning situation. Does the City "pre-zone" areas to match the comprehensive plan (which is typically long-range in scope) even though current land uses may not be consistent with the intent of the district. It's obvious that Jefferson City has prezoned the areas in the High/Chestnut area to match planning policy. To what extent has the marriage of the zoning code to the past land use plans changed the development pattern of the High/Chestnut Street Area? As indicated in the following section, older (original) land uses prevail.

Existing Land Use vs. Current Zoning

Table 35 quantifies existing parcel use by its current zoning district classification. There are five (5) zoning districts covering the High/Chestnut Street area. Existing land uses (quantified by the number of parcels) within each district are listed under the column headings in this table. Within the RA-2 Multi-Family District, there are a total of 314 parcels of which 177 (56 percent) are currently used for single family dwellings. There are 57 parcels (18 percent) that are currently developed as two-family dwellings. Only 39 parcels (12 percent) are developed as multi-family apartments.



HIGH / CHESTNUT ST. AREA

- Sub-area Study Boundary
- Recommended National Historic Register District
- * Recommeded National Historic Register Properties
- MO R-45 Progress Urban Renewal Area
- C-1 Existing Zoning District
- 100 Year Floodplain
- SF Single Family Residential
- 2F Two-Family Residential
- MF Multi-Family Residential
- C Commercial
- I Industrial
- P/SP Public / Semi-Public
- V Vacant (Undeveloped)

Based on land use survey conducted Spring, 1993.

Graphic Scale in Feet

0 200 400 600 800

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City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 5

Table 35
Comparison of Existing Parcel Use
to Zoning District Classification
(High/Chestnut Street Area)
City of Jefferson, Missouri [80]

Zoning District	Number of Parcels by Land Use Category																			
	Single Fam Dwelling	%	Two Fam Dwelling	%	Multi-Fam Apt Bldg	%	Comm	%	Mixed Res & Comm	%	Indus	%	Public & Semi-Public	%	Parks & Rec	%	Vac	%	TOTAL PARCELS	%
RA-2 Multi-Family	177	*56*	57	*18*	39	*12*	2	*1*	1	*0*	0	*0*	12	*4*	3	*1*	23	*7*	314	*100*
C-1 Neighborhood Comm.	18	*31*	18	*31*	6	*10*	14	*24*	1	*2*	0	*0*	0	*0*	0	*0*	2	*3*	59	*100*
C-2 General Commercial	44	*31*	23	*16*	23	*16*	44	*31*	2	*1*	0	*0*	2	*1*	0	*0*	4	*3*	142	*100*
C-3 Central Commercial	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	*100*	0	*0*	0	*0*	0	*0*	1	*100*
PUD Planned Unit Devel.	1	*25*	1	*25*	2	*50*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	4	*100*

[80] Based on land use survey completed in September, 1992. Percentages rounded to the nearest integer.

Abbreviations:
- Apt: Apartment
- Comm: Commercial
- Devel: Development
- Fam: Family
- Indus: Industrial
- Rec: Recreation
- Res: Residential
- Vac: Vacant

While the current zoning code permits single family and two-family residences in the RA-2 District, it is intuitive that the intent of this district is for multi-family development (the City's highest density residential district). Note that the City's current residential districts are structured under a "pyramid" scheme, which allows lower density residential uses in the higher density residential districts. The pitfalls of this approach to zoning are noted later.

Within the C-1 Neighborhood Commercial District, 42 of the 59 parcels (71 percent) are developed for residential use. Less than one-quarter of the parcels are used for commercial purposes in this district. Within the C-2 General Commercial District, there are a total of 142 parcels of which 90 (63 percent) are developed with residential structures. Only 44 parcels (31 percent) are developed as commercial.

If the majority of parcels within the above mentioned zoning districts are developed with land uses other than the principal permitted uses, then why are the district boundaries delineated in this manner? It goes back to the earlier comment on "pre-zoning" areas to reflect the Plan's long range proposals.

Zoning vs. The Land Use Plan

In many situations, pre-zoning land to conform to the Land Use Plan is not a prudent strategy. This is particularly true when the Plan proposes different land uses for areas that are already developed. Even if the Plan proposals are reasonable and not arbitrary, it's the interim period of time which creates uncertainty. The uncertainty of the neighborhood is particularly problematic for the existing or prospective homeowner. Would one want to invest in their property knowing a used auto dealer could, by right, locate next door to them?

Pre-zoning to "higher" uses can also lead to real estate speculation, land banking, and absentee ownership. It's not uncommon under this situation for an absentee landlord to minimize investment in their rental properties until the real estate market is ripe, which may never come. This, combined with the "uncertainty" of the neighborhood's future, often leads to deferred maintenance, deterioration, and blighted conditions. There is evidence of deferred maintenance and, in isolated instances, severe structural deterioration of residential buildings in this neighborhood.

While the Land Use Plan may present alternative uses of land to that which already exists, it's important that the Plan clearly state its intentions for doing so. Also, the Plan should indicate under what circumstances that a change in use is to take place. It may go so far as to state the minimum size of a redevelopment project and specify other development performance criteria before rezoning will be considered.

It is not necessary to "pre-zone" land to conform with the Plan. However, the City needs to be prepared to defend its position of denying a rezoning request, particularly if the Plan graphically seems to support the request.

If the City wishes to pre-zone areas to something other than how the area is already developed, then it should aggressively pursue redevelopment proposals. Such redevelopment would likely require the use of one of the State's redevelopment law, such as "Chapter 353" or "TIF." To date, the City has not taken an aggressive approach to facilitating private redevelopment projects.

An Alternative Zoning Technique

As evident in the above analysis and commentary, it's quite apparent that traditional zoning techniques do not adequately deal with areas in transition. A recent article in the Urban Land Institute's magazine, Urban Land, describes how the City of Cleveland, Ohio is dealing with a similar situation. Cleveland has an area known as the Flats district which borders the downtown area. It has also experienced a hodge-podge of use changes and the market potential of the area is uncertain. What the City sought was a zoning system that was versatile enough to achieve a multitude of objectives - *"zoning that could be ultraconservative here, moderately or strongly progressive there, and flexibly ambiguous, but not wide open, somewhere else."*[81] While this technique may not have been legally tested in Missouri, what they came up with merits consideration. The following are excerpts from the Urban Land article which describes Cleveland's new zoning approach for the Flats district.

> *"The solution was redevelopment overlay zoning, a simple and flexible zoning technique. In a redevelopment overlay district (ROD), one or more zoning designations with the suffix "R" can be overlaid on the current zoning map. "R" zoning designations represent a new future use the city wishes to facilitate.*
>
> *A currently industrial property for which a conversion to entertainment use is anticipated could, for example, be zoned I-2 Medium Industrial with an "R" overlay of C-E Commercial Entertainment. This property could then be used or redeveloped under the regulations of either zone, but not both.*
>
> *Redevelopment under the C-E overlay designation would be subject to certain conditions to promote a smooth transition to the new land use. To encourage larger-scale development that reduces lot-by-lot use changes and attendant land use conflicts,*

---

[81] "Zoning for an Uncertain Future," Urban Land, Urban Land Institute, June, 1992.

redevelopment parcels must be a minimum size. Also, a new use must buffer itself against existing old uses, even if the new use is less objectionable. ROD's address a number of practical problems that are often particularly troublesome in older cities:

- Nonconforming Uses. *Retention of the underlying zoning classification, at least in the interim, avoids the problem of existing uses becoming nonconforming.*

- Redevelopment Risk. *The rezoning risk inherent in central city redevelopment is absent because the land has been rezoned in advance for a new use. No public hearing or discretionary approval is required.*

- Uncertain Future Use. *ROD's can accommodate multiple alternative futures for a property. Market uncertainty can be reflected through the use of more than one overlay."*

Other Issues

National Historic Register Designation: The High/Chestnut Street area was included in a recent survey effort to evaluate historical significance of properties and their eligibility for designation on the National Register of Historic Districts and/or Properties. As a result, a considerable portion of the High/Chestnut Street area has been proposed for National Register Districts along with several individual properties (see Plate 5). If the designations are consummated, it will provide opportunities for preservation. To encourage this, tax advantages are available for improving/restoring historical buildings and property (e.g., accelerated depreciation of capital investments associated with the improvements). However, there are strings attached that may increase the cost of improvements, in order to comply with the historical preservation standards. Furthermore, it may limit redevelopment/reuse options.

Industrial Land Use: Another land use issue in this neighborhood, is the former shoe factory located on Capitol Avenue, between Capitol Court (fomerly Linn Street) and Riverside Drive. It is a five story brick building built around 1900. It has been occupied by a number of shoe companies and now partially occupied by a metal products operation. The building has been proposed for inclusion on the National Register.

Under contemporary planning standards, one would not locate an industrial facility in a residential area. The 1969, 1978, and 1986 Land Use Plans indicated the continuation of industrial use for this property. The question is whether or not industrial use is the appropriate use for this area over the long term. Would an alternative use, more compatible with the neighborhood, be a realistic

goal? Does its historical designation provide enough economic incentive to encourage an alternative use? In other cities, reuse of older multi-story industrial buildings have been successfully converted to "loft" apartments or condominiums.

Floodplain: A portion of the neighborhood, in the vicinity of East McCarty Street and Marshall Street, is located in the 100-year floodplain (see Plate 6). This area was spared the destruction of the Flood of 1993. The creek that runs through this area flows into Wears Creek at a point near the State Capitol Building. However, this small tributary did not receive the volume of back-flow from the Missouri River as did other tributaries. Perhaps the size of the culverts under the Rex Whitton Expressway restricted the flood waters from backing up into this neighborhood.

While flooding of the Missouri River may not affect this area, flash floods are possible. Based on the flood experience of 1993, it would behoove the property owners in this area to purchase flood insurance. Long-term planning for developed land within these flood prone areas (not just the High/Chestnut Street area) should consider alternate, more compatible land uses.

Parking: Parking demand generated by the Jefferson City Correctional Center and the Dulle/Hamilton Towers creates some negative neighborhood impacts. Off-street parking for neighborhood residents is lacking. This is a result of the fact that this area was developed at a time when the number of automobiles per household was far less than it is today. Also back then, a street car line traveled along East McCarty Street, lessening the need for an automobile.

In 1990, the Mayor's Subcommittee on Parking of the Long Range Planning Committee examined the this problem. The Committee concluded that the State should consider providing additional off-street parking for the Correctional Center and to work with the Housing Authority to provide additional parking for the Dulle/Hamilton Towers. Since then, additional off-street parking has been constructed for both facilities.

Even with the additional parking, it's apparent that the on-street parking congestion still exists, particularly on Capitol Avenue between Lafayette and Chestnut Streets. This can be attributable to human nature (or laziness). People tend to park their vehicles as close as possible to their destination. Thus it is not surprising that on-street parking spaces on Capitol Avenue are still in high demand. In order to force the use of the more remote off-street parking lots, the City needs to consider placing time limitations on the appropriate on-street parking spaces. Note that this suggestion is based on the assumption that adequate off-street parking is now available for these facilities.

Summary and Conclusions

The High/Chestnut Street area has gone through some transformations that started decades ago. While there may have been other influences, the application of traditional planning and zoning techniques has contributed to the neighborhood's instability. There are no easy solutions to the piecemeal conversion of land use and the associated incompatibilities. Massive redevelopment is unlikely, for both economic and political reasons. Furthermore, if the National Historic Register designations are obtained, it would affect redevelopment options.

The idea of not pre-zoning has been presented along with Redevelopment Overlay District technique. If either of these approaches to zoning are pursued, "down zoning" many properties, to be more consistent with existing land uses, would be necessary. However, doing so comes with the risk of being legally challenged for "taking" of property rights.

Also, the City needs to rethink the current "pyramid" scheme of zoning, particularly among the residential zoning districts. While the pyramid approach avoids some of the nonconforming use issues, it also can lead to an inappropriate mix of residential densities. It usually occurs in existing developed areas, such as the High/Chestnut Street area, where they are pre-zoned to conform to long-term planning objectives.

Mixing of residential densities is not an inherently poor development technique. However, it is more suited to new development projects, whereby consideration is given to the grouping of densities, coordination of architectural styles, off-street parking, and vehicular access/circulation. This can be best accomplished through a "planned development" zoning procedure as opposed to a pyramid scheme. The City has a Planned Unit Development district, which has been successfully applied to multi-density and/or multi-use developments.

Finally, many of the issues discussed in this section apply not only to the High/Chestnut Street area, but other developed areas of the City as well. This should be taken into account during the Comprehensive Plan Update. Perhaps even more important, these issues should lead to an update of the zoning code.

East McCarty Street Area

Introduction

East McCarty Street is an arterial street connecting the eastern portion of Jefferson City to its central core. In the past, East McCarty Street served as the principal link between Jefferson City areas to the east. This function of East McCarty Street has since been supplanted by the construction of U.S. Highway 50/63 (Rex Whitton Expressway). This area was annexed into Jefferson City in 1968. In 1989, a small area was annexed which encompassed the Scholastic, Inc. National Distribution Center expansion (east of City View Drive).

Much of the existing development along East McCarty Street predates the 1968 annexation. There is a mixture of land uses ranging from single family dwellings to industrial enterprises (see Plate 6). There are also a number of undeveloped parcels, most of which are within a commercial or industrial zoning district.

Commercial establishments, that once relied on East McCarty Street's status as a principal link to Jefferson City, have discontinued operations and converted to other uses. For example, the former motel, located next to the fire station, is currently being used for apartment dwellings. It is also quite dilapidated. Another building a little farther to the east, which is now vacant, appears to have been a gas station. It too is somewhat of an eyesore, which detracts from overall appearance of the corridor.

Adjacent Land Use

Development to the north and south of the East McCarty Street corridor is principally single family residential. Much of this residential development is relatively new, except for many of the homes fronting Old St. Louis Road and on the west side of Doehla Lane.

The proliferation of residential development adjacent to the East McCarty Street area has resulted in a "NIMBY" (not in my back yard) syndrome. It is common for nearby residents to oppose any proposed commercial or industrial development on East McCarty Street. Some resident complaints have been toward existing businesses, such as Midwest Block and Brick. Midwest, located at its present site for over 40 years, is a victim of its own success. Facility expansion and increased hours of operation created a land use conflict.

Traffic and Access

In addition to the land use conflicts caused by adjacency, poor access to the East McCarty Street creates conflicts as well. Some of the commercial and industrial businesses located on East McCarty Street rely on heavy truck transport. The conflict occurs because trucks must traverse residential areas to get to these businesses.

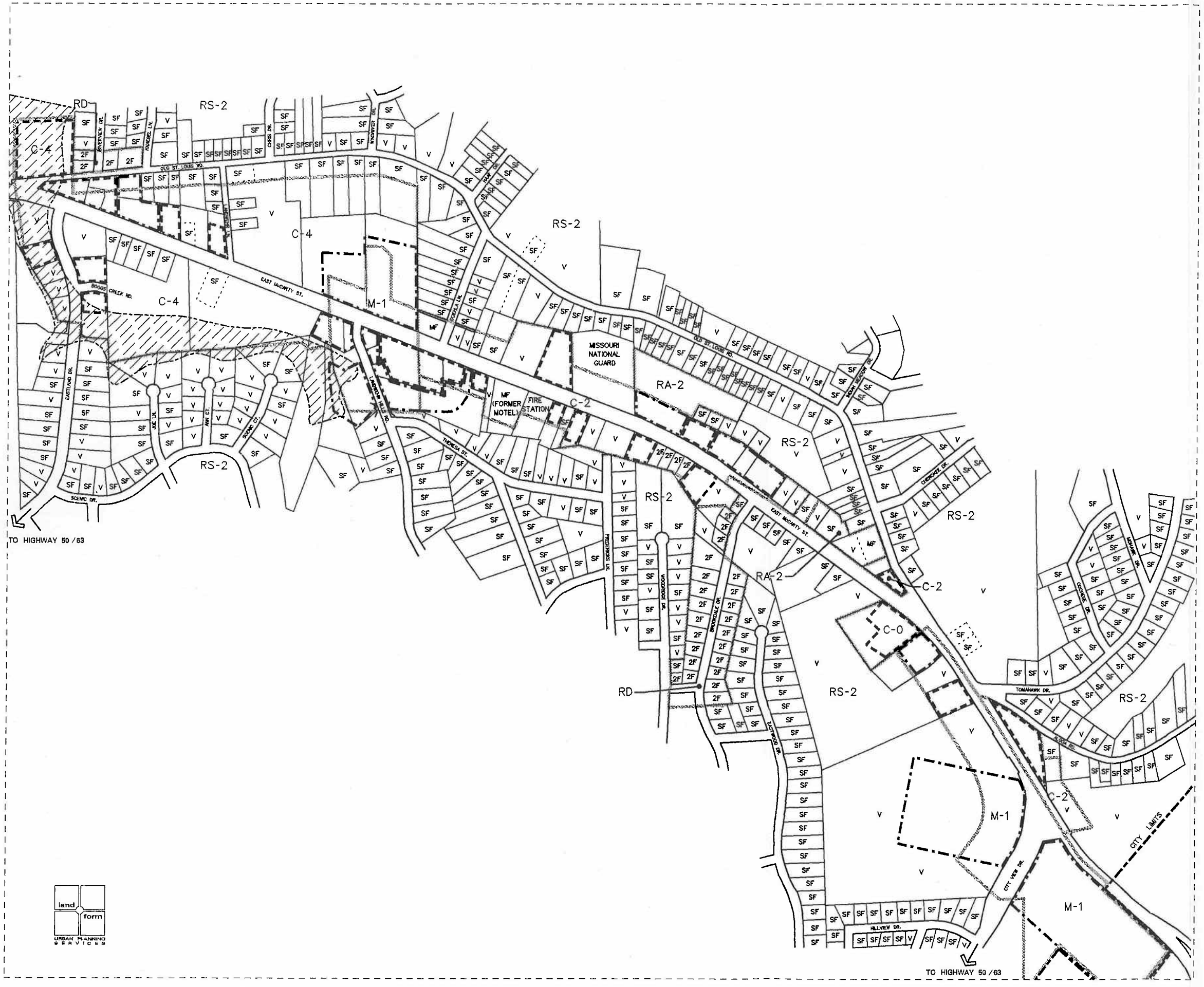
Eastland Drive, a newer collector street which links East McCarty Street to Highway 50/63, has become a preferred route for truck traffic. However, Eastland Drive traverses a residential area, with a considerable number of lots fronting onto this street. Also, the new Lewis and Clark Middle School is accessed (by both pedestrians and motor vehicles) via Eastland Drive. Eastland Drive, like many other major collector streets in Jefferson City, does not have sidewalks. Thus, it is obvious that truck traffic on Eastland Drive can only be detrimental to the residential atmosphere and causes safety concerns as well.

The Missouri Highway and Transportation Department has programmed the construction of an interchange to replace the current at-grade intersection of Eastland Drive and Highway 50/63. This will improve highway access and safety at this location. However, it will further encourage the use of Eastland Drive as the principal link between East McCarty Street and Highway 50/63.

The alternative truck routes to/from East McCarty Street have drawbacks as well. To the west, East McCarty Street traverses the older, central core of the City. Along this route are residentially developed lots and schools. To the east, East McCarty Street merges into City View Drive which connects with Highway 50/63. City View Drive also has residential lots adjacent to it, but their are only 11 such lots (10 are developed with single family residences).

Truck traffic associated with Scholastic, Inc. uses City View Drive as the principal means of access to/from Highway 50/63. If truck traffic on Eastland Drive were to be restricted, then it would be likely that much of it would divert to City View Drive. Though this route would be somewhat circuitous for traffic destined westbound on Highway 50/63, City View Drive offers a path of "less resistance." Getting to Highway 50/63, via East McCarty Street and Clark Avenue, involves several signalized intersections and tighter turning radii.

Forcing the use of City View Drive as the primary truck route between East McCarty Street and Highway 50/63 is not an ideal solution. However, it offers the lesser of all evils in terms of land use and traffic conflicts.



E. McCARTY ST. AREA

- C-1 Existing Zoning District
- Commercial Development
- Industrial Development
- 100 Year Floodplain
- SF Single Family Residential
- 2F Two-Family Residential
- MF Multi-Family Residential
- V Vacant (Undeveloped)

Based on land use survey conducted Spring, 1993.

Graphic Scale in Feet

0 200 400 600 800

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 6

land form URBAN PLANNING SERVICES

Zoning

In the East McCarty Street area, there are many instances where zoning district boundaries are located at a particular distance from a street right-of-way line (see Plate 6). As a result, some properties are split by district boundaries. This was common practice years ago. However, such a practice of delineating zoning district boundaries has been found to be invalid in the courts.

For example, suppose the Missouri National Guard relocated their facilities on East McCarty Street and sold the property to a commercial developer. The developer wishes to develop an office building along with parking and ancillary facilities on the entire site, and in compliance with the C-2 standards. The Developer requests that the City rezone the entire parcel to C-2. The front third of the parcel is currently zoned C-2 and the back two-thirds is zoned RS-2 residential. The City would have a difficult time justifying denial of the rezoning request. Any argument in support of denying the rezoning request becomes even weaker when the parcel of land immediately to the west is zoned C-2 for its entire depth.

Aesthetics

The "streetscape" of East McCarty Street, for the most part, is pitiful. Both the appearance of land within the public right-of-way and a number of private properties are to blame. Storm drainage for East McCarty Street is unenclosed with open ditches serving as the principal means for drainage. The only landscaping within the right-of-way is comprised of grass and weeds in the ditches. Access to many of the commercial and industrial businesses is undefined and parking lots are unpaved. Furthermore, outdoor storage of supplies and equipment is often poorly screened or not screened at all.

Improving the image of the more unattractive properties would, perhaps, lessen the resistance of neighboring residential areas to further development in this corridor. Paving a parking area with some landscaping would have dramatic visual impact. Improving the image of private retail and service enterprises would enhance business prospects, particularly from the immediate trade area.

Further use of the City's C-4 Planned Commercial District is encouraged. The new commercial establishments on Boggs Creek Road are good examples of the outcome of this zoning procedure. Such a planned development procedure can help to ensure good site planning and avoid potentially adverse impacts on nearby residential areas.

Finally, future capital improvement budgets for street improvements should consider upgrading East McCarty Street, between Eastland Drive and City View Drive. Such improvements to consider

include addition of curb and gutter, enclosed storm drainage, and turning lanes at street intersections or a continuous turning lane. Curb cuts to provide access to commercial or industrial properties should be minimized and cross access agreements between properties encouraged.

Summary and Conclusions

The land use and traffic issues confronting the East McCarty Street area are a result of an unfortunate sequence of land development events. This business corridor is now entirely surrounded by "sensitive" residential development.

Eastland Drive serves as an important link in the "loop" collector/arterial street system serving Jefferson City. However, 20/20 hindsight reveals that the land use and subdivision pattern along Eastland Drive should have been done differently. It could have been developed in a manner that would have allowed this key transportation link to be built with a minimum of impact on adjacent residential areas. Of course, an alternative development scheme may have resulted in fewer residential lots.

