Comprehensive Plan
Monroe County, Illinois
Prepared 1994 by:
Southwestern Illinois Planning Commission
ACKNOWLEDGMENTS

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# TABLE OF CONTENTS

## SECTION I - INTRODUCTION

| A. Purpose of The Plan | 2 |
| B. Planning Process | 2 |
| C. Planning Period | 3 |
| D. Current Planning Issues | 3 |

## SECTION II - BACKGROUND AND TECHNICAL ANALYSIS

| A. Demographic Trends | 4 |
| B. Development Limitation | 12 |
| C. Development Opportunities | 17 |
| D. Land Use Analysis | 18 |
| E. Transportation Analysis | 21 |
| F. Utility Systems Analysis | 24 |

## SECTION III - PLAN ELEMENTS

| A. Goals, Objective, and Policies | 28 |
| B. Land Use Plan | 36 |
| C. Land Use Plan Recommendation | 38 |
| D. Transportation Plan Recommendation | 42 |
| E. Utility Systems Recommendations | 48 |
| F. Development Practice Recommendations | 49 |

# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Precincts</td>
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<tr>
<td>2</td>
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<tr>
<td>4</td>
<td>Sinkhole Illustration</td>
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<tr>
<td>5</td>
<td>Sinkhole Plain Areas</td>
</tr>
<tr>
<td>6</td>
<td>Steep Slopes</td>
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<tr>
<td>7</td>
<td>Forest</td>
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<tr>
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<td>9</td>
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<tr>
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</tr>
<tr>
<td>12</td>
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<tr>
<td>13</td>
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</tr>
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<td>Regional Trails Plan</td>
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<td>Land