Several ideas merit consideration in the Comprehensive Plan Update (and future zoning code updates) which would affect the East McCarty Street area. They include the following:

- Consider prohibiting trucks, in excess of a certain gross vehicle weight, from using Eastland Drive. Direct truck traffic to use City View Drive and improve its intersection with Highway 50/63, if necessary. Also, explore the necessity and feasibility of converting this intersection to a controlled access interchange.

- Build a sidewalk, at least on one side of Eastland Drive, between East McCarty Street and Highway 50/63 regardless of whether or not truck traffic is prohibited on this street.

- Discourage further industrial development that is dependent on heavy truck transport. Encourage business development that is similar to that which has recently been built on Boggs Creek Road.

- Adjust zoning district boundaries to follow property lines unless it is clearly possible for a property to be subdivided and usable in accordance with the zoning district classification.

- Develop a specific strategy, along with a capital improvements plan, to improve the visual quality of the East McCarty Street corridor. The objectives of this strategy should include fixing infrastructure problems such as storm drainage and traffic circulation.

Downtown Area

Introduction

This section provides a review of recent planning efforts for the downtown area of Jefferson City. The purpose of this review is to compare these plans to current conditions and to integrate into the Comprehensive Plan Update those proposals that still have merit in future planning policy.

In general, it is obvious to the nonresident professional planner that much has occurred in the downtown area in recent decades. A considerable amount of redevelopment has taken place along with beautification of public right-of-ways. Not only has the State government invested heavily in office facilities downtown, but it is evident that there has been considerable private investment as well. The downtown is "alive and kicking," even though its function as the region's primary retail center is no longer the case.

Planning and Regulatory Authority

Planning for and controlling the development or redevelopment process in downtown Jefferson City is quite different than one will find in most other communities. Along with the private interests, there are three major players in the downtown; the City government, State government, and the Jefferson City Housing Authority. The State government is one of the largest land owners in downtown. The State is also a sovereign governmental entity and as such, is not subject to municipal codes and ordinances. The Jefferson City Housing Authority serves as the City's Land for Clearance Redevelopment Authority (LCRA), which has in place a redevelopment plan for the downtown and environs. This plan is for an area known as the Missouri R-45 Progress Urban Renewal Area (see Plate 7). The City of Jefferson has the zoning authority.

This situation makes it particularly challenging for gaining a consensus on planning objectives and coordinating specific development/redevelopment projects. In the meantime, the private land owner/merchant must be included in the equation. Absent a unified plan and implementation strategy involving all parties, its a wonder that all that has occurred in the downtown area has been generally positive.

In reality, the City and State government have maintained an informal working relationship allowing coordination of State facility development with City zoning and infrastructure programming. It has been recommended in previous planning studies that the State and City establish a more formal relationship. It seems obvious that a formal coordinating relationship would be beneficial to planning the downtown and the City overall.

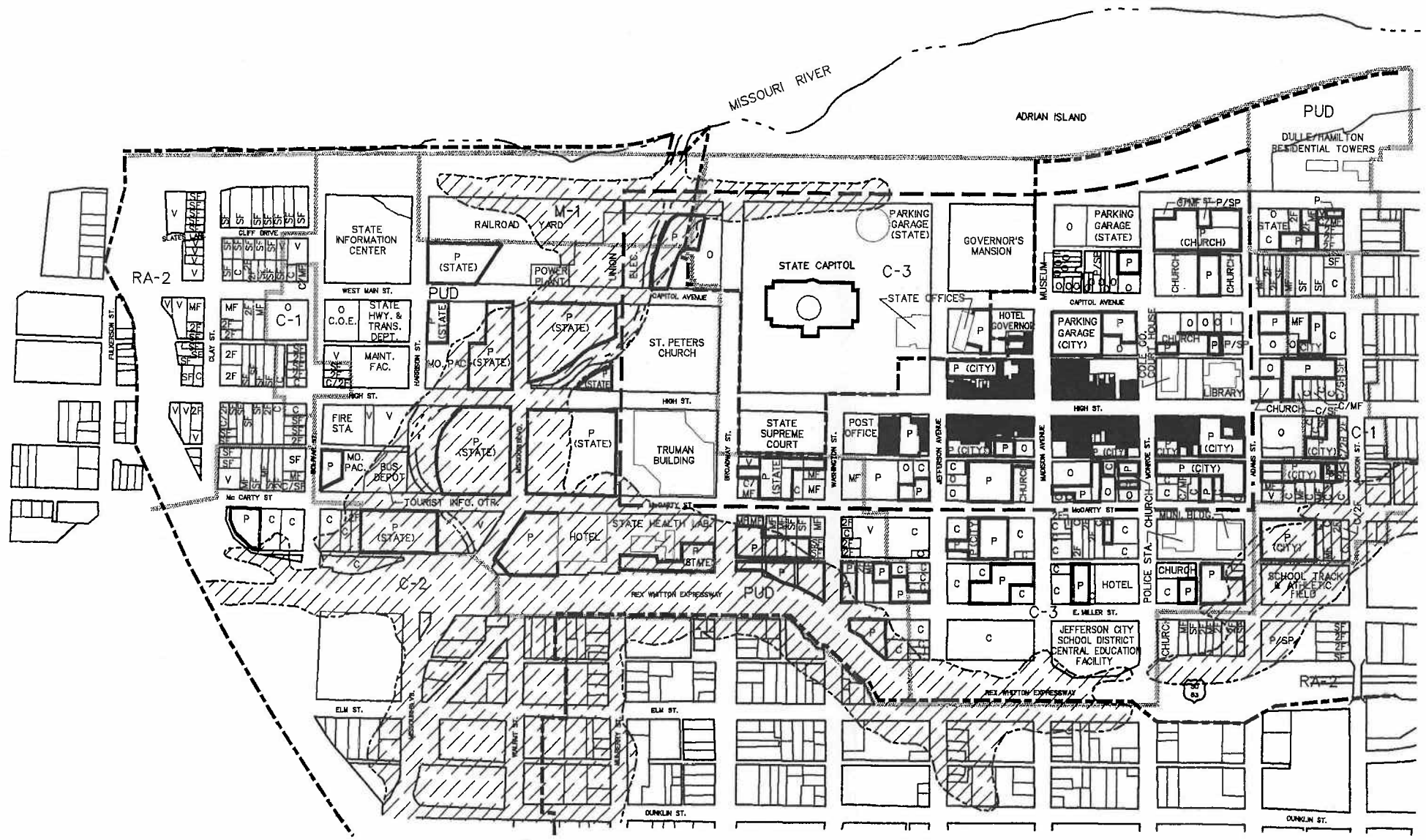
The Jefferson City Housing Authority has review and approval authority on requests for rezoning and conditional use permits within the Progress Urban Renewal Area. Thus such a request requires the approval of both the Housing Authority and the City. In the past, this multi-jurisdictional authority could create significant problems because of conflicts between the City's zoning code and the Housing Authority's urban renewal plan. The City's zoning code and the urban renewal plan have since been modified so that they are now consistent.

Historic District

Much of the Downtown falls within the Missouri State Capital Historic District (see Plate 7). It is included in the National Register of Historic Places. The City has not adopted any historic district regulations for this district. The City's Historic Preservation Commission, however, is in the process of preparing a proposed historic preservation ordinance. If adopted, this ordinance would enable the establishment of historic districts and associated regulations.

1986 Land Use Plan

The 1986 Land Use Plan is currently the City's officially adopted land use plan. In this Plan is a section entitled "Neighborhood Policies," which contain policies for the downtown area. While somewhat general, these policies were intended to serve as an interim guide until more specific plans were prepared. Accomplishments have been made with regard to some of the stated policies. In particular, the City has *"achieved consistency between the land use plan and zoning regulations of the City and the Housing Authority for development and redevelopment of this (downtown) neighborhood."* The other policies have been upheld with varying degrees of success. Most of them still have merit and should be considered in the development of goals and objectives for the new Comprehensive Plan.



DOWNTOWN AREA

- Missouri State Capital Historic District
- MO R-45 Progress Urban Renewal Area
- 100 Year Floodplain
- C-1 Existing Zoning District
- SF Single Family Residential
- 2F Two-Family Residential
- MF Multi-Family Residential
- Retail Core Buildings
- C Commercial
- I Industrial
- O Office
- P Parking
- P/SP Public / Semi-Public
- V Vacant (Undeveloped)

Based on land use survey conducted Spring, 1993.

Graphic Scale in Feet

0 200 400 600 800

land form URBAN PLANNING SERVICE

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1996 | Plate 7

Development Strategy Plan

In 1989, the City retained the firm of ZHA, Inc. to develop a strategy plan for the downtown area. The resulting report contained the following three primary components:

- A review of existing conditions, including market and design factors in the downtown;
- Recommendations on goals, programs and projects;
- Feasibility analysis of developing office space on Housing Authority property and rehabilitation of the two-building Strollway complex as a mixed retail/residential development.

The report's presentation of goals, programs and projects is comprehensive and quite detailed. Many of them are applicable to the Comprehensive Plan and should be incorporated in the update as appropriate. Without going into great detail on the Development Strategy Plan, the following narrative lists the key recommendations of this plan and reports on the status of accomplishment and/or there current applicability.

Key Recommendations:

- Development of an office project on Housing Authority land. This will provide funds for other projects and represent a new direction in the implementation of the underlying redevelopment plan for the downtown.

  Status: To date there has been no serious developer interest in pursuing this proposal. The land proposed to be used for this development is currently being used for surface parking lots.

- Creation of the special loan program to dedicate funds for projects of particular importance. This would include projects specified in Section III of the Development Strategy Plan, as well as other initiatives raised by private developers.

  Status: Section III specifically proposed the creation of a revolving or subsidized interest rate loan program to be jointly funded by the City, the Housing Authority and the business community. It did not provide any specifics on how the program should be structured. Some of the suggested uses for the loan fund included facade renovation, converting vacant upper floor space to housing, and retailer attraction efforts.

Establishing a jointly funded or other loan programs have been pursued. However, none have been established to date.

- Creation of a parking management district and concerted attention to management and operational practices with respect to parking. This effort should address the long-term need for capital expansion of parking facilities as well as the rehabilitation of the existing garage.

  Status: A parking management district has not been established though considerable progress has been made with regard to adding to the supply of parking. Major parking supply improvements include:

  - Rehabilitation and expansion of the City-owned parking garage located at Madison Street and Capitol Avenue.

  - Construction of a new City-owned, two level parking structure on Jefferson Street north of High Street.

  - Construction of a new parking structure for State employees at Monroe Street and Water Street.

  The proposed parking structure, to replace the existing City parking lot located near High and Adams Streets, has not been built. There are no plans to build this structure in the near future.

  Other Comments: During the land use field survey, conducted in 1992, at least a dozen attempts were made to find a parking space in various locations downtown. All of the attempts to do so were made during normal weekday business hours and most took place during session of the State Legislature. In every attempt, parking could be found, though not always the most convenient location relative to the desired destination. Though not scientific, this practical exercise leads one to conclude that parking availability in the downtown, in general, is adequate for current conditions. This statement is made with the understanding that older downtowns cannot physically provide the parking convenience of contemporary shopping centers.

  Like all older and economically viable downtowns, on-street parking spaces will be in high demand. During the exercise mentioned above, on-street parking on High Street could be obtained every time it was attempted. However, the on-street parking space

found may not have been on the block desired. Again, it is physically impossible to have enough on-street spaces to supply the demand created by the businesses in the downtown retail core.

The most discouraging part of finding off-street parking in downtown, for someone unfamiliar with this area, is locating public parking lots or structures. Often one will find, during their search, lots that are reserved for State employees or others. Improved directional signage for public parking would help. This applies not only to City owned facilities, but State visitor parking lots as well. For example, someone wishing to visit the Truman Building, but is unfamiliar with the downtown, will have a difficult time finding the visitor lot located at High Street and Mulberry Street (at the eastern base of the High Street bridge).

All of this leads back to the issue of parking management. The Development Strategy Plan recommended establishing a parking management district and focused mostly on parking fees as a management tool. However, there are two other parking management concepts which are worth mentioning here. One deals with the issue of location of employee parking versus public/visitor parking, The other deals with time restrictions in order to force "turnover" of prime parking spaces and to encourage the use of more remote public parking supply for longer-term parking.

With regard to the first management concept, why isn't the visitor lot for the Truman Building located directly to the west? Such a visitor lot would be immediately visible from McCarty Street, which now serves as the principal entry to the downtown from Highway 54/63. Government facility visitors, as with business patrons, should get top priority in a well managed parking program. Along these same lines, how many employees of downtown businesses are using on-street parking or acquiring reserved spaces on close-by City lots? Again, employees should be parking in the more remote locations and the most convenient public lots should be entirely available to the general public.

With regard to time limitations, the Development Strategy Plan recommended that the two-hour time limit for on-street parking be continued, "reflecting the convenience of street parking for quick trips." A two-hour time limit <u>is not</u> conducive to quick turnover. The time limit for prime on-street parking spaces (e.g., High Street retail area) should be reduced to one-hour and, in some locations, less than one-hour.

More study is needed to assess the supply, demand, and management components of downtown parking which is beyond the scope of this Community Analysis. While improvements to the parking situation in downtown could be improved with further analysis and implementation of specific recommendations, it will never be ideal. Establishing a parking management district is probably overkill for a downtown the size of Jefferson City's. Rather a cooperative effort between the City, State, and downtown businesses to implement a specific management plan should be effective.

- Planning implementation for the improvement of Adrian Island, and the connection of this resource to other recreational features in the downtown.

  Status: In 1990, a development plan was completed for Adrian Island.[82] The Plan proposed providing two pedestrian overpasses to the island and a variety of recreational facilities (see Chapter 5, "Recreation Facilities," for a summary of this Plan).

  While the riverfront setting provides a great opportunity for urban design and recreation, taking advantage of it will be a major challenge. The proposed Deborah Cooper Riverfront Park has a lot of appeal. However, the 1993 flood experience should cause the Housing Authority, the Deborah Cooper Foundation, and the City to rethink the riverfront plan. Perhaps a less capital intensive approach should be explored.

- A concerted effort to preserve housing in and around the downtown through a number of programs mentioned in the Development Strategy Plan.

  Status: Some of the suggestions for promoting housing conservation and new housing development contained in the Plan included providing grants to property owners for creation of housing units through land acquisition and write downs. Another was the use of tax abatement for residential development. Though not mentioned, it is assumed that the latter suggestion was referring to the Urban Redevelopment Corporations Law (Chapter 353, R.S.Mo.).

  To date, no specific policies or programs are in place to facilitate housing development in the downtown area. Any effort to do so would be difficult in light of the housing market in the Jefferson City area. Housing prices and rental rates are very competitive with a greater demand for housing in outlying areas of the City and its fringes. Since the

[82] *Master Plan for the Deborah Cooper Riverfront Park on Adrian Island*, Booker Associates, 1990.

downtown area is so easily accessible from most parts of the region, the demand for downtown housing will likely remain relatively low.

The only way to have a significant impact on housing rehabilitation and new construction for the downtown area is for the housing product to have all of the amenities (including convenient parking) of contemporary housing and be price competitive. This will be difficult to achieve due to relatively high land prices and obsolete platting. The Chapter 353 redevelopment mechanism may provide an effective means to overcome these constraints. It has been used successfully in other cities in Missouri for both housing rehabilitation and new construction.

The proposal to convert vacant upper story space, in the retail core, to housing is a seemingly logical idea. After all, it used to be common in the "old days." However, even if the space were rehabilitated with all the amenities, there are practical difficulties in providing convenient 24-hour parking. Even if that could be overcome, the market "niche" for upper story units will likely remain small. Perhaps the greatest opprotunity for the use of upper story space in the retail core would be for offices.

- Further evaluate the siting and financing of a convention center.

Status: The Development Strategy Plan indicated a possible location for a convention center north of East McCarty Street and west of Missouri Boulevard. This site is currently being use for State government parking. It is also entirely within the 100-year floodplain of Wears Creek. Considering the flooding related problems encountered at the Capitol Plaza Hotel and the State Health Lab, which are in the same floodplain, building a convention center at the proposed site would present a serious obstacle.

In 1993, the voters of Jefferson City approved riverboat gaming. The riverboat casino developer, selected by the City Council, included in their development proposal the construction of a convention center. However, the convention center was not proposed for a downtown location, but rather on Southridge Drive, about 1-1/4 miles southwest of downtown. Subsequently the voters repealed riverboat gaming, causing this potential source of convention center financing to vanish. However, the City is continuing to explore options for establishing a convention center.

Other Accomplishments

Much of the streetscaping plan for downtown is complete along with replacement of many street light standards with historical lighting fixtures. The improvements proposed along Jefferson Street, from Lohman's Landing to the Rex Whitton Expressway have yet to be completed.

The completed improvements have done much to enhance the appearance of downtown. Additionally, several building owners have done a remarkable job of restoring building facades to their original architectural character. More of this kind of rehabilitation and restoration on the part of private property owners will help make the downtown a truely worthwhile destination.

Some of the State surface parking lots have well planned landscaping. Some of the City's parking lots have perimeter landscaping. However, more strategic landscaping of parking areas would further help the downtown appearance.

Summary and Conclusions

Much has been accomplished in the downtown area over the past several decades in terms of redevelopment and beautification. Particularly prominent is the expanded presence of State government facilities associated with the "West Capitol" projects. The only major state related redevelopment project not yet implemented is the redevelopment of the Missouri Highway and Transportation maintenance facility site, located between High and Main Street.

Still other opportunities exist for selective redevelopment, preservation and rehabilitation of historic properties, and strengthening the commercial base. Much of the future efforts to enhance the downtown will be to focus on the details and smaller development or restoration projects. Cooperation between the City, State, Housing Authority, and business community will continue to be important. The Development Strategy Plan provides many reasonable and achievable recommendations. Those recommendations, which relate to the Comprehensive Plan, should be incorporated into its update.

It is not anticipated that the land use element will recommend a development scheme for the downtown area that is substantially different than which is currently reflected in the Development Strategy Plan and the zoning code. The only exception to this would be the consideration of down-zoning certain residential areas (e.g., from commercial to residential) and the possible use of Redevelopment Overlay Districts (see the discussion of "ROD's" in the section of this chapter on the High/Chestnut Area).

CHAPTER 7
SOLID WASTE ISSUES

Introduction

This chapter of the Community Analysis contains an overview of solid waste management issues affecting Jefferson City and its environs. It is not the intent of the Comprehensive Plan Update to provide specific analysis and recommendations on solid waste management. However, it is important for the Plan (and zoning code) to recognize waste reduction issues and the new land use compatibility concerns associated with recycling centers, drop-off stations, transfer stations, and so on. Furthermore, planning policies can affect waste generation indirectly, through the promotion of more orderly and compact urban growth.

Recent History

State and Local Efforts

Serious solid waste management efforts in Missouri dates back to 1972 when the state legislature passed the Missouri Solid Waste Management Law. It was this law that accelerated the closing of open dumps in Missouri. Subsequent legislation contained further mandates in the area of resource recovery and methods of solid waste disposal. However, the most significant legislation passed in 1990 (Senate Bill 530), which sets out to significantly reduce the volume of solid waste generation through statewide resource recovery cooperative systems, including the establishment of regional solid waste management districts. Senate Bill 530 requires that each solid waste management district prepare a solid waste management plan to reduce the amount of solid waste disposed of into landfills by forty (40) percent by 1998. One of the key components of this disposal reduction goal was the prohibition of yard waste, tires, lead acid batteries, etc. from entering landfills, beginning in January of 1992.

In 1990, the City of Jefferson began to reevaluate solid waste management issues as well. As part of the Mayor's Long Range Planning Committee, the Solid Waste Sub-Committee examined

the solid waste issues and provided a number of recommendations.[83] Many of the recommendations have been implemented or are in progress.

In December of 1991, the Region "H" Mid-Missouri Solid Waste Management District was established and recognized by the state Department of Natural Resources (DNR). At that time, Cole County was not part of the district, but later joined in 1993. The district prepared a Solid Waste Management Plan for the eight (8) county region, including 25 municipalities having a 1990 population of over 500. This plan presents various alternatives and guidelines for use by participating counties and municipalities in developing solid waste management practices to meet the state goal of waste reduction of forty (40) percent by 1998.

The City Council of Jefferson City adopted a resolution in June, 1993 approving the Solid Waste Management Plan prepared by the district. Since then, the City has embarked on taking a proactive role in solid waste management, including entering into contracts with private waste management contractors to provide material collections for recycling and operation of the City's recently established composting facility. The key components of these solid waste management initiatives are outlined later in this chapter.

Market Trends

A key challenge for waste management is having a market for recycled materials. Both public and private initiatives are necessary for this market to develop sufficiently.

Private initiatives for buying recycled products have been catching on with private enterprises. In 1992, the "Buy Recycled Business Alliance" was established with a federal (EPA) grant. Today it is supported by corporate sponsors, the likes of which includes McDonald's and Fort Howard Corporation. Many may recall how McDonald's, in years past, was the target of ridicule for wasteful packaging. The Alliance, assists companies in establishing affirmative action procurement programs for recycled products. The scope of such programs include office items, such as recycled paper and toner cartridges, to re-refined oil, antifreeze and retreated tires for corporate fleets. Hewlett Packard takes the concept even further by providing customers the opportunity to return their used laser printer cartridges for recycling; shipping paid.

Another national recycling campaign is the "National Office Recycling Project," which operates under the Conference of Mayors in Washington, D.C. Hundreds of participants, including the EPA, have volunteered to increase paper recycling and purchasing of recycled products.

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[83] See "Final Report," Mayor's Committee for Long Range Planning, August, 1990.

Recycling advocates, however, note that much of the demand for recycled products is being driven by the efforts of local governments, chambers of commerce and community groups. Successful local efforts include, not only a means to collect recyclable materials, but also establishing demand for recycled products. Some local chambers of commerce are engaged in campaigns to get their members to purchase recycled products. Also, many cities nationwide have established procurement policies that gives preference to goods made with recycled content. In Missouri, Senate Bill 530 mandates that $1 million of the annual solid waste management fund be used for the development of markets for products made from recycled materials.

Current Status in Jefferson City

The City of Jefferson has taken several significant steps in furthering the efforts of solid waste management. In 1992, the City established a composting facility located off of Stadium Boulevard near Wears Creek. It was originally operated by the City, but is now operated by a private contractor as a drop-off site for yard waste. This contractor is responsible for processing yard waste, on-site operations, and marketing the compost.

In the Spring of 1994, the City contracted with a solid waste management contractor for both trash removal services and material collections for recycling services. The key components of this solid waste management contract includes:

- Curbside pickup of recyclable material for City residents and recycling collection opportunities for commercial, apartment complexes, and industrial generators.

- Establishment of a transfer center (or drop-off center), allowing for residents and businesses to drop off recyclable waste materials, including paper, plastics, glass and limited construction debris.

- Acceptance of household hazardous waste at the transfer station for a one-week period at least once every six (6) months.

- The contractor is responsible for the resale of recyclable material.

Future Considerations

Planners involved with solid waste know very well the "Not In My Backyard" (NIMBY) syndrome associated with locating landfill sites. Fortunately, this task will not be required until sometime after the year 2000. According to the Solid Waste Sub-Committee report, the landfill that receives waste from the Jefferson City area has capacity to accommodate waste well beyond the Year 2000. It appears that this computation of capacity was based on conditions prior to the passage of Senate Bill 530, thus the expected life of the landfill may be even longer.

In an effort to avoid the potential negative impacts of other solid waste handling facilities, the City revised its zoning code to control the location of various types of recycling facilities. For example, the new provisions permits "recycling collection stations" in the commercial and industrial districts so long as such collection stations are located within completely enclosed buildings and secondary to the principal use of the property. A "recycling center," which involves collection, storing, volume reduction and bundling, is allowed only in the "C-2," "M-1," and "M-2" districts. In the "C-2" and "M-1" districts, a recycling center requires a "conditional use permit." The more intensive category of "recycling processing plant" is permitted only in the "M-2" district, subject to the issuance of a conditional use permit. A recycling processing plant may include the machinery and/or furnaces for the melting, milling, cutting of metals, or similar industrial processes.

The City's solid waste management contract provides for the option of locating the recycling center (referred to as "transfer station") outside of the City Limits within 1-1\2 miles. However, locating the recycling center outside of the City may impede voluntary recycling, if it is inconvenient to get to. Additionally, the City does not have zoning authority in unincorporated territory, though through its contracting process may be able to ensure that mitigating negative impacts are incorporated into the facility design and operation. Remember that the City may inherit this land use via future annexations.

PART II: GOALS AND OBJECTIVES

CHAPTER 8
GOALS AND OBJECTIVES

Introduction

The goals and objectives listed herein have been developed to serve as a guide in preparing the various elements of the Comprehensive Plan. They are an outcome of the community analysis phase of the planning process which included a public participation workshop designed to obtain input from a cross-section of community representatives and individual residents.

Goals are generally defined as the ultimate aim towards which an effort is directed. The goals outlined below are broad to provide a general framework for which the City can strive to achieve. Objectives, on the other hand, are defined as an action directed to achieve the stated goal.

Some of the objectives developed to achieve the goals are not related to physical development of the City. They are included herein as they directly relate to the community's well being, though the actual follow-up to the objective will be accomplished under various City programs.

Overall Goals

There are several overall goals of the City's Comprehensive Plan and they serve as the fundamental basis for adopting the Plan. Decisions made with regard to development should be based on achieving the following goals:

- ***Promote and protect public health, safety and welfare of the City residents.***
- ***Protect and enhance the local economic, recreational and cultural climate.***
- ***Provide for an appropriate amount and arrangement of land uses for the future expansion of the City.***
- ***Conserve natural resources and promote the preservation of open space throughout the community.***
- ***Efficiently provide for essential and desired public services and utilities.***

Constant pursuit of these overall goals during the development process will help to maintain and enhance the quality of life for the residents of Jefferson City. These general goals are expounded upon in the following list of specific goals and objectives.

Land Use

Goal

Promote, preserve and enhance the residential areas within the existing city limits and unincorporated areas adjacent to the City.

Objectives

1. Consider consolidation and refinements to the existing City codes related to minimum property maintenance and appearance. In addition, consider incorporating an occupancy permit requirement for existing residential housing units. Occupancy would be contingent on passing an inspection with respect to building code and minimum property maintenance code regulations.

2. Develop specific zoning code provisions for minimum setback/buffer requirements where residential development occurs adjacent to commercial or industrial zones. (See also the objective requiring the same when commercial development occurs next to residential areas).

3. Consider amending the residential zoning district provisions from a "pyramid" system of allowable residential densities to "express purpose" residential uses. Use the planned development district provisions of the zoning code to review and approve mixed-density residential developments in the future. (See the section on the "High/Chestnut Area," in Chapter 7, for a discussion of the pit-falls of pyramid zoning).

4. Plan for appropriate amounts of the various residential densities and arrange future development areas to minimize conflict among density levels. For instance, multi-family (high density) areas should have direct access to the arterial street system. In general, residential densities should transition from high to low and access to/from high density through low density areas should be avoided. Buffers should be provided between multi-family and adjoining single family areas. Also, avoid allowing single-family lots to front onto arterial streets.

5. In older residential areas of the City that have been designated for more "intense" uses in previous plans and/or the current zoning code, consider "down zoning" properties to be more consistent with existing land uses.

6. Also, while the Comprehensive Plan Update may propose new uses for existing developed areas, consider employing "redevelopment overlay" zoning districts as a means to effectuate the transition. This objective is intended allow the transition to "higher" land uses in the future, but in a consolidated and planned fashion. Piecemeal redevelopment of individual properties should be discouraged. (See the section on the "High/Chestnut Area," in Chapter 7, for an explanation of this zoning technique).

7. Continue to allow home occupations in residential areas, but clarify performance standards to ensure that such operations do not detract from the residential character of the neighborhood in which they are located. With appropriate performance standards, the City should be able to include home occupations as a "permitted" use in residential zoning districts and omit the current requirement for a "conditional use permit."

8. Pursue extra-territorial jurisdiction over zoning in Cole County. Also, pursue extra-territorial jurisdiction over zoning, subdivisions and buildings in Callaway County. Such extra-territorial jurisdiction (up to 2 miles from the existing City limits) is now authorized by State enabling legislation, though it must be approved by the respective county commissions.

9. Link residential areas with pathways and greenways (see Goals and Objectives on Transportation, and Parks and Recreation).

Goal

Encourage the strengthening of existing commercial areas and the development of new business areas at locations appropriate for such uses which would not conflict with residential areas.

Objectives

1. Designate in the Plan, appropriate amounts and location for new commercial and office type development. In as much as practical, avoid extensive "strip" commercial development along arterial streets. Rather, establish commercial "nodes" at strategic locations to service existing and emerging growth areas. These nodes should be located and sized based on "trade" or "market" areas; for example:

- neighborhood centers = ± 1 mile radius market area;
- community centers = ± 3 to 5 mile radius market area; and
- regional centers = City wide and beyond market area.

Within the horizon of this Comprehensive Plan Update, the Capital Mall area should serve as the primary "regional" commercial center.

2. Continue efforts to enhance the downtown area as an attractive retail and office center of the region. Build upon the historic qualities of the retail core area, including restoration of building facades to reflect their period of architecture. Also, establish a more formalized line of communication with the State government, with respect to their development activities in the downtown area, and continue to coordinate with the Jefferson City Housing Authority with respect to Progress Urban Renewal Area.

3. Plan for commercial redevelopment to service existing population concentrations within the older sections of the City, including the expansion of the downtown area. However, ***do not*** pre-zone existing non-commercial properties. Commercial redevelopment should only be allowed only if sufficient parcels can be assembled and planned in such a way as to allow for adequate off-street parking and to minimize negative impacts on adjacent residential areas. (See the section on the "High/Chestnut Area," in Chapter 7, for a discussion of the problems associated with "pre-zoning" existing developed areas).

4. Restrict the conversion of existing residential structures to commercial uses within commercially zoned districts by requiring such conversions meet all applicable building code requirements for commercial structures and meet parking, setback, and other zoning requirements. Also, consider amending the zoning code to require that the residential character of the structure be maintained, including more restrictive signage.

4. Allow for mixed commercial/residential development wherein the permitted commercial uses would be limited to those serving as a neighborhood convenience. This could be accomplished via commercial redevelopment in existing neighborhoods (see objective number 2 above) or the PUD process for new developments.

5. Consider strengthening the zoning code to limit outdoor storage of merchandise, equipment, etc., and/or provide for screening of such outdoor storage.

6. Consider limited commercial development (i.e., hotel/motel and transient oriented retail) in the vicinity of the Highway 54/63 interchange with Cedar City Drive. Compliance with the City's Floodplain regulations will be required for any new development within this area.

Goal

Establish appropriate standards to minimize impacts of commercial uses on surrounding properties and street network.

Objectives

1. Develop specific zoning code provisions for minimum setback/buffer requirements where commercial development occurs adjacent to residential zones. Also, expand on-site landscaping requirements, particularly for parking areas.

2. Consider increased regulatory control over the location of motor vehicle oriented businesses such as fast food restaurants, gas stations, convenience stores, quick-lube enterprises, etc. (See the section on "Commercial" uses in Chapter 3 for a discussion of strip commercial development and motor vehicle oriented businesses).

3. In reviewing and approving future commercial development or redevelopment projects, require, as appropriate, cross-access agreements to improve internal traffic movement between commercial properties. (See the section on "Commercial" uses in Chapter 3, for a discussion of traffic problems associated with strip commercial development).

4. Enforce stormwater run-off regulations including situations where existing commercial operations, that do not conform to current standards, intend to expand or there is a change in the use of the property. (See Goals and Objectives on Utilities).

Goal

Promote, preserve and enhance industrial areas within the existing city limits and unincorporated areas adjacent to the City.

Objectives

1. In as much as resources will permit, provide for a variety of "development ready" sites in terms of size, utilities and access to arterial/state highways and access to rail.

2. Continue to support the development of the Algoa Industrial Park, located east of the current City limits off of Highway 50/63. However, any capital expenditures for infrastructure improvements, by the City for this industrial park, should be predicated on an annexation agreement.

3. Examine the cost/benefit of developing an industrial park adjacent to the airport, as indicated on the draft Airport Layout Plan. Costs to consider would include compliance with floodplain regulations under the scenario that a 100-year flood event levee will not be built.

Goal

Achieve maximum land use compatibility with existing and future airport operations.

Objectives

1. The Comprehensive Plan should propose compatible future land uses in proximity to the airport.

2. Absent extra-territorial jurisdiction, coordinate with Callaway County on future land development in unincorporated areas that may be affected by clear zones, height restrictions and noise associated with the ultimate airport configuration.

Transportation and Traffic

Goal

Provide for a system of arterial and collector streets to enable a safe, efficient and non-congested means for vehicular traffic flow.

Objectives

1. Continue to implement the "Thoroughfare Plan," prepared in 1988 for the City of Jefferson by Larkin Associates. The key proposed arterials include:

    a. Extension of Highway 179 from Highway 50 to Route B (state project).

b. Extension of Edgewood Drive from Stadium Boulevard to South County Club Drive.

c. Extension of Wildwood Drive, south to Rock Ridge Road.

d. Improvements and partial realignment of Southridge Drive.

e. Realignment of Dix Road to Southwest Boulevard.

2. Coordinate with the Missouri Highway and Transportation Department with respect to the conversion of Highway 50/63 into a controlled access highway. In addition to the programmed grade-separate interchange at Eastland drive, negotiate for the provision of a second interchange to provide access to/from the eastern section of the City (preferably at City View Drive). (See the section on "East McCarty Street Area" in Chapter 7, for a discussion of traffic issues in this area). In conjunction with securing an interchange to serve the eastern area of the City, work with the Highway and Transportation Department to provide an interchange with Shamrock Road, located east of the Moreau River. Such an interchange would provide direct access to the landfill serving the Jefferson City area, and provide a secondary access to the Algoa Industrial Park.

3. Limit the number of future access points along arterial streets and encourage consolidation of existing access points whenever feasible. Along future arterial streets (i.e., Edgewood Drive extension), access points should be limited to collector streets serving multiple lot developments.

4. As new residential subdivisions are platted adjacent to arterial streets, discourage layouts that have individual lots fronting into an arterial street. Similarly, discourage plat layouts that have residential lots fronting major collector streets in as much as possible.

5. Provide for a system of collector streets to channel traffic to/from future development and the arterial street system. The proposed collector streets, indicated in the 1988 Thoroughfare Plan, are valid alignment proposals. Other conceptual alignments should be incorporated into the Comprehensive Plan Update as well.

6. Via the subdivision review and approval process, ensure that collector street extensions are provided for where appropriate. Avoid approving subdivision designs that inhibit future adjacent developments (i.e., provide for collector street "stubs").

7. Also, via the subdivision review and approval process, encourage the establishment of right-of-ways or easements for pedestrian pathways and greenways which would further the goals and objectives of the Greenway System Plan.

8. Explore ways to ensure that a portion of the cost of maintaining the current "level of service" of the planning area's street network is paid by new development.

9. Work with Lincoln University in accommodating campus-related vehicular traffic. Specifically, explore ways to improve traffic circulation and minimize pedestrian/vehicular traffic conflicts on Chestnut Street, between East Dunklin Street and Leslie Street. Also, explore the establishment of an alternative access (i.e., from Highway B) to the research facilities currently accessed via Green Meadow Drive.

Goal

Enhance alternative surface transportation for Jefferson City area residents and reduce the reliance on personal motor vehicles.

Objectives

1. Continue to improve and refine the Jefftran transit service through the implementation of the Transit Improvement Plan.[84] See this updated Plan for more specific goals and objectives regarding the transit system.

2. Coordinate with the Missouri Highway and Transportation Department in preparation of Transportation Improvement Plans (TIP's) under the requirements of the federal Intermodal Surface Transportation Efficiency Act (ISTEA). As appropriate under the federal guidelines, seek funds to implement elements of the Transit Improvement Plan and to build a network of pedestrian/bicycle trails. (Also see the immediately following Goal and Objectives).

Goal

Establish a comprehensive network of pedestrian/bicycle routes connecting various parts of the City to key destination points (i.e., parks, Lincoln University campus and commercial areas).

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[84] *Jefferson City Transit Study, Transit Improvement Plan*, City of Jefferson Missouri, Richard C. Powell, February, 1994.

The intent of this goal is to, in as much as possible, separate motorized vehicular traffic from pedestrians/bicyclists and provide additional outdoor recreation opportunities throughout the community. (Also see the Goals and Objectives for Parks and Recreation).

Objectives

1. Implement the "Greenway System Plan," prepared by the Parks and Recreation Advisory Committee in 1991, or a modified version of it.

2. Consistent with the objectives of the Greenway System Plan, provide separated pedestrian/bicycle paths along arterial streets where adequate right-of-ways already exist or could be acquired and incorporate appropriate safety measures at intersecting driveways, streets, etc.

3. Provide connector pathways from the proposed arterial pathways to the various city neighborhoods via existing and new sidewalks or posted route signage on low traffic volume streets.

Goal

Improve and expand the Jefferson City Memorial Airport to correct existing deficiencies in safety, capacity/operational ability and to meet future general aviation requirements within the Jefferson City area.

Objectives

1. Continue to participate in the MHTD, Aviation Department "Capital Improvement Program" and the FAA "Airport and Airways Improvement Program" to assist in funding land acquisition and construction activities associated with the Airport Layout Plan (pending FAA approval).

2. Work with Callaway County officials to encourage the County to adopt land use policies and structure height restrictions that respect the ultimate airport configuration.

3. Consider building a fire station, complete with more advance airfield fire fighting equipment. Such a facility could serve a dual function -- aircraft emergencies and traditional fire protection service for the north Jefferson City area. Any significant future annexation to the north would contribute to the necessity and feasibility for such a facility.

Utilities

Goal

Efficiently utilize existing utility capacities and provide for system improvements and extensions to serve existing and new development.

Objectives - Water Systems

1. Share with the United Water Missouri and the public water supply districts land development policies per the Comprehensive Plan Update. Encourage these entities to utilize the Comprehensive Plan as a guide for their own long range planning.

2. Consider establishing a formal policy or regulations in the City's subdivision code, that would require certification that subdivision improvement plans have been submitted for review to the United Water Missouri or other applicable water district.

3. Pursue the re-establishment of franchising requirements for water utilities using City rights-of-ways, which would include a consistent set of public service standards and standardized methods for relocation of utilities. Franchising requirements should apply to all utilities utilizing City rights-of-way.

5. Revise the capital improvements program for water system improvements in north Jefferson City to take into account a considerable reduction of residential connections, due to irreparable flood damage and resulting demolition/removal. Concentrate on providing sufficient supply to existing industry and limited new non-residential development that can comply with City's floodplain regulations (absent a levee being built).

Objectives - Sanitary Sewer

1. Reinforce coordination procedures between the Department of Public Works and the Department of Planning and Code Enforcement with respect to current and long-term development planning issues.

2. Notwithstanding new connections in existing unincorporated area subdivisions, provisions of the agreement with Holts Summit, and other limitations imposed by law, revise sewer extension and connection policies to require annexation or an annexation agreement. Such

policies would serve to encourage more compact urban growth of the Jefferson City planning area and enable more efficient provision of other public utilities and services.

Objectives - Stormwater Drainage

1. In light of the approximately $6 million expended on stormwater drainage improvements and other required improvements and maintenance, reconsider establishing a public stormwater utility entity (as proposed in the 1986 Stormwater Management Plan). Such a utility would have the authority to levee a tax for operations and maintenance and/or issue bonds to finance capital improvements. In conjunction with this reconsideration, examine the merits of combining this utility with the sanitary sewer utility. If substantial control of a stormwater utility (or combination storm/sanitary utility) can be maintained by the City, the opportunity for development control could be enhanced. Such a utility should establish extension/connection policies and minimum design standards within the boundaries of the utility district.

2. Clarify and rigorously enforce existing stormwater drainage regulations. Consider establishing a requirement for private property owners (including subdivision associations) to maintain non-public stormwater improvements (i.e., retention/detention). As part of the trust indentures, that should be required as part of a subdivision plat that includes such common facilities, require the inclusion of a right of access agreement authorizing the City to access such facilities and maintain them, in the event the subdivision association fails to do so. Such a right of access agreement should be set up to enable reimbursement of expenses to the City (i.e., tax lien).

Parks and Recreation

Goal

Continue to provide for a wide range of quality recreational opportunities (indoors and outdoors) and improve/expand City recreational facilities per the needs/desires of City residents. In striving to achieve this goal, recognize the demand for recreational facilities presented by the nearby non-resident population.

Objectives

1. To the extent possible, annex portions of the planning area containing existing population concentrations and/or review fee structures for non-residents for potential increase. Pursuit of this objective is intended to obtain additional property tax revenue that these areas can provide or earn additional user fee revenues from non-residents in order to support the Parks and Recreation Department budget and add/expand facilities to fulfill the demand which is created by non-residents.

2. As an alternative to the objective above, consider the option of providing recreation services to unincorporated areas under the provisions of Missouri House Bill 1192/1200. This Bill enables non-residents to petition the City Council to utilize City parks and recreation facilities. Such access may be permitted, subject Council approval and non-resident approval (via election) of a property tax to pay for use privileges.

3. Develop a targeted capital improvements program to construct facilities where the demand exceeds the capacity of existing facilities. This includes facilities for activities such as tennis courts, playgrounds (which might double as practice fields), picnic tables and/or shelters, racquetball courts, baseball fields, soccer fields, multi-purpose trails, and a golf course.

4. Implement the "Greenway System Plan," to meet the high demand for walking, jogging, and bicycling activities. The trail system would link City parks and residential neighborhoods and provide a safer means of pedestrian and non-motorized vehicular traffic. (Also see Goals and Objectives for Transportation and Traffic).

5. Whenever safe and practical, encourage the aesthetic and recreational use of utility easements and facilities (e.g., storm water retention facilities), including utilizing linear easements to further the objectives of the Greenway System Plan.

6. Examine ways to utilize riverfront and floodplain areas for limited recreational activities and wildlife conservation. Active recreation facilities would include such facilities that would be minimally impacted by floods of a 100-year frequency or less (i.e., baseball, softball, soccer, etc., with limited permanent ancillary facilities). Such active recreation facilities should be considered as an alternative for reuse of the north Jefferson City area. Developing passive recreation opportunities would include creating a stronger link between the downtown area and the riverfront, as was one of the objectives of the Adrian Island Development Plan. However, in light of the damaging effects of the flood of 1993, abandon the proposals for significant facility construction and consider only limited development of passive recreation facilities on the island (i.e., nature preserve and interpretive trails).

Other Public Facilities

Goal

Maintain a high standard of other public facilities in support of the safety, health and welfare of community residents.

Objectives

1. Develop a cooperative relationship with the Jefferson City School District, whereby the City and the School District share any relevant database maintained by either entity. For instance, the City could provide information on residential building permits by location which would assist the District in their own facility planning. Similarly, the School District could share information on enrollment trends and projections which would assist the City in monitoring development trends and planning for recreation facilities or programs for certain age groups.

2. Utilize the Comprehensive Plan as a basis for the planning of expansion/improvement of fire protection and life safety facilities/equipment in order to service emerging growth areas and to maintain or improve upon the City's fire protection ratings.

3. Involve all City departments, including the Police Department, in examining annexation proposals, so that all costs of geographically expanding municipal services are considered.

Environment

Goal

Preserve the natural environment as much as reasonably possible during the urban development process.

Objectives

1. Encourage site development techniques that are sensitive to natural features such as wooded areas, drainage channels, steep slopes, wetlands, etc.

2. Encourage the retention of natural areas and open space through the implementation of the Greenway System Plan and establishing of conservation areas.

3. Implement the City's street tree program as an urban forestry activity which enhances environmental quality.

4. Strictly enforce the provisions of the City's floodplain regulations and maintain compliance with the Federal Emergency Management Administration flood protection program.

5. Cooperate with other units of government in advancing solid waste management plans, including the following:

   a. Disposal and reuse/resale of yard waste.

   b. Develop informational and promotional programs to encourage recycling on a community-wide basis, including the business community.

6. Maintain awareness of Federal and State EPA regulations and permitting requirements on air emissions, sewer effluent, and hazardous waste handling/disposal.

PART III: DEVELOPMENT PLAN

CHAPTER 9
LAND USE AND MAJOR STREET PLAN

Introduction

This Chapter is the first of four chapters contained under Part III, "Development Plan." It presents the proposed general arrangement of future land uses and major streets within the Jefferson City planning area. The subsequent chapters, under the Development Plan component, present the Sub-Area Plans, the Parks and Recreation Plan, and Implementation. In aggregate, the Development Plan proposals reflect the goals and objectives, presented in Part II of the Comprehensive Plan Update. Most of the proposals relate to physical development issues; however, by following the Development Plan guidelines, it will assist the City in achieving other "quality of life" objectives.

Land Use

The Development Plan proposes a variety of land use types and intensities to meet the future development requirements of the planning area (see Plate 8). In general, the arrangement of the land use proposals were based on existing land use, physiographic conditions, supporting infrastructure, and existing and proposed street/highway network. The Development Plan map is color-coded to indicate the following land use types:

Low Density Residential (yellow): Detached single family residential dwellings on individual lots, and equivalent to the current RS-1, RS-2, and RS-3 zoning districts (15,000, 10,000, and 8,000 square foot lot minimum respectively). In areas not serviced by advanced sanitary sewer collection and treatment systems, the lot sizes would be considerably larger than the RS-1 minimum;

Medium Density Residential - Detached Single Family (tan): Detached single family residential on small lots (equivalent to the current RS-4 zoning district having a 6,000 square foot lot minimum).

Medium Density Residential - Attached Dwelling Units (orange): Two-family residential dwellings (equivalent to the current RD zoning district) and other forms of medium density

residential development (e.g., attached single family and townhouses) not exceeding a density of 3,000 square feet of lot area per dwelling unit;

High Density Residential (brown): Multi-family dwellings (e.g., apartments) equivalent to the current RA-1 and RA-2 residential zoning districts (2,500 and 1,500 square feet per dwelling unit minimum respectively);

Commercial (red): Commercial development, including retail, service, and office uses;

Industrial (purple): Industrial development, including manufacturing and warehousing;

Parks and Recreation (green): Park lands, golf courses, larger parcels zoned "RC" Conservation, and the KATY Trail;

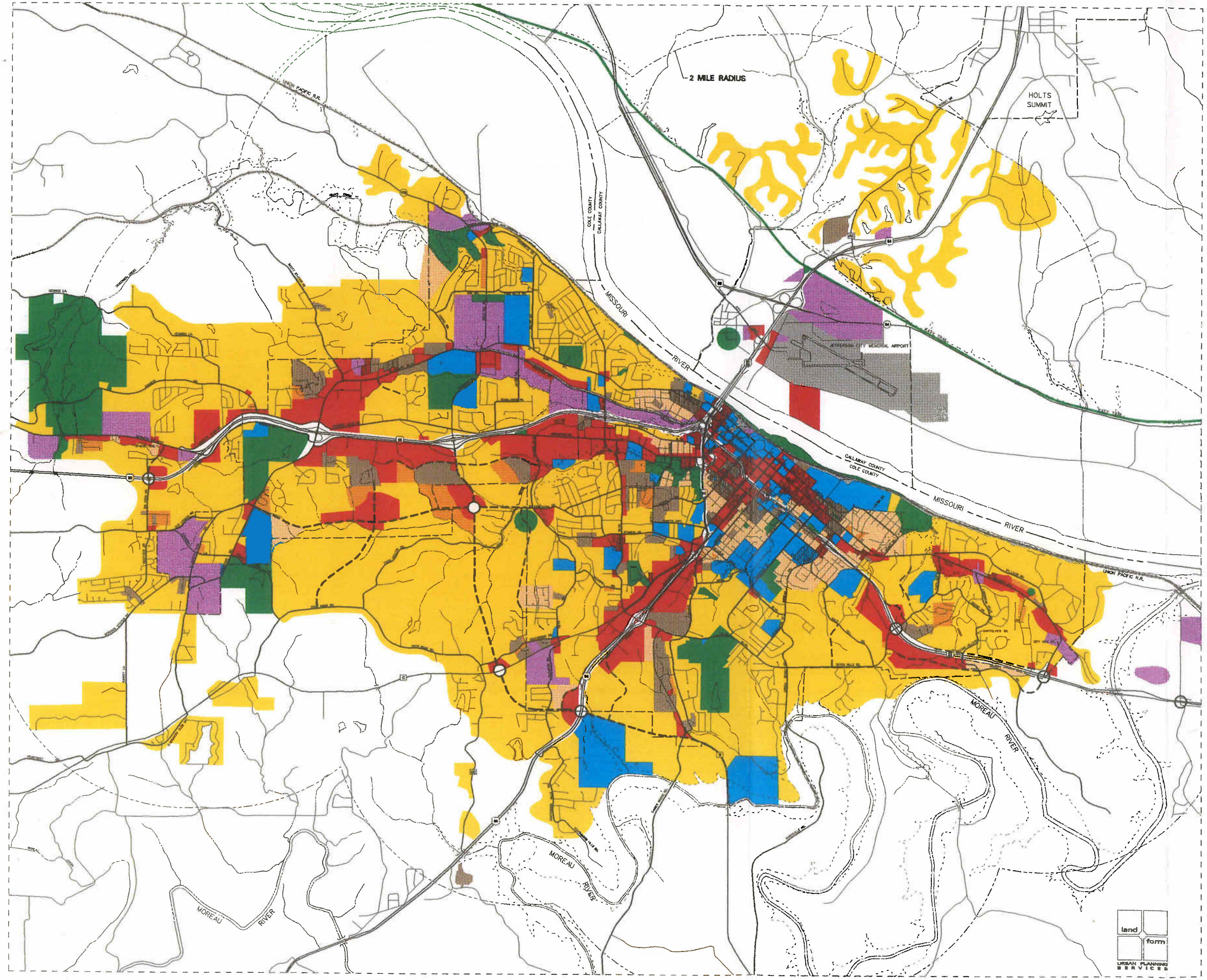
Public and Semi-Public (blue): Lincoln University, State-owned land, churches, cemeteries, and the like;

Transportation - Aviation & Rail (grey): Land area included within the ultimate boundaries of the Jefferson City Memorial Airport and active railroad right-of-ways; and

Rural (no color): Land remaining in primarily an undeveloped state, but including rural residential properties.

The Development Plan was prepared with the objective of guiding growth in an orderly and more compact fashion. Even with this objective in mind, the Development Plan provides significantly more land area, for accommodating future development, than the projected requirement for the planning horizon. The amount of land covered by all of the land use proposals amounts to nearly 26,000 acres, including existing developed acreage (see Table 36). In total, the Development Plan provides for nearly 11,000 acres for future urban growth.

However, not all of this land designated for urban expansion is ideal for development (e.g., steep slopes, floodplain, and availability of all utility services in close proximity). Assuming that one-half of this 11,000 acres designated for future development is poorly suited or unavailable for such development, the resulting amount of proposed area for land development would still be more than double the projected requirement of approximately 2,300 acres (see Table 23).



DEVELOPMENT PLAN

- Low Density Residential
- Medium Density Residential (Detached)
- Medium Density Residential (Attached)
- High Density Residential
- Commercial
- Industrial
- Parks & Open Space
- Public & Semi Public
- Transportation (Aviation & Rail)
- Redevelopment Overlay
- Proposed Arterial Street/Highway
- Proposed Major Collector Street
- Proposed Interchange

Graphic Scale in Feet

0 1600 3200 4800 6400

City of
Jefferson, Missouri

Comprehensive Plan Update | January 1996 | Plate 8

Table 36
Proposed Land Use
Jefferson City Planning Area

Land Use Category	1992		Proposed		Total	
	Acres	Percent of Total Area	Acres	Percent of Proposed Development	Acres	Percent of Total Area
Residential:						
Low Density (Detached Single Family)					11,394	18.7
Medium Density (Detached Single Family)					631	1.0
Subtotal Detached Single Family [85]	*5,660*	*9.3*	*6,365*	*58.7*	*12,025*	*19.8*
Medium Density (Attached Dwellings)	175	0.3	78	0.7	253	0.4
High Density (Multi-Family)	355	0.6	295	2.7	650	1.1
Subtotal Residential	*6,190*	*10.2*	*6,738*	*62.2*	*12,928*	*21.2*
Commercial	832	1.4	936	8.6	1,768	2.9
Industrial [86]	756	1.2	163	1.5	919	1.5
Public/Semi-Public	1,205	2.0	111	1.0	1,316	2.2
Parks & Recreation	1,402	2.3	287	2.6	1,689	2.8
Transportation - Aviation & Rail [87]	632	1.0	348	3.2	980	1.6
Street & Highway Right-of-Ways	3,947	6.5	2,253	20.8	6,200	10.2
Total Developed Area	**14,962**	**24.6**	**10,836**	**100.0**	**25,800**	**42.4**
Undeveloped/Agricultural/Water	45,901	75.4			35,063	57.6
TOTAL AREA	**60,863**	**100.0**			**60,863**	**100.0**

[85] 1992 acreage includes mobile home residential (146 acres).

[86] Proposed industrial acreage does not include the majority of the Algoa Industrial Park because it is outside the map image area.

[87] The 1992 acreage figures include communication and utility land uses.

This excess of future land use proposals ensures sufficient flexibility in development opportunities. However, in observing the Plan, one can see that urban growth can be accommodated within a relatively short distance from the current urbanized areas. The Development Plan discourages remote, "leap-frog" development, even if such development could be serviced by public water and sanitary sewer facilities.

The following narrative summarizes the Development Plan proposals by land use category.

Low Density Residential

Low density residential land uses comprise the majority of proposed development. This is consistent with the fact that such development currently takes up most of the developed land area within the planning area. In 1992, single family residential land uses comprised of nearly thirty-seven (37) percent of the "developed" land within the planning area.

The Development Plan proposes a total of approximately 11,400 acres of land for low density residential land uses, which equates to approximately 42 percent of the proposed developed area. This increase, in the proportion of low density residential to the total developed area, accounts for the trend towards single family lots which are considerably larger than such lots that were developed decades ago.

The amount of acreage, proposed for low density residential, is significantly more than that required to meet estimated demand for such land use. However, as described previously, this ensures flexibility in development options. In as much as the Development Plan is a "policy" document, it simply is intended to guide low density residential development to those areas indicated on the plan, if and when it happens. In addition, the specific location and timing of such development will be predicated on the ability to service the same with the necessary utilities.

Medium Density Residential - Detached Single Family

This category includes small-lot, detached single family dwellings (e.g., per the RS-4 district lot size standards). Much of the area indicated on the Development Plan as medium density residential (detached single family) is existing small lot single family residential areas within older residential neighborhoods. Additional small lot detached single family residential land uses are also proposed in portions of the planning area that are currently undeveloped. These areas are proposed in order to provide for additional "RS-4" type development. They are located to serve as a transition between higher intensity land uses and low density residential areas. In total, there are approximately

630 acres of medium density detached single family residential land uses proposed in the Development Plan. Of this amount, approximately 115 acres would be future (new) development.

Medium Density Residential - Attached Dwellings

This designation includes two-family dwellings, attached single family and townhouse type dwellings. These areas are also located to serve as a transition between higher intensity land uses and low density residential areas. In total, there are approximately 250 acres of attached single family residential land uses proposed in the Development Plan. Of this amount, approximately 140 acres would be future (new) development.

High Density Residential

The type of residential development under this land use category would include apartments or condominiums, with a maximum density ranging from 2,500 to 1,500 square feet of land area per dwelling unit (e.g., per the RA-1 and RA-2 zoning district standards). Also included in this category would be senior citizen type residential developments, ranging from independent living apartment dwellings to comprehensive nursing care facilities.

The Development Plan proposes "new" high density residential development in areas with access to arterial and major collector streets. In some cases, such areas are located so as to provide for a transition between commercial uses and lower density residential areas. High density residential areas were also located to avoid traffic, from this higher density land use, through low density residential areas.

However, there are instances where the foregoing planning precepts have been waived. Some of the areas within the older residential neighborhoods have been slated for future high density residential development in accordance with past planning policy and the zoning code. Where high density residential has been developed to a significant degree, this Development Plan is consistent with past planning policy and the zoning code (see also the discussion under "Implications on Zoning," later in this Chapter).

Of the 650 acres of high density residential development indicated on the Plan, about 200 acres would be "new" development on currently undeveloped land. In addition, approximately 100 acres would involve redevelopment of existing developed properties, which in most instances are currently developed with lower density residential. Again, the amount of land area designated in the Development Plan for high density residential is significantly higher than the projected requirement

for this land use category. This ensures that adequate development options will be available for high density residential development.

Commercial

To a large degree, proposed commercial land uses reflect current city zoning district designations. The Development Plan does not distinguish between the types of commercial development (e.g., office, neighborhood, general retail, etc.) The Plan is generalized in this respect, because it is long-range in scope. As future commercial development proposals arise, within areas that are currently zoned for commercial, then the applicable commercial district regulations will more specifically dictate the type and intensity of use. In instances where rezoning to a commercial district is proposed, then the Development Plan should serve as a guide. However, such rezoning requests should be examined in terms of its appropriateness for its location, including assessing its impact on the surrounding areas and street network.

Expansion of some of the existing commercial zones have been proposed where appropriate from a planning standpoint, including redevelopment adjacent to the downtown area. Some new commercial development "nodes" have been added as well, to provide for such development opportunities as the retail, service, and office markets grow in the outer reaches of the proposed urban area. Of particular note are the commercial nodes proposed in the vicinity of proposed highway interchanges, which afford access from local trade areas and "through-traffic" trade.

Topographic conditions were taken into account in siting these proposed commercial areas. This is one reason why commercial development is not proposed on all four quadrants of existing or proposed highway interchanges.

The total land area proposed for commercial land use is approximately double that of the existing acreage developed for such land uses within the planning area. While this amount of acreage is considerably more than necessary to meet projected demand, it provides for flexibility in commercial development options and accounts for the topographic conditions. While steep slopes were avoided in planning for future commercial development, topographic conditions make it difficult, in many situations, to fully utilize sites for such land uses.

This over-supply of proposed future commercial land use should also be considered as a legitimate reason to deny rezoning requests which are inconsistent with the Development Plan. The City should hold firm on this land use policy, and deviate from it only when it can be demonstrated that a particular commercial development proposal is a result of circumstances not anticipated in this Comprehensive Plan Update, and which are consistent with the goals and objectives of this Plan.

Industrial

Over 160 acres of new industrial development is proposed in the Development Plan (see Table 36). This amount of land is only 45 acres over the projected long-term requirement (see Table 23). However, the proposed new industrial acreage figure does not include existing quarries, nor the new Algoa Industrial Park, located east of Jefferson City, off of Highway 50/63. This industrial park will be capable of accommodating at least some of the future demand for industrial sites within the Jefferson City planning area.

The existing quarries, which are classified as "industrial" in the existing land use inventory, present problems for the Development Plan. Reuse of quarries for urban development is very limited. Reuse of these lands for industrial or potentially obnoxious land uses would not be desirable, because of their proximity to the residential growth areas. Therefore, the proposed land use for the existing quarries is low density residential, which simply reflects the existing and/or future prevailing land use in the vicinity of them. Inasmuch as these quarries could be used for office-type uses or other relatively low intensity non-residential uses, then such should be considered. Access and traffic generation would need to be carefully evaluated to ensure the proposed non-residential development would not unduly impact nearby residential areas.

On the Cole County side of the planning area, most of the proposed industrial acreage is comprised of either existing industrial development or vacant property which is industrially zoned. Much of this acreage is located within the existing City limits. To the west of the City, on the north side of Business Route 50 West, is a relatively large area proposed for industrial use. The ground in this area is relatively level, and several light industrial uses have already been established at this location.

On the Callaway County side of the planning area, most of the proposed industrial acreage is located in the area north of the airport and east of Highway 54/63. If the proposed levee is built, this area would be afforded protection from 100-year frequency floods. Otherwise, future industrial development sites, or portions thereof, would have to be elevated.

Parks and Recreation

In 1992, there were approximately 1,400 acres of parks and recreational land within the planning area, of which 1,134 acres were (and still is) owned by the City. Nearly 290 additional acres are proposed for parks and recreation land use. When combined with existing parks and recreational land, the total amounts to nearly 1,690 acres. This amount of parks and recreation acreage would yield a ratio of nearly 28 acres per 1,000 population, using the year 2010 "moderate"

population projection for the planning area (see Table 16). Comparing 1990 population to the 1992 parks and recreation acreage yields a ratio of approximately 27 acres per 1,000 population.

Most of the expanded acreage for parks and passive recreational open space is associated with the proposed expansion of Hough Park, a proposed new community park located southwest of West Edgewood Drive and Stadium Boulevard, a park in the north Jefferson City area and the Adrian Island/riverfront park development. The proposed acreage figure does not include that which would be associated with the proposed Greenway trail system (see Chapter 11). Some of these trails would be off-street, in natural settings, which offer additional recreational opportunities.

Parks and open space acreage is just one element of the City's parks and recreation planning program. Specific parks and recreation facility proposals are presented in more detail in Chapter 11 of this Comprehensive Plan Update.

Public and Semi-Public

Public and semi-public land uses include schools, churches, Lincoln University, State government facilities and other public facilities. Even though the Development Plan indicates an increase in this land use category, the quantification of such proposed land uses is not very meaningful. For sake of clarity, the Development Plan does not display, or quantify, small parcels developed with churches or other smaller semi-public land uses. In most, if not all circumstances, these land uses would be permitted anyway within the zoning district in which they are located.

The most significant proposal involving the public and semi-public land use category is the expansion of Lincoln University. This Development Plan reflects the Campus Master Plan for Lincoln University which proposes an expansion of the campus towards the east into an existing residential neighborhood. This expansion area is generally bounded by East Dunklin Street, Clark Avenue, East Atchison Street, and Atchison Court. The University proposes redevelopment of this area for expansion of academic facilities, student housing, a multi-purpose auditorium, and parking facilities.

The Development Plan is supportive of this long-term expansion proposal. However, it is important that it be implemented in a manner that does not occur in a piecemeal fashion. Furthermore, it will be imperative that off-site street improvements be budgeted as part of the expansion to accommodate increased traffic flows to and from the campus, and particularly the proposed multi-purpose auditorium.

Transportation (Aviation & Rail)

For sake of clarity, the Development Plan displays only the airport and railroads as a future land use category. The Existing Land Use Map (see Plate 1) also displayed communication facilities (e.g., radio transmission towers) and utility facilities (e.g., stormwater detention basins and electrical substations). Hence, the "proposed" acreage for this land use category, as indicated in Table 36, is slightly exaggerated. With this understood, the majority of the proposed increase in this land use category is associated with the planned expansion of the Jefferson City Memorial Airport. The Development Plan reflects the ultimate airport boundaries, as delineated in the Airport Layout Plan.

Rural

The rural land use category includes the land area within the planning area that is proposed to remain undeveloped. However, it includes rural residential land uses such as homes located on very large tracts of land that are principally used for agricultural purposes or undeveloped. In some cases, the residential uses are actually located on smaller subdivided tracts, but nevertheless, are within a rural setting.

Portions of the area that are proposed to remain rural could be serviced by the City's sanitary sewer system (e.g., via the Grays Creek trunk sewer). Although such utility service is potentially available to rural properties, it is premature to encourage development in these rural areas. The objective of the Plan to guide future development in a more compact and efficient manner should be adhered to. There may be instances where the limits of the proposed urbanized area could be expanded from that shown on the Plan. However, any such proposal to do so should be carefully considered with respect to meeting the spirit and intent of the Plan.

Implications on Zoning

Zoning should be based on a sound and rational plan for a community. If one were planning a new community, the follow-up zoning regulations and delineation of zoning districts would be relatively easy. However, when dealing with a community that was already partially developed prior to the advent of zoning, the task is much more complicated. As the Community Analysis revealed, the City's zoning has largely been a reflection of prior comprehensive plans that envisioned that certain existing developed areas be redeveloped to a "higher" land use (e.g., from residential to commercial). With many of these areas only partially converting to the higher uses, the end result has not been what was intended.

The Development Plan addresses the land use conflicts that have evolved over many decades. In some cases the Plan continues the proposals for higher uses in existing developed areas. However, it is the express intent that, in these situations, the transition take place under carefully planned redevelopment schemes. In other cases, the Plan proposes that the future land uses be more consistent with the prevailing uses in the neighborhood, which may be contrary to current zoning district classifications.

Redevelopment Overlay

Shown on the Development Plan map are "redevelopment overlays." These overlay designations are difficult to see on the report-sized Plate 8, as contained in this document. However, they are readily visible on the full-sized (1" = 1,000') plan map and on the sub-area Development Plans (Chapter 10).

The purpose of this redevelopment overlay is to highlight the areas within the City where the Development Plan proposes a higher land use than what is currently the existing prevailing land use pattern. In many cases, the proposed land use under a redevelopment overlay is simply a reflection of the current zoning district classification.

For example, there are areas where the existing land use pattern is predominantly detached single family dwellings, with scattered lots containing two-family and perhaps some multi-family dwellings. There are areas, with these characteristics, that are zoned RA-1 or RA-2. In situations where there are a considerable amount of two-family and/or multi-family dwellings mixed in with single family dwellings, and zoned RA-1 or RA-2, the Plan designates the area for high density residential with the redevelopment overlay placed over the applicable portion of the neighborhood. The same was done where there has been a partial transition to commercial and the area is zoned commercial.

Conversely, there are areas for which the Plan proposes a higher use but are not currently zoned for such use. The redevelopment overlay is applied in these situations as well.

The delineation of redevelopment overlays, while somewhat specific, does not include every situation where the Plan proposes higher land uses than existing development. There are numerous individual or small groups of lots where this is the case, whether or not uses of such lots are in conformance with the zoning code. It would be impractical for the Development Plan to identify all of these circumstances.

In summary, the use of the redevelopment overlay is intended to increase "awareness" of the Plan's proposals in a way that has not been highlighted in previous plans for the City. The overlay simply draws attention to the fact that the Plan proposes that certain areas of the City eventually transform to "higher intensity" land uses. However, such transition must be carefully implemented. To this end the Development Plan provides the following policy guidelines for accommodating this transition:

- Redevelopment should take place in a unified and planned scheme, involving multiple parcels. In order to avoid piecemeal redevelopment, redevelopment projects should encompass at least one and one-half (1-1/2) acres (e.g., about one-half of a typical city block). This size threshold could be reduced in circumstances where it can be demonstrated that spirit and intent of the redevelopment overlay policy would be upheld.

- Redevelopment should conform to contemporary development standards, such as provision of adequate off-street parking, provision of common areas or plazas, and provision of buffer space and screening between redevelopment projects and adjacent, older land uses, even if the new use is less objectionable.

- Conversion of residential structures to non-residential uses should be discouraged, except where such residential structures are located in, or adjacent to, a principally commercial area or where such conversion is the most feasible means to preserve historical or architecturally significant buildings. Traffic impacts and off-street parking requirements need to be carefully considered where such conversions are proposed.

The concept of the redevelopment overlay and its supporting policy guidelines should be taken a step further by incorporating them into the City's zoning code. Such zoning provisions would establish a redevelopment overlay district with specific standards designed to ensure that the above policy guidelines are implemented.

Neighborhood Conservation

Some of the Development Plan proposals retreat from previous comprehensive plan proposals and the zoning code. For instance, where an area is zoned RA or RD and the prevailing land use is detached single family residential, the existing zoning classification has been ignored and instead, the area has been proposed for medium or low density residential. The plan simply recognizes the prevailing pattern of the residential neighborhood, in terms of the type of dwellings.

It is the intent of the Plan to reduce the amount of future redevelopment to a more realistic level. In doing so, the Plan designates various areas to be consistent with the prevailing land use and to limit any further transition which could lead to neighborhood instability and disinvestment. In order to implement this revised development policy, future zoning code amendments should consider down-zoning some areas to reflect the prevailing pattern (e.g., from RA or RD to RS-4 or RS-3).

Major Streets

Also indicated on Plate 8, are the general alignments of proposed highways, arterial streets, and major collector streets. Proposed grade separated interchanges are shown as well. A number of the proposals indicated on the Development Plan are from the *Thoroughfare Plan for Jefferson City, Missouri*, completed in 1988.

The Plan proposes a hierarchy of streets and highways intended to provide for a safe, efficient and non-congested means for vehicular traffic flow. It is based, in part, on the existing street and highway network structure. Furthermore, the proposals are intended to improve the existing street and highway system and to expand it to service the new development as proposed in the Development Plan.

The hierarchy of the major street component of the Development Plan includes the following classifications; regional highways, arterial streets, and major collector streets. The proposals for these major roadways are explained below along with a discussion of access limitations and planning for traffic capacity increases.

Regional Highways

The regional highway system connects the City to other parts of central Missouri and beyond. This system not only accommodates "through" traffic but also serves as one of the principal means of accommodating "local" traffic. Furthermore, these highways have the greatest traffic capacity relative to the rest of the ground transportation network. In order to accommodate these larger traffic volumes (and traffic speeds) the design criteria for such highways can require a considerable amount of right-of-way.

All of the regional highways serving the Jefferson City planning area are under the jurisdiction of the Missouri Highway and Transportation Department (MHTD). The most significant highway improvement project for the Jefferson City area, proposed by MHTD, is the extension of Route 179

from Highway 50 to Route B. This proposed highway extension will greatly improve "cross-town" traffic flow and provide access to future urban growth areas.

The greatest threat to implementing this key highway project is development occurring within its proposed alignment. It's a classic urban planning dilemma wherein development proposals arise within the proposed highway corridor before the Highway Department has the resources to acquire the necessary right-of-way. The ideal situation would be to have right-of-way dedicated as part of the subdivision and/or site plan review process. However, the amount of land required for highway right-of-way would typically be far more than any one single development could justifiably be expected to provide for (e.g., right-of-way dedication).

Whether or not pending or future state legislation requires such, it is the policy of this Comprehensive Plan that MHTD be notified of any development proposals located within or adjacent to proposed state highway corridors. This notification will at least afford the opportunity for MHTD to negotiate right-of-way acquisition and/or modification of the highway alignment or the development site plan. However, it is not the policy of the Plan to cause unreasonable delays in reviewing and approving any such development proposals, so long as they comply with the City's zoning and subdivision codes.

Most of the proposed highway system improvements shown on the Development Plan reflect the MHTD plans. However, the Plan also proposes some interchanges not currently on the MHTD highway improvement program. These additional highway interchanges are recommended based on the quantity and type of proposed future land uses and to help resolve other traffic circulation issues identified in the Community Analysis phase of this Comprehensive Plan Update. The following describes the proposed regional highway improvements indicated on the Development Plan (see Plate 8).

Route 179 Extension - From Missouri Boulevard to the proposed westward extension of West Edgewood Drive: This project includes four (4) lanes and is scheduled for construction in 1997. Right-of-way acquisition is scheduled for completion in 1996. The West Edgewood Drive extension is to be built by the City.

Route 179 Extension - From West Edgewood Drive to Route C: Initially, this segment of highway will have two (2) lanes, with sufficient right-of-way for construction of four (4) lanes. Right-of-way acquisition for this segment of the Route 179 extension is scheduled for 1997, with construction occurring between 1998 and 2002. MHTD also plans for a grade-separated interchange at Route C and Route 179, at an unspecified time in the future.

Route 179 Extension - From Route C to Route B: This highway project will also begin with two (2) lanes, initially, with room for expanding it to four (4) lanes in the future. The proposed right-of-way acquisition and construction schedule is the same as the above Route 179 extension project. This segment of Route 179 also includes an interchange at Route 54, which is proposed to be completed during the scheduled construction time frame between 1998 and 2002.

With respect to the Route 179 extension, the City has formally expressed to MHTD the desire to include a pedestrian/bicycle trail along this new highway corridor. Such a trail would enhance the trail network, proposed in this Comprehensive Plan Update.

Grade-Separated Interchange - Route 50/63 and Eastland Drive: Construction of this interchange has been initiated and is scheduled for completion in 1996.

Grade-Separated Interchange - Route 50/63 and Algoa Road: This project is currently in the design phase at MHTD. Right-of-way acquisition is scheduled to begin in 1995 and construction is scheduled to begin in the fall of 1996. This interchange will serve the new Algoa industrial park and the Missouri National Guard facilities located adjacent to the industrial park.

Grade-Separated Interchange - Route 50 and Big Horn Drive: Design of this interchange is now underway at MHTD. Right-of-way acquisition is scheduled to begin in 1995 and construction is scheduled to begin in the fall of 1996. This interchange will result in some reduction in the traffic volumes associated with the interchange at Route 50 and West Truman Boulevard/Country Club Drive. A portion of the vehicle trips destined to/from Route 50 and the western reaches of the planning area will be able to utilize this new interchange at Big Horn Drive instead.

Grade-Separated Interchange - Route 179 Extension and West Edgewood Drive Extension: This interchange is not currently part of the MHTD highway improvement program. However, it is anticipated that the extension of West Edgewood Drive to South Country Club Drive and the future development of the Frog Hollow area, will produce significant traffic volumes on West Edgewood Drive. While the interchange may not be justifiable in the near future, the City should work with MHTD to ensure that sufficient right-of-way will be available for future construction of the interchange.

Grade-Separated Interchange - Route 50/63 and City View Drive: This interchange is also not included in the MHTD highway improvement program. While the interchange at Route 50/63 and Eastland Drive will enhance traffic circulation in the eastern area of Jefferson City, it will also tend to cause an increase in traffic volumes on Eastland Drive. In the Community Analysis phase, the problem of existing and potential future truck transport traffic on Eastland Drive was identified.

While such traffic could be forced to use the at-grade intersection at City View Drive, the new interchange will likely make it more difficult and unsafe to use the City View Drive access (principally due to the reduction in traffic "gaps" currently created by the at-grade intersection of Route 50/63 and Eastland Drive). Furthermore, future traffic volumes through the new interchange at Route 50/63 and Eastland Drive may result in congestion. Another interchange on Route 50/63, to serve the eastern portion of Jefferson City (e.g., at City View Drive), may then be justifiable, if traffic safety problems do not justify it sooner.

Arterial Streets

The next level of ground transportation (below regional highways) is the arterial street network. This arterial network serves as the primary traffic circulation system for interconnecting the various parts of the planning area. It also interconnects with the regional highway system.

In planning for new or upgraded arterial streets, the right-of-way width should be a minimum of eighty (80) feet. This width can accommodate four traffic lanes with sufficient space to for a left-turn lane where necessary. More width may be needed where there are severe topographic conditions or other design geometries necessitate additional right-of-way.

Not all of the existing arterial streets meet the minimum right-of-way width proposed for arterial streets. However, it is the policy of this Comprehensive Plan that the necessary increases in right-of-ways be accomplished as part of the subdivision process. As subdivision proposals are made for land adjacent to these arterial streets, the subdivider should be required to dedicate a proportionate share of a full eighty (80) foot right-of-way, even though the City may need to compensate the subdivider for some or all of the value of such dedication of land.

In situations where proposed arterial streets are located within a tract of land proposed to be subdivided, the design of the subdivision should accommodate the proposed right-of-way of the proposed arterial. In most instances, the subdivider should dedicate outright the equivalent of a collector or residential street right-of-way (60 feet wide as required by the Subdivision Code) with the additional twenty (20) or more feet being acquired by the City.

For the most part, the arterial street network is already in place although sufficient right-of-way may not exist for future improvements. Other than traffic capacity upgrades of existing arterial streets, the Development Plan envisions only several "new" arterial corridors. Most of these new arterial streets will be built initially with only two lanes. However, it is planned that eighty (80) foot wide right-of-ways be dedicated and/or acquired to accommodate future widening of these arterial streets. The following summarizes the proposed new arterial streets.

West Edgewood Drive Extension - From Stadium Drive to the Wildwood Drive Extension: This extension of West Edgewood Drive is planned to take place in three phases, which will link Stadium Boulevard and the southern extension of Wildwood Drive. West Edgewood Drive will serve as the principal east/west street within the western area of the Wears Creek watershed, which is slated as one of the primary growth areas within the planning area. Phase I of West Edgewood Drive, between the Wildwood Drive extension and the Missouri State Employess Retirement System (M.O.S.E.R.S.) property, has been completed. Phase II and III will extend West Edgewood from the M.O.S.E.R.S. property to the Route 179 extension and then to Stadium Boulevard, respectively.

West Edgewood Drive Extension - From Wildwood Drive Extension to Country Club Drive: The preliminary alignment of this remaining segment of West Edgewood Drive has been delineated in the Thoroughfare Plan for Jefferson City. Construction is planned for the time frame between 1998 and 2003. However, the actual time frame for completion will be predicated on development activity in this area and available funding.

Wildwood Drive - From Anna Drive to Rock Ridge Road: The Thoroughfare Plan for Jefferson City identifies the Wildwood Drive extension as a single project scheduled for construction between 1998 and 2003. However, it would be more likely that this proposed north/south arterial would be implemented in two or more phases. The first phase would be between its current terminus, near Anna Drive, and the extension of West Edgewood Drive. This segment would be needed first as this area would likely be developed before the area south of the proposed West Edgewood Drive extension. The extension of Wildwood Drive south of the West Edgewood Drive extension would be needed later to accommodate subsequent development within the southern area of the Wears Creek watershed.

Southridge Drive - From Stadium Boulevard to Southwest Boulevard: This project is scheduled for completion in 1996/1997 and involves the upgrade of the existing street and a new segment, between Stadium Boulevard to the current terminus of Southridge (near the Das Stein Haus restaurant). Southridge Drive will become the primary arterial street linkage between Stadium and Southwest Boulevards, while Jefferson Street will become an "outer service road" to Highway 54. The southbound exit/entrance ramps from Highway 54 will connect with the new Southridge Drive segment, instead of the current connection with Jefferson Avenue.

Southwest Boulevard - Realignment to the Intersection of Dix Road and Missouri Boulevard: This project would eliminate the "offset" between Southwest Boulevard and Dix Road which are two of the most heavily traveled north/south arterial streets in Jefferson City. Originally scheduled for construction in 1992/1993, this project has been delayed.

Major Collector Streets

The Development Plan provides for a network of major collector streets that channel traffic to and from residential neighborhoods or commercial/industrial areas and the arterial street network. The term "major," as it applies to collector streets, is intended to identify key collector street linkages within the overall thoroughfare plan. As development occurs, there will be a need to provide for other collector streets (not shown on the Development Plan) to ensure adequate traffic dispersion and access for emergency vehicles. It is the policy of this Plan to encourage an adequate system of collector streets and to avoid large residential and non-residential subdivisions having only one access point.

The alignment of the proposed major collector streets are conceptual. The actual alignment of any one major collector may differ from that shown on the Development Plan so long as the intent of such traffic routes are maintained. However, the access points onto arterial streets and connection network depicted on the Plan should be adhered to as much as possible. This will ensure efficient traffic circulation and distribution within the areas bounded by arterial streets.

The Plan proposes that all collector streets have a minimum right-of-way width of sixty (60) feet (per the requirement of the subdivision code). As with arterial streets, it is the intent of this Plan to require that the subdivider of land, in which a proposed collector street is to be located, dedicate the sixty (60) foot right-of-way. Likewise, in order to subdivide land that is adjacent to a proposed collector street, the developer/owner should be required to dedicate a proportionate share of a full sixty (60) foot right-of-way.

Street Capacity Increases

As previously discussed, when development occurs adjacent to arterial streets, the dedication of a proportionate share of a full 80 foot right-of-way should also occur. As development continues, the traffic volumes on these adjacent arterials will increase as well. As a result, the pavement geometries will need to be increased in order to accommodate the increased traffic volumes. For example, the street may need to be widened from two to four lanes. In addition to the increase in traffic lanes, the street improvements should include shoulders of sufficient width for use by pedestrians/ bicyclists, emergency stopping of vehicles and as staging areas for emergency vehicles.

Additionally, individual developers should be required to provide deceleration lanes for vehicles making right turns into their development. Cost sharing requirements would need to be explored to construct declaration lanes and median left turn lanes into approved driveways and at intersecting collector streets, both of which may service more than one development project.

Access Control

One of the key transportation and traffic objectives is to limit the number of future access points along arterial streets and consolidation of existing access points whenever possible. The policy of the Development Plan is to limit arterial access points to collector streets and to private access drives that serve multiple developments. In as much as possible, individual residential lots should have access from the local streets and not from arterial or major collector streets.

Sidewalks and Pedestrian/Bicycle Trails

The Parks and Recreation Plan proposes a comprehensive network of pedestrian/bicycle trails (see Chapter 11). This proposed system of pedestrian/bicycle pathways is intended not only to provide recreational opportunities, but also to provide an alternative means of transportation for those that desire to walk or ride a bicycle to their destinations.

In addition to the proposed pedestrian/bicycle trail system, it is a recommendation of this Plan to provide for sidewalks within newly developed subdivisions. Currently, sidewalks are not required under the regulations in the subdivision code. While it may not be necessary to have sidewalks along all streets, it would be appropriate to require that they be built along collector and arterial streets.

Traditional subdivision regulations typically require four (4) foot wide sidewalks. Rules promulgated under the Americans with Disabilities Act (ADA), require at least five (5) foot wide sidewalks for two-way circulation and six (6) feet or more is recommended. When the City updates its subdivision code, the ADA requirements, including curb ramps, should be should be incorporated with respect to the standards for construction of sidewalks.

With respect to arterial streets, the standard width of sidewalks should be at least six (6) wide and eight (8) feet wide, where possible. Such widths would be consistent with the typical trail widths of the proposed pedestrian/bicycle trail system. In situations where the existing arterial street rights-of-way are insufficient to accommodate sidewalks, such sidewalks could be located within easements that are parallel to the rights-of-way.

The recommendation to provide for an integrated system of pedestrian/bicycle trails is not intended to require mandatory provision of such, where the requirement for such trails cannot be attributable a particular development. Instead, it is recommended that where development (including subdivisions) occurs, within the general alignment of such pathways, that the provisions for pathway easements or rights-of-way be negotiated as part of the subdivision or site plan review process. Cost sharing, between the developer and the City, may be appropriate.

CHAPTER 10
SUB-AREA PLANS

In Chapter 6, of this Comprehensive Plan Update, the following areas of the City were examined in more detail with respect to existing and potential future development issues:

- ***High/Chestnut Street Area:*** Generally the area bounded by Highway 50/63 (Rex Whitton Expressway), Jackson Street, Jefferson City Correctional Center, and Clark Avenue / Dawson Street.

- ***East McCarty Street Area:*** A corridor along East McCarty Street, that is principally developed with commercial uses, from Eastview Drive to City View Drive.

- ***Downtown Area:*** The area bounded by the Missouri River, Highway 54/63, Highway 50/63 (Rex Whitton Expressway), and Jackson Street.

This Chapter presents future Development Plans for each of these "sub-areas." These Development Plans reflect the same land use proposals as shown on the Development Plan for the entire planning area (see Plate 8). However, the scale of the sub-area plans presents clearer illustrations of the future land use proposals, including the "redevelopment overlays" described in the previous chapter. In addition to the map portrayals of these sub-area plans, other written planning policies are provided with respect to land use compatibility, neighborhood stabilization/preservation, and redevelopment.

High/Chestnut Street Area

The High/Chestnut Street area has gone through a considerable amount of transition. This transition has occurred in a piecemeal fashion whereby scattered individual lots (or small groups of lots) have converted from residential to commercial use, or from single family residential to two-family or multi-family residential. At present, the High/Chestnut Street area has characteristics of a declining neighborhood. In the Community Analysis phase, there is a discussion on how historical zoning regulations and its relationship to past planning policy has contributed to land use incompatibility and neighborhood instability (see Chapter 6). Specifically, it was noted that the "pre-zoning" existing developed areas to "higher" uses can lead to real estate speculation, land banking,

and absentee ownership. The end result has not been what previous planning policy and zoning regulations intended.

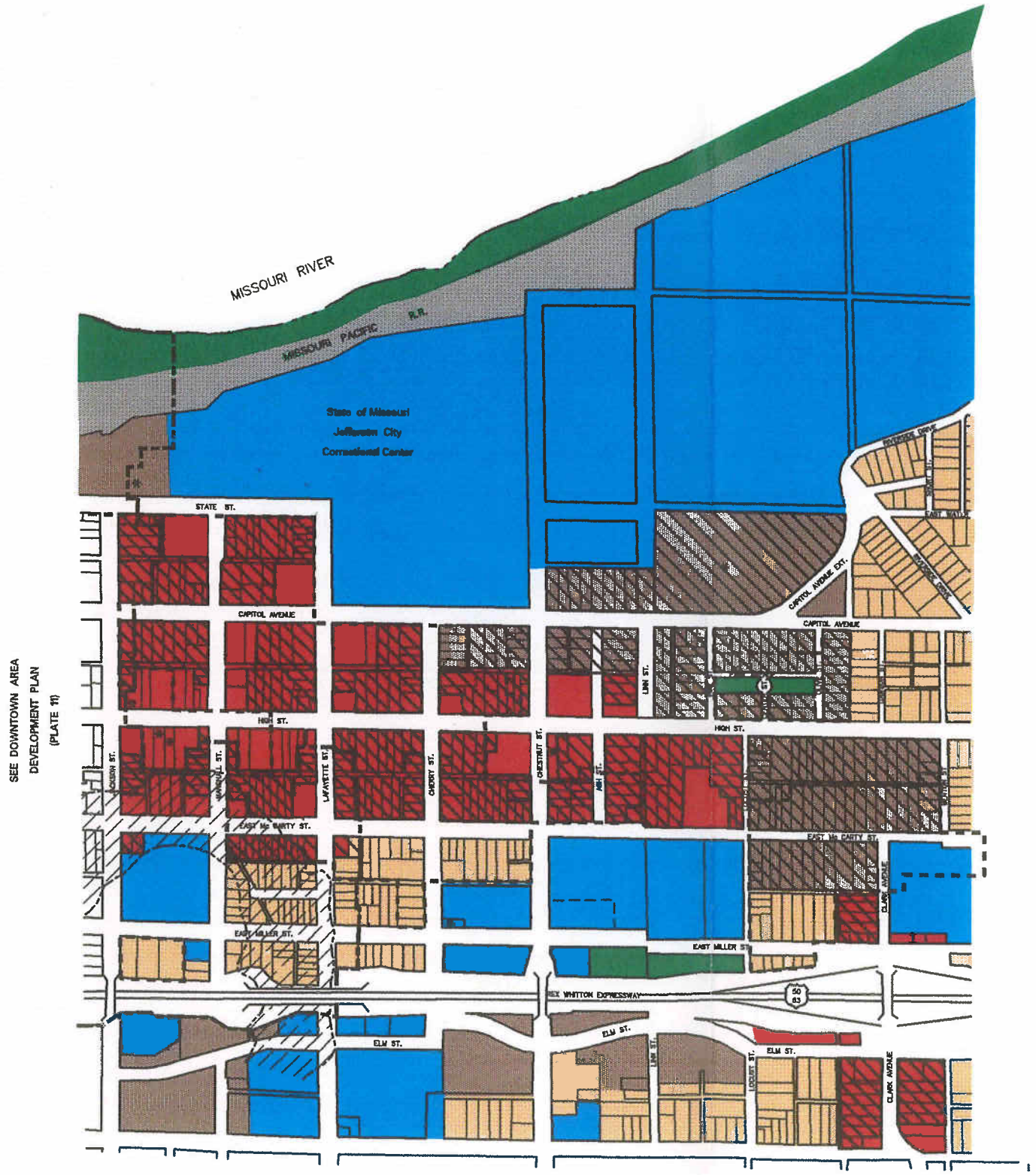
The Development Plan for the High/Chestnut Street area is illustrated on Plate 9. This Development Plan deviates, to a certain extent, from the current zoning for this neighborhood. In some cases, the Plan proposes the eventual transition to higher land uses (e.g., from residential to commercial). In other cases, the Plan reflects the prevailing land use pattern of medium density residential, even though the current zoning district classification is for high density (multi-family) residential. The city should consider down-zoning these areas to a more appropriate zoning classification (e.g., RS-4).

Where the Plan proposes land uses that are of "higher" intensity than that of the principal uses associated with the various zoning classifications, the "redevelopment overlay" is superimposed. The redevelopment overlay is intended to effectuate the transition in a more unified, planned scheme, instead of piecemeal conversions of lots. It is appropriate to reiterate the policy guidelines for the redevelopment overly as presented in the previous chapter.

- Redevelopment should take place in a unified and planned scheme, involving multiple parcels. In order to avoid piecemeal redevelopment, redevelopment projects should encompass at least one and one-half (1-1/2) acres (e.g., about one-half of a typical city block). This size threshold could be reduced in circumstances where it can be demonstrated that spirit and intent of the redevelopment overlay policy would be upheld.

- Redevelopment should conform to contemporary development standards, such as provision of adequate off-street parking, provision of common areas or plazas, and provision of buffer space and screening between redevelopment projects and adjacent, older land uses, even if the new use is less objectionable.

- Conversion of residential structures to non-residential uses should be discouraged, except where such residential structures are located in, or adjacent to, a principally commercial area or where such conversion is the most feasible means to preserve historical or architecturally significant buildings. Traffic impacts and off-street parking requirements need to be carefully considered where such conversions are proposed.



High / Chestnut Street Area
Development Plan

- Medium Density Residential (Detached)
- High Density Residential
- Commercial
- Transportation (Railroad)
- Parks and Open Space
- Public and Semi-Public
- Redevelopment Overlay
- 100 Year Floodplain
- MO R-45 Progress Urban Renewal Area
- Recommended National Historic Register District
- * Recommended National Historic Register Properties

Graphic Scale in Feet
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URBAN PLANNING SERVICES

City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 9

There is one larger parcel within the High/Chestnut Street area where the redevelopment overlay is indicated, but the proposed transition is from industrial to high density residential. This is the former shoe factory property located on Capitol Avenue, between Capitol Court (formerly Linn Street) and Capitol Avenue Extension to Riverside Drive. While the property is currently being used for industrial activity, the Plan recommends that the property eventually convert to a more compatible land use for the High/Chestnut neighborhood.

Accomplishing redevelopment in the manner suggested by the Development Plan can be prohibitively expensive, due to property assemblage, clearing, and other infrastructure improvements. However, extraordinary redevelopment costs can be offset by employing one of Missouri's redevelopment statutes such as the *Real Property Tax Increment Redevelopment Act* (otherwised known as the TIF Act). This redevelopment tool is explained in Chapter 12, "Implementation."

East McCarty Street Area

The Development Plan for the East McCarty Street area is illustrated on Plate 10. The Development Plan for this area, for the most part, reflects the current zoning district classifications. However, the limits of some of the land use proposals have been adjusted to follow property lines instead of splitting parcels, as the current zoning district boundaries do. Where the Plan proposes conversion from residential to commercial use, the redevelopment overlay is superimposed (see the narrative under the High/Chestnut Street area for an explanation of the redevelopment overlay).

The Plan does not propose any expansion of industrial uses within the East McCarty Street area. Instead it is recommended that the heavy industrial and transport/storage land uses in the vicinity of the intersection of East McCarty Street and Landwehr Hills Road be eventually replaced with lower intensity commercial uses. The objectives of this recommendation are to reduce or eliminate heavy truck traffic that must traverse nearby residential neighborhoods and to mitigate other land use incompatibilities. In order to make commercial redevelopment to be economically feasible, it may be necessary to employ Tax Increment Financing (TIF) to offset extraordinary redevelopment costs. However, it is not recommended that TIF be used for land cost "write-down," where such a write-down would establish a policy of paying a premium price for property to be developed.

There are several undeveloped parcels which are somewhat "land-locked." These parcels are located east of the Missouri National Guard property, between the development fronting onto East McCarty Street and the residential lots fronting onto Old St. Louis Road. The configuration and topographic conditions of these properties make it difficult to recommend an appropriate land use. One parcel is currently zoned RA-2 (multi-family residential) and the other remaining parcels are

zoned RS-2 (single family residential). Neither zoning designations appear to be appropriate from a practical standpoint. Multi-family development would be limited by the requirement for off-street parking, unless structured parking would be built. Structured parking would likely render such a development to be economically infeasible. Detached single family development would also be impractical because street access and minimum lot size requirements would not be cost effective. The options for commercial development are also limited because of the relatively steep grades and the need for having buffer areas between such commercial development and the adjacent single family residential lots.

As a compromise to this future land use problem, the Plan recommends that this area be developed for medium density residential. The plan also indicates that a portion of this area could be used for a neighborhood park, which would be beneficial to the nearby residential areas. Notwithstanding the possibility for park use, medium density residential development could take place in the form of "clustered" attached single family development on small lots. RS-3 or RS-4 residential zoning may be appropriate; however, it may be necessary to use the Planned Unit Development (PUD) provisions of the zoning code to enable creative site design and to provide relief from the minimum lot size requirements of the standard single family zoning districts.

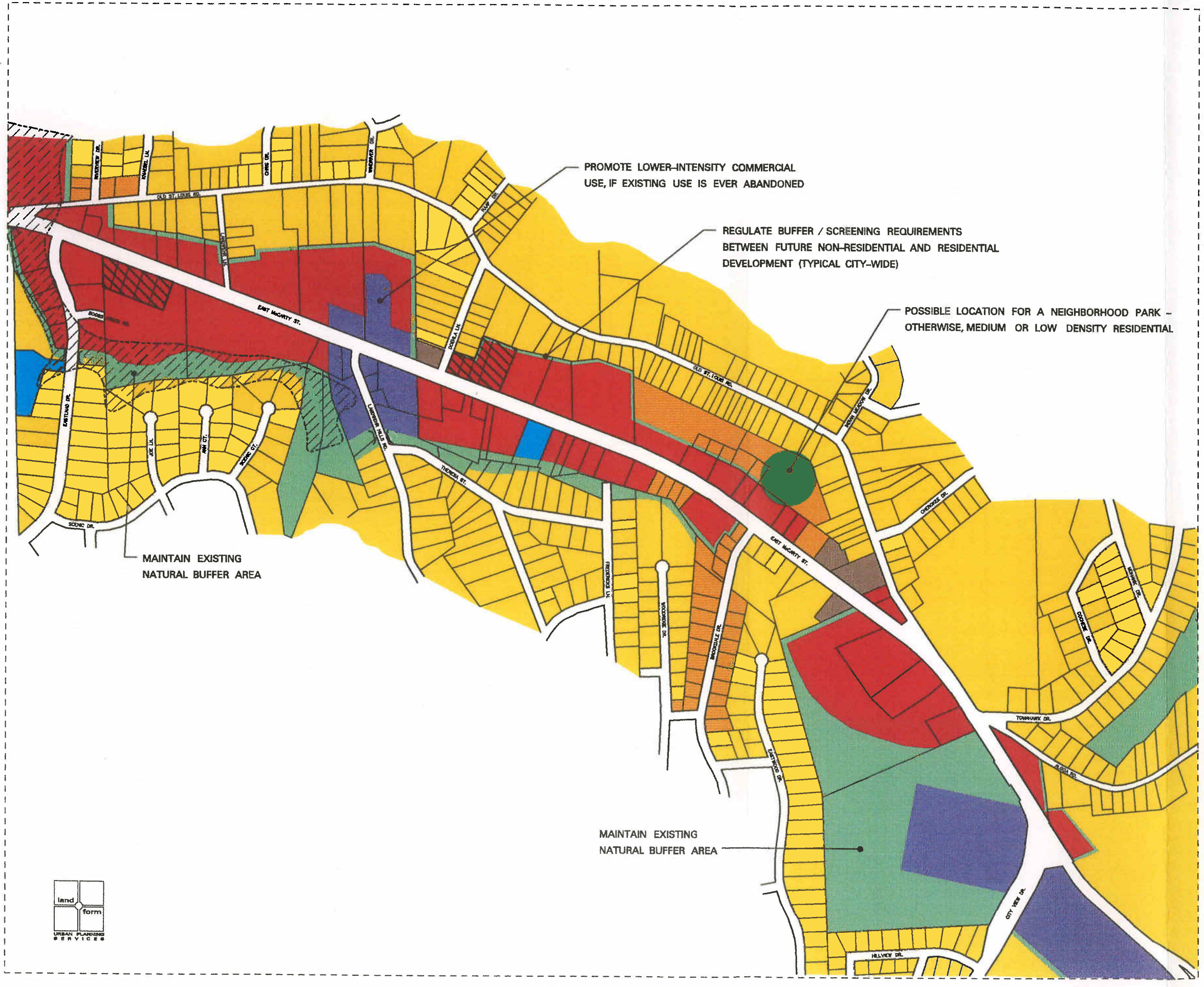
The Development Plan for the East McCarty Street area also calls for maintaining existing natural buffer areas between residential and non-residential land uses. Where such natural buffers do not exist, it is the recommendation of the Plan to develop more specific regulations for buffer/screening requirements between future non-residential and residential development. Such regulatory provisions should apply to the entire city as well.

Finally, it is recommended that the image of the East McCarty Street corridor be upgraded considerably. To accomplish this, the participation of both the City and private property owners will be required. Specific recommendations include:

- Install curb and gutter, and replace open-ditch storm drainage with enclosed storm sewers. In conjunction with this, minimize and consolidate, where possible, access points to properties fronting East McCarty Street. As part of the City's tree planting program, plant street trees along the edge of the East McCarty Street right-of-way.

- Limit outdoor storage to areas behind the front building line and require sight-proof screening of outdoor storage areas.

- Pave off-street parking areas and install landscaping within and along the perimeter of such parking areas where possible.



E. McCarty Street Area Development Plan

- Low Density Residential
- Medium Density Residential (Detached)
- Medium Density Residential (Attached)
- High Density Residential
- Commercial
- Industrial
- Parks and Open Space
- Buffer Area / Common Ground
- Public and Semi-Public
- Redevelopment Overlay
- 100 Year Floodplain

Graphic Scale in Feet

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City of
Jefferson, Missouri

Comprehensive Plan Update | January 1996 | Plate 10

- Improve the exteriors of existing buildings, including enforcement of exterior maintenance codes where necessary.

- Redevelop the old motel property which is located next to the Fire Station.

Downtown Area

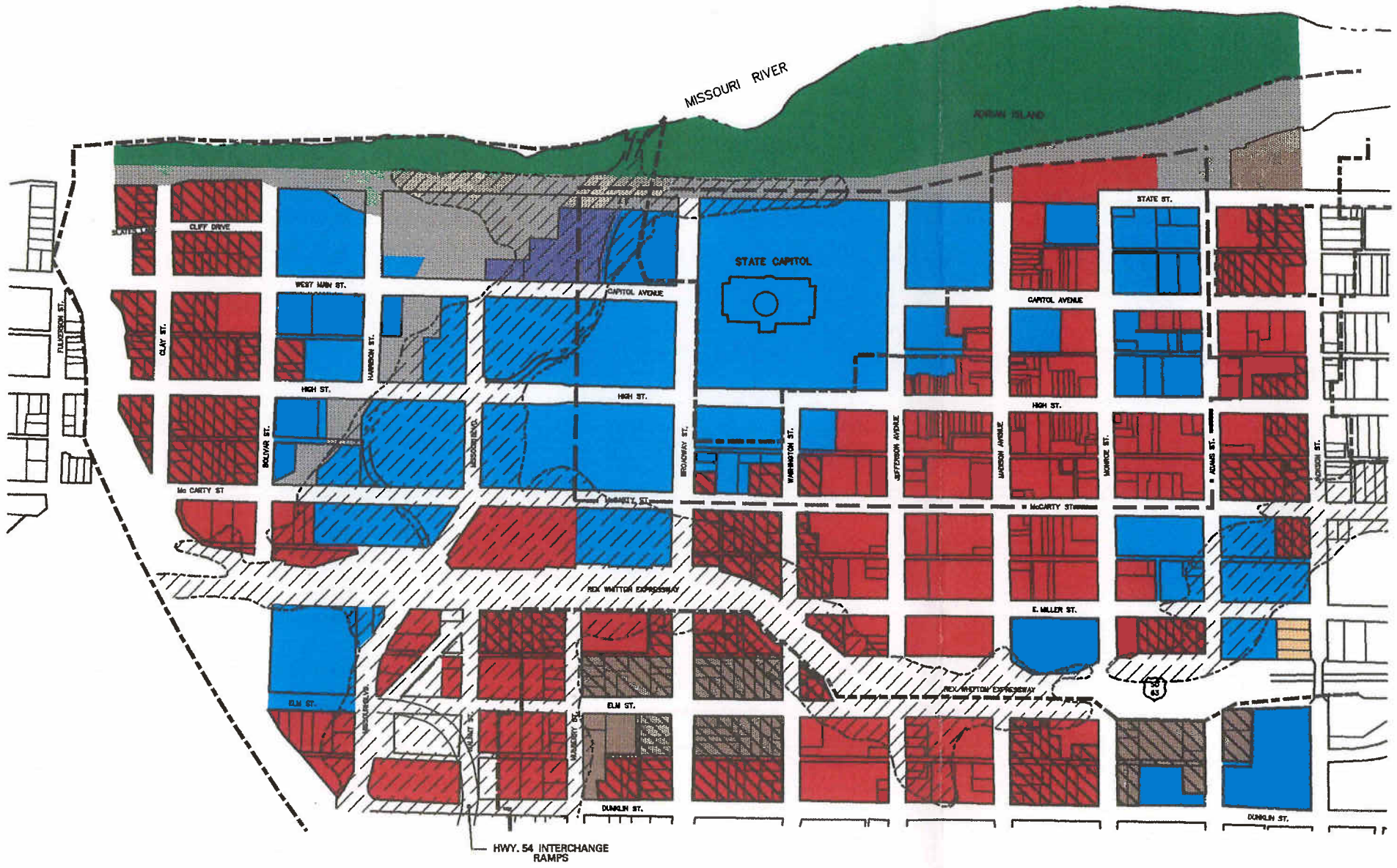
The downtown area will continue to serve as hub of state government activity. It will also continue to serve as a commercial/office center, although its retail/service sector is not likely to experience significant expansion. Efforts to attract retail uses to downtown will need to target "niche-market" enterprises that are a destination type of an attraction as opposed to general retail and services, which rely on convenient access to its trade area.

Also, it is anticipated that the demand for residential uses in the downtown area will not be significant, although such uses are not discouraged. It is recognized that there may be a niche market for some residential dwellings within the upper stories of buildings within the core area, such as the now vacant Hotel Governor.

Plate 11 presents the Development Plan for the downtown area. For practical reasons, Plate 11 indicates only the proposed "predominant" land uses. This plan is not intended to preclude mixed-use developments containing retail, office, and residential uses. The Plan proposes some expansion of commercial development into some areas currently occupied by and, in some cases, zoned for residential land uses (RA-2). It is envisioned that such commercial expansion would be office or mixed-use development, including the possibility of state office facilities (classified as "public and semi-public" in this Development Plan).

With respect to the proposals for commercial development expansion, it is not the intent of this Plan to encourage conversion of residential structures into commercial uses. Instead, the redevelopment overlay and the policy guidelines associated with same are proposed (see the narrative under the High/Chestnut Street area for an explanation of the redevelopment overlay).

Improving the riverfront, including Adrian Island, and linking it to the downtown is also proposed by the Development Plan. The type of improvements and the amount of financial investment required to bring the riverfront to downtown may not be as extensive as that proposed in the Master Plan for the Deborah Cooper Riverfront Park on Adrian Island. However, limited park development that offers pedestrian promenades and nature trails on the Island would entice visits to the downtown area and enhance the overall downtown experience.



Downtown Area Development Plan

- Medium Density Residential (Detached)
- High Density Residential
- Commercial
- Industrial
- Transportation (Railroad)
- Parks and Open Space
- Public and Semi-Public
- Redevelopment Overlay
- 100 Year Floodplain
- MO R-45 Progress Urban Renewal Area
- Missouri State Capitol Historical District
- Recommended National Historic Register District

Graphic Scale in Feet

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City of
Jefferson, Missouri

Comprehensive Plan Update | February 1995 | Plate 11

CHAPTER 11
PARKS AND RECREATION PLAN

Introduction

The City of Jefferson is fortunate to have a wide range of public park and recreation facilities to serve the City's residents. The purpose of this chapter is to focus on the future facility needs and recommend ways in which these needs might be met. To understand the City's potential future requirements for parks and recreation facilities it is helpful to review Chapter 5, "Recreation Facilities." This introduction provides a recap of the key sections of this earlier chapter.

In order to determine the need for park and recreation facilities within the City, a series of data were collected. The information represented by this data included the following:

- An inventory of all the recreation facilities available within the City and unincorporated portions of the planning area encompassing parts of Cole County and Callaway County. This inventory attempted to account for all recreation facilities; taking note of whether they were provided by the City or other public, semi-public, or private entities.

- A stratified, random sample telephone survey of City residents and residents of the unincorporated portion of the planning area. This survey was designed to reveal the level of participation by the various segments of the population in the various types of recreation activities.

- The existing and projected population of the City and the planning area.

- On-site inspections of the City's existing park and recreation facilities accompanied by discussions with the staff of the Department of Parks and Recreation to gain the benefit of their data and observations regarding use of existing facilities as well as particular problem areas which need to be addressed.

- A review of previous planning studies conducted by the City and others relating to recreation facilities and/or activities. This effort also included review of the data from the State's most recent Statewide Comprehensive Outdoor Recreation Plan (SCORP) for Cole and Callaway Counties, as well as data from current national studies about the use of and demand for parks and recreation facilities and other leisure-time activities.

Some of this data, such as the facility inventory, demand survey responses, and statistical needs analysis, used computer applications to derive the final data and analysis. In some instances, the results of the statistical analysis were modified to reflect unique circumstances revealed by Parks and Recreation staff, field observations, and analysis by the planning consultant. These modifications attempted to account for those unusual situations which could not be factored into the mathematical approach which was initially used to determine demand.

As noted above, the demand survey data was collected and analyzed for both the City proper and the unincorporated portion of the planning area. The City area contained a population of over 35,000 persons in 1990 and the planning area, as a whole contained a population of nearly 52,000 persons (including the City). The data was stratified by City and unincorporated areas to determine the impact which non-residents might be having on City parks and recreation facilities. While the Parks and Recreation Department staff have collected data which indicates that certain facilities are being heavily used by non-residents of Jefferson City , it was determined that a more empirical analysis of this issue was needed.

Lastly, it is important to recognize that this chapter and the accompanying plan map does not make recommendations for site-specific location of facilities or land acquisition beyond those which are already known. Such specificity usually fuels speculation may make it difficult for the City to acquire land, negotiate with developers to achieve the development of new park lands and facilities.

Future Facility Requirements

In general, Jefferson City and the planning area as a whole, currently has the ability to meet the demand for park and recreation facilities. Also, in some cases, existing recreational facilities will meet the demand for the foreseeable future. However, there are specific recreational needs which will need to be addressed in the future. The following narrative presents recommendations on future recreational facilities.

New Park Land

As noted above, the City generally has enough park land and facilities to serve the City's current residents and is also fulfilling facility demand for certain kinds of facilities for a large segment of the surrounding population. There are some exceptions to this generalization which will be discussed later in this chapter. However, it is important to note that one broad recommendation should be made regarding future park needs. Two areas of the City have and are likely to continue to experience considerable growth in residential development. These areas include the eastern section of the City, the southwestern part of the City, and the adjacent unincorporated areas. In each of these areas, the goal should be the development of a new neighborhood park. In this context, the term "neighborhood park" means something different than the normal definition of this term in park and recreation planning. Each of these should be a park facility capable of serving several neighborhoods and should be in a range of 5 to 10 acres.

The eastern areas of Jefferson City lack park facilities to serve the various neighborhoods and subdivisions which have developed in this area. There is only one public school facility (the Lewis and Clark Middle School) in this portion of the City which provides some facilities. Given the growth which has occurred in this sector of the community, it is important that the City give priority to looking for an appropriate site in this area. The preferable location would be south of East McCarty Street. However, the remaining undeveloped area is rugged terrain, which limits options for developing a park of 5 to 10 acres. However, there is some property located north of East McCarty Street that would be worthy of consideration for a neighborhood park (see Chapter 10 - section on the plan for the East McCarty Street Area).

The southwestern part of the City, west of Stadium Boulevard and south of U.S. 50 (and in fact the western part of the City in general) has no park facilities which are within the heart of this developing area. Binder and Joseph Miller Parks are on the far western fringe and Cole County Park is located to the southwestern fringe. While part of this area is presently outside of the City limits, it is an area which presents some of the greatest development potential. Sanitary Sewer is available and new street and highway improvements are scheduled for this area.

The City should actively pursue annexation of the portion of this area not presently within the City limits since future residents of this area will likely be heavy users of City park facilities in any event. The City is currently pursuing land acquisition in the eastern part of this area which will help to serve the neighborhoods which are now the most heavily developed. In addition, the City should actively look at land acquisition options further west in this area and should work with land owners and developers to provide for at least one future park facility in this area.

Plate 12 provides a graphic representation Recreation Facilities Plan. This Plan shows existing parks and land which is to be added to some of them. It also indicates the general area in which the new parks should be located, and recommendations for a trail system, discussed later in this chapter.

Single-Purpose Recreation Facilities

Some facilities have the ability to provide for more than one type of activity. Football and soccer are an example. These activities can be generally be played on the same field (although obviously not at the same time). Other activities such as ice skating usually require dedicated facilities. Following the pattern of discussion established in Chapter 5, the facility needs are presented by the following categories.

Picnic Tables and Shelters:

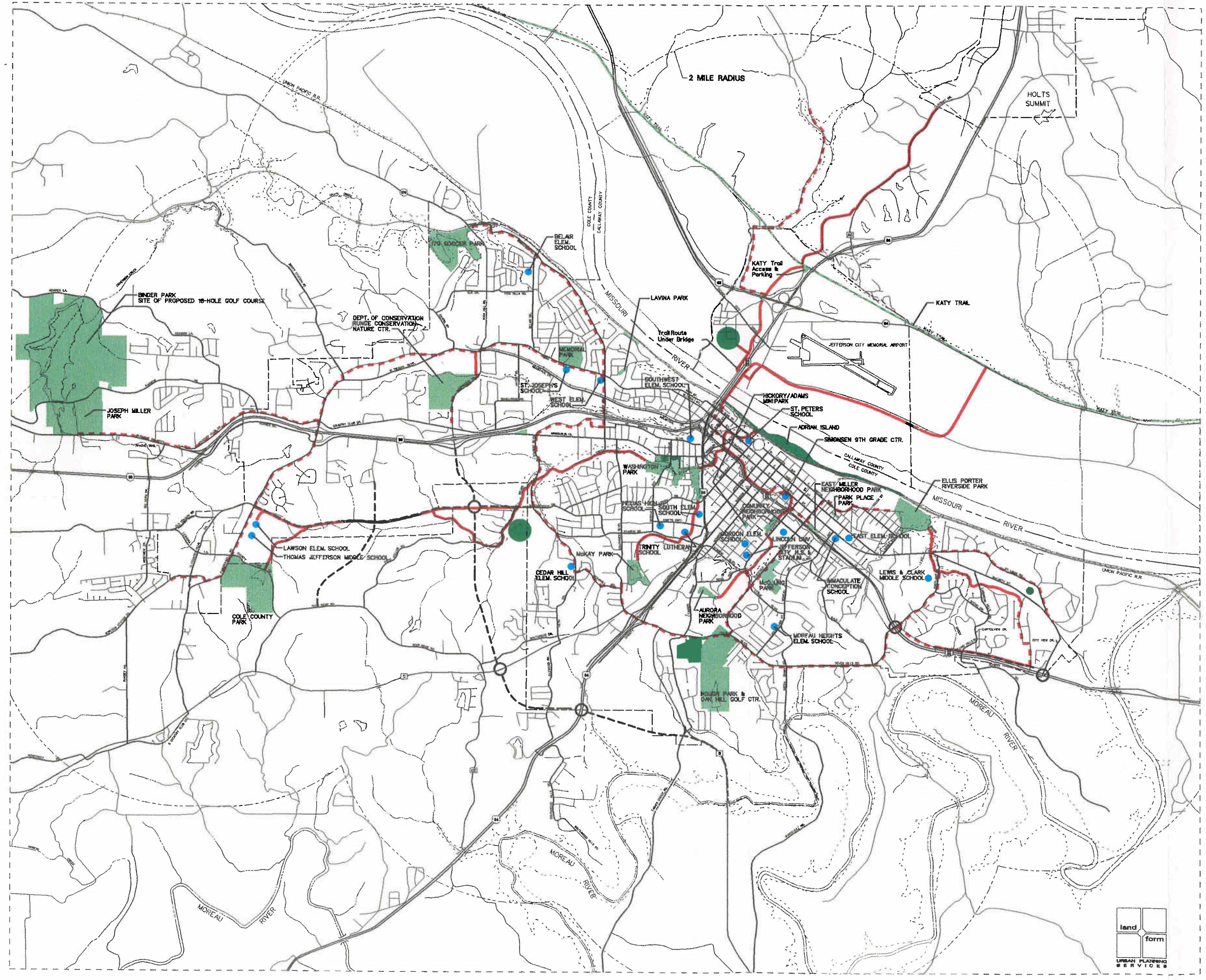
Picnicking (both at tables and under shelters) represented some of the largest demand for any activity within the City or the planning area as a whole. There is a need for 6 additional picnic shelters area-wide. In the City, the statistical data indicated no need for additional shelters but suggested a need for 50 more picnic tables. This represents an instance where the demand should be met in a way which is slightly different than that which is suggested by the "numbers". The Parks and Recreation Department Staff has indicated that the demand for picnic shelters is particularly high during the Memorial Day to Labor Day "window". This is undoubtedly due to the heavy reservation of these facilities by groups during that period of time. Since these facilities are also heavily used by non-residents (through a group reservation and fee program), the most ideal way to satisfy both City resident and non-resident needs would be to build an additional eight (8) shelters, preferably within the parks where the demand shortfall measured by the staff has been the greatest. Some of the need for additional shelters can be met by the re-use and conversion of structures acquired in the north Jefferson City flood buy-out.

Golf:

The residents of the planning area indicated a demand for golf which was the third highest of all activities (after baseball/softball and swimming). The residents of the City showed the same affinity for Golf also putting it in third place in terms of activity occasions of demand. The needs analysis data for the City indicates that existing facilities are not capable of meeting the demand. This data suggests that one new golf course could be readily supported. These findings were consistent with those of a study conducted for the City by Flatt Golf Services in 1993. This study also suggested that one new course be constructed.

PARKS & RECREATION FACILITIES PLAN

- Existing Park Land
- Proposed Park Land
- Existing Schools
- Proposed Pedestrian / Bicycle Trails:
- (off-street routes)
- (street routes)



Graphic Scale in Feet

0 1600 3200 4800 6400

City of
Jefferson, Missouri

Comprehensive Plan Update | January 1996 | Plate 12

As noted in Chapter 5, several criteria were specified relative to the type and size of the course to be developed. The City has been considering several options in order to meet this demand. One of those would be to build a new 18-hole course within Binder Park or acquiring land adjacent to the existing course at Hough Park to build a par-3, nine hole course. The demand for golf facilities is not surprising since this phenomenon has been similar throughout the country. The demand for golf facilities is often satisfied by private or semi-public entities. However, these facilities are often less accessible and are more expensive to play. Greens fees and other charges will be greater than they would have to be at a City-owned facility since they will be expected to earn significant profits. Thus, even if this demand were fulfilled by private investors, a significant amount of need will still not be fulfilled because a private facility will not be affordable or otherwise accessible to many residents.

In light of the most recent national golf foundation figures, showing no growth to a seven percent (7%) reduction in the number of rounds played in 1994, and the development of a public access course (Eagle Knoll in Hartsburg - opening in 1996), the City would be best advised to pursue improvement and expansion of existing golf facilities for the next one to five years. In the meantime, the City should continue to monitor supply/demand for public golf courses and consider building a new public course at some time in the future.

Swimming Pools:

The demand/needs analysis indicated that both the City and the planning area, as a whole, have a surplus of swimming pool facilities. However, the demand/needs analysis did indicate un-met demand for indoor swimming pool space on the part of Jefferson City residents. This analysis only indicated demand in support of public indoor pools space to a level equally half the carrying capacity of one indoor pool. Thus, it is not feasible for the City to build such a facility at this time although population growth and annexation may make such a proposition realistic in the future. In giving any future consideration to the construction of an indoor pool, it should be remembered that these are among the most costly recreation facilities to build, operate, and maintain.

Basketball Courts:

When the data from the current facility needs analysis was compiled for the entire planning area, it indicated that there is a surplus of courts. This is one instance where the data analysis of such a recreational activity can produce deceptive results. Most of the available courts in the City and the planning area are located in public schools. These facilities are often not usable by adults and in some instances are not regulation size. Thus, it is very likely that there

is unmet demand for basketball courts for adult play. This was confirmed by the Parks and Recreation Department staff. Consideration should be given to developing more outdoor courts at the City's various park facilities. In addition, any plans for a community center facility should incorporate a gymnasium with two to three regulation size basketball courts. Further discussion of the potential need for a community center type facility is presented later in this chapter.

Other Single-Purpose Facility Needs:

A number of other recreation facility needs could be met by taking advantage of the only flat land which is readily available in the Jefferson City area. This is land which has been purchased in north Jefferson City (former Cedar City area) as part of the flood buy-out program resulting from the 1993 flood. This land could be used to support of variety of recreation needs. For example, the popularity of rollerblading has grown dramatically and is a recreation activity now engaged in by persons of nearly all age groups. Of course, this activity is most popular with the children and young adults. As an activity, rollerblading is typically conducted on paved trails or sidewalks and often in the streets (although this can be very dangerous). Where multi-purpose trails are used for this activity, there can often be conflicts with other users of the trail. The north Jefferson City area provides a perfect opportunity to develop a dedicated rollerblading facility which might consist of winding trails and a track (possibly reusing portions of some of the existing streets.

Other activities which have become popular particularly with middle-aged and senior adults is gardening. Some cities have successfully developed gardening plot areas which can be rented to individuals or groups. These areas are usually fenced off into individual plots to control damage by both animals and vandals. Again, the north Jefferson City area provides an ideal opportunity to establish such a program.

Other potential recreational-type development in the City's floodplain areas merits some consideration. In the demand/needs analysis, volleyball was indicated to have no unmet demand requiring new facilities. However, one of the fastest growing forms of this activity is sand court volleyball. Again, the north Jefferson City area would be a perfect location to establish a small complex for sand court volleyball, possibly in conjunction with a larger complex for other field games.

One other type of recreation facility need was particularly noted by the staff of the Parks and Recreation Department. This is the need for a good boat-launching ramp and the necessary parking area. This might also include a small temporary docking facility. One suggested location

would be in the vicinity of the Turkey Creek confluence with the Missouri River. There is presently a roadway which could serve as the access to a boat-launching ramp facility.

Multi-Purpose Recreation Facilities

Playfields/Practice Fields:

One of the most needed recreation facilities in the City is practice fields. Practice fields are simply large areas which league baseball, softball, and soccer teams can use for practice. These fields do not necessarily have to be of regulation size for any of the involved sports but do need to be large enough and level enough so that practice games can be played. Playfields at neighborhood parks and schools can fulfill these needs; however, the topography of much of Jefferson City means that many of the City's parks do not have sufficient flat land areas to expand the number of playfields. Also, the demand for regulation fields for each of the noted sports are in short supply and in most instances have reached carrying capacity. Fortunately, the City has a way in which this situation can be improved.

As a result of the flood buy-outs which have occurred in the north Jefferson City area, a considerable amount of flat land is available. Recreation uses are permitted uses in floodplain area by FEMA regulation. This would be an ideal location to develop an entire complex for field games where both regulation and practice fields could be located. While these facilities will suffer damage if flooded, it is comparatively inexpensive to clean up and/or re-establish them if such damage occurs. If such a complex were developed the City should also establish a sinking fund to accumulate a reserve for clean-up and reconstruction if flooding should happen.

Trails:

Approximately 9 miles of multi-purpose trails are available in the planning area for use by cyclists and walkers. Five miles of these trails are within the City including the portion of the KATY Trail which is within the City limits. As noted in Chapter 5, the facility needs analysis indicated that the City needs 5 more miles of multi-use trails. If the mileage of the KATY trail is excluded from the City total (because this trail is accessible to Jefferson City residents only by car), the total mileage required to meet unmet demand would be seven (7) miles. In order to meet this demand it is recommended that the Greenway Plan be implemented. Not only in Jefferson City, but in the entire country as well, walking, biking, and rollerblading have been some of the fastest growing activities for all age groups over the last 10 years. Plate 12 shows the approximate alignments for the trail system of the Greenway Plan. Some alignments have been modified as well as some additional routes added to this Plan.

The adoption of several policies on the part of the City could greatly assist in the implementation of a trail systems which, to the extent possible, uses no City streets. One of these policies would be the requirement of sidewalks or trail components to be part of every new residential development. In the case of sidewalks they might only be required on one side of a residential collector street; however, in these instances the sidewalk width should be increased. Staff reviewing subdivision plans should be vigilant for opportunities to connect to parts of the trail system already built. Also, it is especially important in implementing the Greenway Plan to look for opportunities to provide connections between neighborhood and schools and between schools and parks. In may Jefferson City neighborhoods, a walk to school could be a very dangerous situation and sidewalks and trail linkages to these facilities are seriously needed. In order to encourage developers to participate in this program, the City should consider implementing zoning or other incentives which will provide a financial impetus for the developer to provide sidewalks and/or trails. One way to do this would be to provide a density increase in the existing zoning for the provision of sidewalks and an additional increase for the both sidewalks and trails.

Other opportunities exist to expand the City's trail facilities. For example, a trail loop could be built following the railroad spur line near the City's airport and along the top of the new Levee 142 project (which is proposed to be built to protect the airport) and then connecting back to the KATY trail. While this facility will still require residents to drive to the area to use this trail, it represents a further expansion of the trail network. In addition, it is possible that some funding of this trail mileage could be derived from one of several Federal sources such as the FEMA/COE levee program funds or ISTEA (Intermodal Surface Transportation Efficiency Act) moneys which are also available to the City.

Community Center:

For many years there has been ongoing discussion of the need for the development of a civic/recreation center facility. Most communities of Jefferson City's size have some type of community center facility. A community center typically provides for a variety of recreation activities within and/or adjacent to a single-building and property. The facilities usually contain a gymnasium with a regulation-sized basketball court. Sometimes these gymnasium facilities can be used as performing arts facilities, whereby a stage is provided at one end. Usually a number of rooms are provided where clubs and groups can hold meetings, attend classes for crafts, dancing, aerobics, etc. Often weight training and other exercise equipment is also provided. In order to realize efficiencies, other facilities may be combined with a community center such as indoor or outdoor swimming pools or tennis courts. Perhaps the state-of-the-art in community center building, in the State of Missouri, is the City of St. Peters' "Rec-Plex" which opened in 1994 for

the Olympic trials which were held in St. Louis. This building cost over $20 million and contains a gymnasium, an ice arena, an Olympic-sized natatorium, and numerous multi-purpose rooms. This facility is sited next to City Hall and is located next to one of the St. Peter's largest park facilities. While this is a truly ambitious facility for any community to undertake, it is cited as an example of how elaborate and comprehensive a community center development can be.

Jefferson City has no facility which provides for a variety of indoor and outdoor recreation facilities to be conducted at a single location. The only facility in the City which has the characteristics of a community center is the YMCA. Whether or not the YMCA fulfills the role of a typical community center facility may be a debatable issue and is, nevertheless, beyond the scope of this Comprehensive Plan Update to determine. However, given that many City residents perceived a need for such a facility in responding to the demand survey, it is recommended that the City give such a potential recreation facility need some further attention and study. While it is recognized that the YMCA may believe the development of a community center may not be in its best interests, in communities the size of Jefferson City it would be unlikely that a typical community center facility would have an adverse impact on the YMCA.

Capital Projects for Recreation Facility Development

In analyzing the demand and need for recreation facilities in the City of Jefferson, it is important to understand the costs of improving and expanding existing park and recreation facilities and building new ones. In Chapter 12, "Implementation," is a listing of major capital improvements that will be necessary to bring about the recommendations of the Parks and Recreation Facilities Plan.

The amount of park and recreation facilities capital improvements needed in the planning horizon exceeds $29,000,000, with $6,000,000 in improvements recommended within the next five years. Obviously, the funds to support these needs will have to be raised most likely from a bond issue or capital improvement sales tax, since other non-City sources of revenue for funding parks and recreation facilities are very limited.

A bond issue or sales tax measure would require approval of Jefferson City voters. The City has been successful in raising revenues for recreational projects, as well as other capital improvements, through the passage of capital improvement sales tax. Based on the data compiled in the demand survey, passage of a bond issue or an extension of the capital improvements sales tax for park and recreation facilities should be possible. When asked to compare the importance of park and recreation programs and facilities to other City services, nearly 7 out of 10

respondents (69.9%) said parks and recreation services were either more important (16.1%) or equal in importance (64.3%) to other City services. This would suggest that with proper information disseminated to the voters and promotion of a ballot issue for parks and recreation funding, such an issue would have a reasonable chance for passage.

Summary

The Parks and Recreation component of the Comprehensive Plan Update has helped to define/refine current and future recreational needs, including recommendations on how to meet these needs. More detailed planning should be done to develop specific plans for key new park lands and facilities. This includes programming and designing recommended facilities such as golf course improvements/expansion, a community center, new parks in the Frog Hollow and the East McCarty Street areas, further implementation of the Greenway trail system, development of a field game/practice field complex, construction of a new boat-launching ramp facility, etc.

The City should consider packaging several high-priority projects for a bond issue or capital improvements sales tax proposal. It is apparent that there would be support for such financing and the chances for passage would be greatly enhanced if a well-conceived and detailed package is put before the public. Absent a bond issue or capital improvements sales tax, the progress towards establishing new park land and facilities will be limited to that which can be supported by annual appropriations, and perhaps grant moneys.

CHAPTER 12
IMPLEMENTATION

Introduction

This Comprehensive Plan presents many proposals for the City of Jefferson which are considered reasonable, feasible, and very important to the welfare of the entire community. However, the value of the Comprehensive Plan will be measured in terms of the degree of success which the City achieves the goals and objectives of the Plan. The effectiveness of the Comprehensive Plan will be directly related to the ongoing recognition of the Plan proposals by the City Council, City personnel, and by the appointed boards and commissions of the City. Future decisions, particularly those involving application of provisions in the zoning and subdivision codes, should take into account the proposed development policy (both written and graphic) contained in this Plan document.

The Planning and Zoning Commission plays a very important role in the planning process and must be ever alert to the opportunities and needs of the community; bringing such needs to the attention of the City Council or other agencies within the community having direct responsibility for public improvements. The appraisal of local needs and the continuing application of the planning principles set forth herein will assure maximum benefits from the Plan and will result in orderly and economical achievement of the goals which have been established in this Plan.

Implementation depends upon both private and public action. Public action includes administration of the zoning and subdivision codes, capital improvements programming, and the review by the Planning and Zoning Commission of proposals affecting the physical development of the community. The Planning and Zoning Commission has a continuing responsibility to see that the Plan is kept alive, as well as adjusted to conform with changing conditions. It must be realized that a change in one phase of the plan will, in most probability, affect other parts of the plan; and therefore, thoughtful consideration should be given to the implications any decision which may affect the validity of the Plan.

City administrative personnel and appointed boards and commissions will have the Plan to guide them in decision making. Close cooperation between the City Council and the Planning and Zoning Commission is essential to proper administration and effectuation of the plan. Coordination with other governmental jurisdictions and agencies is equally important to realization of planning goals.

The greatest number of decisions affecting urban development are made by citizens through private actions. Thus, it is essential that the public understand and support the Plan. Through involvement of citizens in the development of the plan's goals and objectives, as well as additional input at various other stages of the planning process, it is the express intent of the Plan to reflect the views of the community.

Plan Adoption

The first official action toward plan implementation is the adoption, by the Jefferson City Planning and Zoning Commission, of the Comprehensive Plan as the general statement of public policy on land development within the City and its environs. This action formalizes the plan document as the basic frame of reference on guiding general development patterns over the next 10 to 20 years. The plan, thereby, becomes a tool for communicating the City's land use policy and for coordinating various individual decisions into a consistent set of actions to harmoniously shape the City's continued growth in the desired manner.

The Planning and Zoning Commission adopts the Plan by resolution which shall refer expressly to the maps and descriptive matter which form the Plan and such action shall be recorded on the Plan by the identifying signature of the secretary of the Commission. In other words, the resolution that adopts the Plan should be bound and incorporated into the Comprehensive Plan report. In accordance with State statutes, once the Plan is adopted by the Commission, a copy thereof shall be certified to the City Council and the City Clerk. Also, a copy shall be available in the office of the county recorder of deeds and the City Clerk's office for public inspection. In the case of Jefferson City, a copy of the Comprehensive Plan should be provided to the recorders office in both Cole County and Callaway County.

It would also be appropriate for the Parks and Recreation Commission to adopt the Parks and Recreation Plan component of this Comprehensive Plan. Such adoption would reaffirm that the Parks and Recreation component will serve as the Commission's official guide to providing future recreational facilities.

Lastly, the City Council should formally adopt the Comprehensive Plan. Although not required by State statute, adoption of the Plan by the City Council, via a resolution, further reinforces that the Plan is the City's official development guide.

Zoning and Subdivision Codes

One of the most important tools of plan implementation is the municipal authority to control development of private land. Most cities have zoning and subdivision regulations which provide specific land use restrictions and development standards. Since the early 1920's, when the concept of land development control was initiated in the United States, zoning techniques have been expanded, refined, and subjected to all levels of judicial scrutiny. As the purview of municipal authority changes, so must its development control regulations.

Zoning Code

The City's zoning code is one of the principal *"regulatory"* tools to direct development in accordance with the Comprehensive Plan. In general, the zoning code regulates the use of land; height and size of buildings; minimum lot sizes; building setbacks; provisions for off-street parking; and other items relating to the development of land within the City.

The City's first zoning code was enacted in 1932. Replacement ordinances were enacted in 1954 and 1970. In 1979 several additions were made to the zoning code, including site plan review provisions and the establishment of a lower density multi-family district (RA-1). Since 1979 there have been a number of revisions to the zoning code in response to various development issues and statutory requirements.

Subsequent to the adoption of this Comprehensive Plan Update, it is recommended that a thorough evaluation of the current zoning code be performed. Such a re-evaluation is crucial, in order to ensure that the zoning code is not in conflict with the development policies of the Comprehensive Plan. It would also be an opportune time to examine the merits of other contemporary regulatory techniques and to review the ordinance for compliance with recent case law.

As part of this Comprehensive Plan Update, the City's zoning atlas was reviewed to determine possible changes to the district boundaries as a result of the Plan recommendations. An annotated copy of the zoning atlas, which indicates suggested district changes, has been provided for reference as the City considers amending the zoning code. The following itemizes some of the key items that the City should consider in the zoning code update:

- Consider amending the residential zoning district provisions from a "pyramid" system of allowable residential densities to "express purpose" residential uses. Instead, use the planned development district provisions of the zoning code to review and approve mixed-density residential developments in the future.

- Consistent with the recommendation on express purpose zoning districts, consider the elimination of medical clinics and office uses as a conditional use in the RA-2 residential district. Other than home occupations, office uses in any residential district are not necessarily compatible and should not be allowed to infringe in residential areas. If an office building or medical clinic are considered appropriate reuse or redevelopment of residential property, then it should be rezoned to the C-O or another appropriate commercial district. Furthermore, such rezoning should not be considered appropriate if it is essentially "spot zoning" within a residential neighborhood.

- In older residential areas of the City that are zoned for more "intense" uses than what currently exists, consider "down zoning" land to be more consistent with the existing land use or residential density.

- In cases where the zoning district map designates, and/or the Comprehensive Plan proposes, new uses for existing developed areas, consider employing a "redevelopment overlay" zoning district as a means to accommodate the transition (e.g., from single-family to multi-family or commercial). The intent of such an overlay district would be to allow the transition to "higher" land uses in the future, but in a consolidated and planned fashion. The redevelopment overlay would represent the "higher" use, and the underlying district represent the prevailing existing land use.

- Develop specific zoning code provisions for minimum setback/buffer requirements where non-residential development occurs adjacent to residential zones. Similar provisions should apply to situations where residential development occurs adjacent to commercial or industrial districts.

Subdivision Code

Instituting development standards for the subdivision of land is another important regulatory measure. It is essential that the opening of new residential and other areas, by the platting for sale of lots and the construction of streets and utilities, be at a level which will not be a liability to the public at a future date.

Good subdivision controls include minimum standards for street widths, lot layout, block sizes, street grades, utility easements, etc. In addition, such conditions as dead-end streets, offset intersections and the relationship of streets to adjacent neighborhoods are typically regulated in a reasonable manner. The City has the power to enforce such regulations through the review and approval of plats by the Planning and Zoning Commission.

It is important that the Commission give careful attention to the enforcement of these regulations and standards. Each plat should be reviewed thoroughly to assess the compatibility of the proposed street pattern with adjoining land. The areas to be platted should also be compared to the Development Plan to determine what, if any, attention should be given to future park sites, arterial and collector streets, pedestrian/bicycle trails, and similar community improvements.

The City's current subdivision code was adopted in 1988. Generally, this code contains many of the typical subdivision development standards. Also, compared to other communities the size of Jefferson City, the review and approval procedure is relatively efficient. While the City's subdivision code is fundamentally sound, there are some other development standards and procedural requirements that should be considered for inclusion with this code. Itemized below, are some general recommendations.

- The current subdivision code allows for the recording of a plat prior to the administrative approval of improvement (engineering) plans or any commitment (guarantee) on the part of the subdivider to complete the improvements. It is the customary practice of many communities to require that the improvements (e.g., streets, storm and sanitary sewers, etc.) be constructed, or guarantees provided for such construction, prior to final plat approval. Once a final plat is approved and recorded, lots can be sold. Such sale of lots, without assurances that improvements will be installed in accordance with City standards, can lead to situations where the City is pressured to take over and improve, at public expense, developments that are incomplete and/or substandard. As a precaution against this potential situation, it is recommended that the City incorporate into its subdivision code, improvement plan review and approval procedures and provisions for installation or guarantee of improvements. Compliance with such provisions should be a prerequisite to approving a final plat.

- It is recommended that the subdivision code include provisions for the maintenance of common areas and facilities (e.g., common ground, private streets, storm drainage detention facilities, cul-de-sac islands, etc.). Such provisions would require that a trust indenture be established and recorded with the final plat where such common subdivision elements are created. The trust indenture should provide for the proper supervision and maintenance of such common elements by the subdivision trustees, including the means for assessing fees and collection thereof.

- The City should also consider incorporating some additional development standards into the subdivision code:

  - Requirement for sidewalks, at least along collector streets. The standards should include minimum width, thickness, and material. A variance procedure could also be incorporated to deal with difficult site constraints and alternative pedestrian circulation measures.

  - Erosion and siltation control standards, including a citation of the requirement for obtaining a "land disturbance permit" from the Missouri Department of Natural Resources if the development involves the grading or excavation of five acres or more of land.

  - Street lighting standards, including illumination levels and minimum spacing. The City should consider requiring the developer to install street lights (or contract with Union Electric for installation), with the City taking over maintenance and operation thereof after they have been accepted by the City.

Extraterritorial Development Control

Recent amendments to the Missouri statutes allows for extraterritorial jurisdiction by certain communities, including Jefferson City, over zoning, subdivisions, and buildings in unincorporated territory. Such control may take place up to two miles distant from the city boundaries in counties not having a planning commission and an official master plan. However, the statute makes such extraterritorial development control contingent on the approval of the affected county commission.

After the adoption of this Comprehensive Plan Update, the City should examine the potential personnel and other expenses required for administering and enforcing development regulations in unincorporated portions of the planning area. Cole County has subdivision regulations, although the City reviews proposed subdivision plats within the sanitary sewer service area and approves sewer connections. Cole County has not adopted a building code nor zoning controls, although there has been some consideration of adopting a building code. Absent the County adopting a building code, the City would have responsibility for buildings, subdivisions, and zoning within the extraterritorial area of two miles. The same would be the case in Callaway County, which currently does not have any development related regulations.

Additional personnel would be needed (e.g., plan reviewers and inspectors) to take on the additional work load. However, it is unlikely that the additional costs would be covered by fees such

as plan review fees, but not building permit fees (the statute requires that building permits be issued without fee). It is conceivable that intergovernmental agreements could be entered into so as to provide reimbursement of all or a portion of administrative and enforcement costs. This option would require legal advice. Furthermore, cost sharing may limit the prospects of the county commissions approving extraterritorial development control.

While peripheral development control may not be cost effective, there are certain benefits that make the pursuit of it worthwhile. For example, implementing extraterritorial zoning would greatly enhance the ability to ensure that future development is consistent with the Comprehensive Plan. Thus, it would still be appropriate to approach the county commissions of both Cole and Callaway Counties to attempt to reach an accord on providing such development guidance and control, until such time that either county establishes a planning commission and adopts their own comprehensive master plans.

Annexation

Annexation of land within the planning area provides the best opportunity to guide urban growth in manner that is consistent with the Comprehensive Plan. Annexation brings land into the corporate limits of the City and thus, subjects such land to the zoning, subdivision, and other development regulations of the City.

Annexation can be accomplished in two ways. The first and simplest way is a voluntary annexation whereby 100 percent of the property owners of contiguous territory petition the City to be annexed. After holding the requisite public hearing and no objections being filed with the City on the proposed annexation, the City Council can annex the territory by ordinance without any further action required. The second method requires the support of the majority of voters within the proposed annexation territory and the city (often referred to as an "involuntary" annexation). In this instance, the Council must pass a resolution stating its intent to annex.

It is necessary to have a declaratory judgement by the circuit court of the county on an involuntary annexation proposal. Several key elements of this declaratory judgement is to determine that such annexation is reasonable and necessary to the proper development of the city and that the city has developed a "plan of intent" to provide services to the area proposed for annexation. The Comprehensive Plan can play an important part in support of the reasonableness and necessity arguments. The City must also demonstrate in the declaratory judgement procedure that its municipal services can be provided to the annexation area in a reasonable amount of time.

Recent changes in the annexation statutes specifies what entity provides fire protection. It is recommended that in future annexation proposals by Jefferson City, that there be a dialogue established between the City and the affected fire protection district. Such a dialogue should objectively focus on the ability to provided fire protection to the subject annexation area. There may be instances where it would be in the best interest of the residents within an annexation area to continue to be served by the fire protection district. Conversely, there may be instances where it would be in the best interest of the residents within an annexation to be served by the City. Fire fighting capabilities and response times should be carefully compared.

Any annexation strategy should target areas that have the greatest chance of success and which are important to the long-term growth of the City. The Frog Hollow area is one such area that is considered by this Comprehensive Plan to be an important emerging growth area. Where there is an existing residential subdivision having annexation potential, the annexation strategy should encompass *additional* undeveloped tracts of land that are within the proposed urbanized areas indicated in the Development Plan. In other words, don't just annex the subdivision, but let the votes therein enable the annexation of additional strategic territory.

The capability of a proposed annexation area to immediately contribute enough in added tax revenues to the City to pay for the cost of extending services is one determining factor in the decision-making process of whether or not to annex. However, the economic feasibility to annex is not the only consideration. There are other tangible and intangible benefits, which can be difficult to measure in monetary terms. Some of the other factors affecting annexation decisions are:

- Increased property valuation and a broadened tax base for the City will raise the limit of municipal bonds that the City can sell to finance future improvements.

- The increase in population of the community in the future census counts enhances the City's qualification for more state and federal funds distributed on a population basis.

- People residing in an area to be annexed will usually benefit by gaining better law enforcement, street maintenance, and other public services.

- Elimination of jurisdictional confusion (e.g., in situations where a subdivision or development is split by city boundaries).

- Protection of future transportation corridors (e.g., Route 179 extension).

- Enhanced industrial development opportunities.

- The land adjacent to the City has a direct effect on development and property values within the community. Even with the existence of potential extraterritorial jurisdiction over zoning and other development controls, annexation is the preferred alternative.

- Annexation provides the City the most effective means for the implementation of the Comprehensive Plan.

Jefferson City has taken a proactive approach to annexation in the past. Periodically, the City has formally examined annexation strategies, the latest of which is contained in *"The Report of the Subcommittee on Future Annexations, Mayor's Committee for Long Range Planning, 1990."* As a follow-up to this subcommittee report and the Comprehensive Plan Update, a new annexation study is being prepared. This study will examine annexation potential in light of the Development Plan contained herein and include a refined strategy for annexation.

Sewer Extension/Connection Policy

The City's sanitary sewer collection system has the potential to serve a geographic area that is far beyond the current corporate limits. As explained in the Community Analysis phase, much of the City's sanitary sewer service area expansion was a result of taking over the Cole County Regional Sewer District (CCRSD). While there were legitimate environmental and fiscal reasons for taking over the CCRSD, it presents the potential for leap frog development. This would be inconsistent with the planning policy of encouraging more compact urban growth within the planning area.

In recognition of this potential problem, the City Council adopted Resolution "RS94-35" in January, 1995 which establishes policy direction with respect to allowing connection to sanitary sewers and providing city services to property outside the city limits. This important policy statement limits extension of sanitary sewers and other services to such property and development thereof which is consistent with the Comprehensive Plan and contingent upon annexation, immediately or via irrevocable consent to annexation.

However, it is important to recognize that the future development proposals contained in this Comprehensive Plan Update are long-range in nature. As such the City must be careful in evaluating any request for connection to the sanitary sewer system that involves property within the fringe of the urbanized area shown on the Plan. While a particular development proposed within this fringe area may be "consistent" with the Comprehensive Plan, the timing of such development may be premature. If the prospects for annexation within a reasonable amount of time is unlikely, then such a proposal to extend service should, under most circumstances, be considered premature.

The nature of proposed development outside the City limits will influence the justification for extending the City's sanitary sewer system. Resolution RS94-35 states that such extensions *"shall be evaluated...to determine the economic impact, environmental impact, [and] cost and benefits to the City..."* A proposal for an industrial or other job-generating development may contribute to the achievement of economic related goals and objectives of the Plan. While such a proposed development may not have good potential for future annexation, the overall economic impact to the Jefferson City area may justify connection to the sanitary sewer system. There is development potential along Business Route 50 West which could fall within this realm of reasoning. Conversely, residential development normally would not have a favorable cost benefit ratio. Instead, residential development is typically the most demanding of municipal services and school districts. Thus Resolution RS94-35 should be used to encourage residential development to occur in areas that can be readily annexed and thereby cause urban growth to occur in a more compact and more serviceable manner.

Lastly, the City's sanitary sewer extension policy is not intended to prohibit connections to the system where "in-fill" development is proposed. In situations where only a building service connection would be required or where a subdivision plat was approved prior to the effective date of Resolution RS94-35, connections to and limited extension of sewer mains should be considered as being "grandfathered." Future, unapproved, phases of an existing subdivision, located in unincorporated territory, should be reviewed on a case by case basis.

Redevelopment Tools

In Chapter 9, the concept of a redevelopment overlay was recommended as planning policy and as a regulatory tool (e.g., as a zoning district overlay). Redevelopment that is consistent with objectives with this Comprehensive Plan can be difficult to accomplish, because of the extraordinary costs associated with assembling and clearing existing developed land for new development. However, there are several redevelopment tools authorized by Missouri statutes that can be used to overcome such extraordinary costs of redevelopment. One such statute is the *Real Property Tax Increment Redevelopment Act* (Revised Statutes of Missouri [R.S.Mo.], Sections 99.800 through 99.865). This statute provides a method for financing economic development and redevelopment via tax increment financing (TIF). The other principal Missouri redevelopment statute is the *Urban Redevelopment Corporations Act* (R.S.Mo., Chapter 353). The key features of Chapter 353 include abatement of ad valorem taxes (real property taxes) and the ability to transfer the City's power of eminent domain to the redeveloper, in order to accomplish property assemblage.

TIF is normally the redevelopment mechanism of choice, particularly were redevelopment is for retail commercial land uses. This is because a portion of sales and utility taxes generated is

captured to help pay for eligible redevelopment costs. Chapter 353 can also be effective, particularly where the redevelopment results in a significant increase in real property value. The following narrative provides further information on the more popular TIF redevelopment tool.

Tax Increment Financing

Concept of TIF: The concept behind the tax increment law is straight forward. Redevelopment which occurs in a designated TIF Area will increase the equalized assessed valuation of the property and, thus, generate increased property tax revenues. In addition, 50 percent of other local taxes generated from economic activity (sales and utility taxes) are captured to help finance redevelopment projects. The increased tax revenue obtained from the redevelopment projects in a TIF Area, i.e. those tax revenues which exceed the tax revenue derived from the area before redevelopment, is called the "tax increment". This increase or "increment" can be used on an annual basis to finance eligible project costs, such as land acquisition, site clearance, building rehabilitation and the construction of public infrastructure.

How TIF Works: At the time a municipality adopts ordinances creating a Tax Increment Financing Redevelopment Area, the *existing* assessed value of real property is established as the "base" assessed value for the Area. The success of a TIF Area is then dependent upon increasing the assessed valuation over the base. This is accomplished through new development or redevelopment in the TIF Area.

Establishing a TIF Area does not lower tax revenues already being received by any taxing district; nor does TIF impose special tax assessments or raise the overall property tax rate in the Redevelopment Area. Taxes collected on the base value continue to be distributed to the city, county, school district and all others with taxing authority in the same manner that taxes would be distributed if there were no TIF Area. Only taxes generated on the *incremental increase* in assessment value of real property and other local taxes generated from economic activity (e.g., sales and utility taxes) are available for use in the TIF Area.

The TIF "methodology" is as follows:

- Once the TIF Area is established, the most recent total equalized assessed valuation (EAV) for the Area is determined. This is known as the base EAV.

- As the TIF Area is developed, its total EAV will grow. Annually, that portion of property taxes attributable to the base EAV is allocated to the municipality and other taxing districts.

- The portion attributable to the increase in EAV, known as the "increment", is placed in a special tax increment allocation fund and is spent for redevelopment purposes that have been outlined in the Tax Increment Financing Redevelopment Plan.

- In addition to the increase in property tax increment, 50 percent of the total incremental increase in revenue from other local taxes imposed by a municipality or other taxing districts can be placed in the special tax increment allocation fund and also used for TIF redevelopment projects. However, due to the provisions of the Missouri Constitution, the incremental revenue generated from these sources are subject to annual appropriation to the special tax increment allocation fund by the legislative body of the city each year in which the TIF area is in existence.

Eligible TIF Redevelopment Project Costs: In order to enhance local economic development, the TIF Statute permits a wide range of activities to be funded with TIF revenues. The most prominent are:

- Property assembly costs, including but not limited to acquisition of land and other real or personal property costs.

- Demolition of buildings and the clearance and grading of land.

- Construction of public works or improvements, including the installation, repair, construction, reconstruction or relocation of streets, utilities and site improvements.

- Renovation, rehabilitation or construction of any structure or building, except in "economic development areas (see below). This allows TIF monies to assist in the renovation of existing structures, making it possible to retain existing businesses and jobs through the use of TIF.

In addition, TIF can be used to pay for other costs including:

- Studies, surveys, plans and specifications.

- Professional services costs, including but not limited to architectural engineering, legal, marketing, financing, planning or special services.

- Initial costs for an economic development area.

- Financing costs, including, but not limited to, all necessary and incidental expenses related to the issuance of obligations and which may include payment of interest on any obligations.

- Relocation costs.

Types of TIF Redevelopment Areas: The law now permits one of three designations to be made to demonstrate eligibility.

- *Blighted Area:*

  An area which by reason of the predominance of defective or inadequate street layout, unsanitary or unsafe conditions, deterioration of site improvements, improper subdivision or obsolete platting, or the existence of conditions which endanger life or property by fire and other causes, or any combination of such factors, retards the provision of housing accommodations or constitutes an economic or social liability or a menace to the public health, safety morals, or welfare in its present condition and use.

- *Conservation Area:*

  Any improved area within the boundaries of a redevelopment project area located within the territorial limits of a municipality in which fifty percent or more of the structures in the area have an age of thirty-five years or more. Such an area is not yet a blighted area but is detrimental to the public health, safety, morals, or welfare, and may become a blighted area because of any one or more of the following factors: dilapidation; obsolescence; deterioration; illegal use of individual structures; presence of structures below minimum code standards; abandonment; excessive vacancies overcrowding of structures and community facilities; lack of ventilation, light or sanitary facilities; inadequate utilities; excessive land coverage; deleterious land use or layout; depreciation of physical maintenance; and lack of community planning.

- *Economic Development Area:* [88]

  Any area or portion of an area located within the territorial limits of a municipality, which does not meet the requirements for a "Blighted Area" or "Conservation Area", and

[88] This provision was later added to the TIF statute by the Legislature. Its concept and application in Missouri is not well-rooted. A recent circuit court decision involving an economic development TIF district in Pettis County found this provision to be unconstitutional. Until this provision of the statute is found to be constitutional by the Missouri Supreme Court, this method of designating a TIF district should be avoided.

in which the governing body of the municipality finds that redevelopment is in the public interest because it will:

1. Discourage commerce, industry or manufacturing from moving their operations to another state; or

2. Result in increased employment in the municipality; or

3. Result in preservation or enhancement of the tax base of the municipality.

Tax incremental financing projects within an economic development area shall apply to and fund only the following infrastructure projects: highways, roads, streets, bridges, sewers, traffic control systems and devices, water distribution and supply systems, curbing, sidewalks and any other similar improvements, but in no case shall it include buildings.

Establishing a TIF Redevelopment Area: A municipality planning to implement a redevelopment program utilizing TIF needs to undertake a series of steps as outlined below:

1. Create a nine person commission to advise the Council on a redevelopment plan and conduct public hearings.

2. Identify areas, buildings or development opportunities that could benefit from TIF (interested developers may be known at this stage).

3. Determine eligibility of specific portion of the municipality as a blighted, conservation or economic development area.

4. Prepare TIF Redevelopment Plan (showing the general and specific activities to be accomplished in the Area).

5. Hold a public hearing on the Redevelopment Plan.

6. City council adopts an ordinance approving the Redevelopment Plan.

7. Solicit redevelopment project proposals and select preferred project.

8. Hold public hearing on redevelopment project.

9. Select project (developer) and establish a redevelopment agreement between the developer and the city.

10. Issue bonds to finance defined eligible redevelopment costs (bonds retired from TIF proceeds).[89]

Major Capital Improvements

The Comprehensive Plan Update incorporates a number of major capital improvement proposals such as arterial streets and highways, sanitary sewer treatment expansion, and parks and recreation facilities. Some of these improvements reflect current plans made in response to immediate or pending needs. Other capital investments will be necessary at some time in the future as the community further develops. Table 37 summarizes the major capital improvement projects that will be necessary over short, intermediate, and long-term time horizons. This listing is intended to serve as a general reference guide in preparing and monitoring capital programming as it relates to the physical development of the Jefferson City area.

The timing priority of this listing of capital improvements is based on current information. As funding availability changes (e.g., new bond issues or capital improvements sales tax), such timing priorities may change. Nevertheless, all of these major capital improvements are considered important to the implementation of the Comprehensive Plan.

In some instances, capital projects may be indicated as having multiple timing priorities. This simply means that certain capital improvement projects may occur on an incremental basis, as development takes place over the planning horizon.

Comprehensive Plan Review

It is important to periodically reassess the Comprehensive Plan. The Comprehensive Plan is based on variables that are dynamic and whose future direction cannot always be accurately predicted. Accordingly, such variables as population and urban development characteristics should be periodically compared against the Plan's assumptions and recommendations. Based upon this periodic review, modifications to the Plan, or elements thereof, should be made to insure that the Plan is kept current and accurately reflects the City's development policy.

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[89] TIF bonds are not subject to the provisions of the Hancock Amendment which requires voter approval of other types of municipal bond issues.

Table 37
Major Capital Improvements
Jefferson City Planning Area

Capital Improvement Description	By	Timing Priority		
		Short-term (1-5 Years)	Intermediate (6-10 Years)	Long-term (10+ Years)
Arterial Streets & Highways:				
W. Edgewood Dr. Extension (Stadium Blvd. to Wildwood Dr. Extension)	City	✓[90]		
W. Edgewood Dr. Extension (Wildwood Dr. Extension to S. Country Club Dr.)	City		✓	
Wildwood Dr. Extension (Anna Dr. to W. Edgewood Dr.)	City	✓		
Wildwood Dr. Extension (W. Edgewood to Rock Ridge Rd.)	City/County			✓
Southridge Dr. (Stadium Blvd. to Southwest Blvd.)	City	✓		
Southwest Blvd. Realignment (with Dix Road at Missouri Blvd.)	City	✓		
Rte. 179 Extension (Missouri Blvd. to W. Edgewood Dr. Extension)	State	✓		
Rte. 179 Extension (W. Edgewood Dr. to Rte. C)	State		✓	
Rte. 179 Extension (Rte. C to Rte. B)	State		✓	
Interchange (Rte. 50/63 & Eastland Dr.)	State	✓[91]		
Interchange (Rte. 50/63 & Algoa Rd.)	State	✓		
Interchange (Rte. 50 & Big Horn Dr.)	State	✓		
Interchange (Rte. 179 & W. Edgewood Dr.)	City/State		✓	
Interchange (Rte. 50/63 & City View Dr.)	City/State		✓	
Major Collector Streets:				
American Dr. Extension (Wildwood Dr. to Stadium Blvd.)	Private/City	✓	✓	
Constitution Dr. Extension (to W. Truman Blvd.)	Private/City	✓		
Rolling Hills Dr. Extension (Yorktown Dr. to W. Edgewood Dr.)	Private/City	✓	✓	
Nelson Dr. (Bald Hill Rd. to Seven Hills Rd.)	Private/City	✓	✓	
Morningside Dr. Extension (to Eastland Dr. at Timber Rd.)	Private/City	✓	✓	
Miller St. Extension (to Eastland Dr.)	Private/City		✓	✓
Expressview Dr. Extension (to Eastwood Dr.)	City/State			✓
Schothill Woods Dr. Extension (to Schott Rd.)	Private/City/State	✓	✓	✓
Connector Street (Rte. 50/63 & City View Dr. Interchange to Schott Rd.)	City/State/County			✓
Christy Dr. Extension (to Rte. 179 Extension)	Private/City		✓	✓
Jefferson St. Extension (to Rte. 179 Extension)	Private/City		✓	✓
Aurora Street Extension (to Chestnut St.)	Private/City	✓		
Big Horn Dr. Realignment (with Apache Trail)	County	✓		

Table 37 *(continued)*
Major Capital Improvements
Jefferson City Planning Area

Capital Improvement Description	By	Timing Priority		
		Short-term (1-5 Years)	Intermediate (6-10 Years)	Long-term (10+ Years)
Sidewalks:				
Along Arterial and Collector Streets (priority near schools)	City/Private	✓	✓	✓
Downtown Area	City	✓		
Bus Stops	City	✓		
Utility Systems (Sanitary Sewer):				
Expansion of & Improvements to Waste Treatment Plant	City/Federal	✓		
Frog Hollow Area Interceptor Main Extensions	City	✓	✓	
Algoa Area Extensions and Treatment Facility	City	✓		
Sleepy Hollow Area Pump Station, Force Main, & Outfall	City	✓		
Lakewood Subdivision Area Pump Station, Force Main, & Outfall	City	✓		
County Park/Fairground Rd. Area Main Ext., Pump Sta., Force Main, & Outfall	City	✓		
Utility Systems (Storm Sewer):				
Regional Detention/Retention Facilities (various watersheds throughout City)	City/Private	✓	✓	✓
Channel Improvements:				
East Branch of Wear's Creek (Monroe St. to Washington St.)	City	✓		
Main Branch of Wear's Creek (W. Main St. to Highway 50/63)	City	✓		
Frog Hollow Branch of Wear's Creek (Highway 50/63 to Southwest Blvd.)	City	✓		
Bogg's Creek (Highway 50/63 to Grant St.)	City	✓		
Utility Systems (Public Water Supply):				
Water Supply/Storage Improvements & Distribution Expansion	Water Districts		✓	✓
Flood Protection:				
Levee to protect Airport, Wastewater Treatment Plant, ABB, & other properties west of Highway 54 in North Jefferson City	Federal/City	✓		

Table 37 *(continued)*
Major Capital Improvements
Jefferson City Planning Area

Capital Improvement Description	By	Timing Priority		
		Short-term (1-5 Years)	Intermediate (6-10 Years)	Long-term (10+ Years)
Parks & Recreation Facilities:				
General Improvements:				
New Civic/Recreation Center	City		✓	
Land Acquisition & Development of Frog Hollow Area Community Park	City	✓	✓	
Park Development in North Jefferson City (former Cedar City area)	City	✓	✓	
Land Acquisition & Development of 6 New Neighborhood Parks	City	✓	✓	✓
Greenway Land Acquisition & Pedestrian/Bicycle Pathway Development	City/Fed./Private	✓	✓	✓
Acquisition of & Improvements to County Park	City		✓	✓
Softball/Baseball Complex	City	✓		
Ellis Porter Riverside Park:				
Swimming Pool Renovations & Improvements	City		✓	✓
Hough Park:				
Park Expansion & Development	City	✓	✓	
Major Renovation of Oak Hills Golf Center	City	✓		
Washington Park:				
Ice Arena Renovations, Including Refrigeration System and Ice Bed Floor	City	✓		
Binder Park/Joseph Miller Park:				
New 18-Hole Golf Course	City		✓	
Public Safety Facilities:				
Relocation of Fire Station No. 3	City	✓		
New Fire Station (No. 6) & Apparatus (near Rte. C & 179 Extension)	City		✓	
New Fire Station (No. 7) & Apparatus (In Rainbow Dr. & Binder Park Area)	City		✓	
Jefferson City Memorial Airport:				
Property Acquisition (Fee title & easements)	Fed./State/City	✓		
New T-Hanger & Associated Improvements	Fed./State/City	✓		
Taxiway & Lighting Improvements	Fed./State/City	✓		
New Fuel Tanks	City	✓	✓	
Extend Runway 9-27, Parallel Taxiway & Lighting Improvements	Fed./State/City	✓		

Table 37 *(continued)*
Major Capital Improvements
Jefferson City Planning Area

Capital Improvement Description	By	Timing Priority		
		Short-term (1-5 Years)	Intermediate (6-10 Years)	Long-term (10+ Years)
Jefferson City Memorial Airport (continued):				
2 New Conventional Hangers & Associated Improvements	Fed./State/City	✓		
2 New Conventional Hangers & Associated Improvements	Fed./State/City		✓	✓
Runway & Taxiway Overlays & Other Improvements	Fed./State/City		✓	✓
Expand Terminal/Administration Building	Fed./State/City		✓	
Transit System:				
Bus Replacement	Fed./State/City	✓	✓	✓
Other Capital Improvements:				
ADA Compliant Improvements (City facilities and public sidewalks)	City	✓		
City Hall Renovation/Expansion	City		✓	
Training and Operation Site Development	City	✓		
Street Equipment & Material Storage (including salt storage facilities)	City	✓		

[90] Phase I (Wildwood Dr. to M.O.S.E.R.S. Property) complete
[91] Under construction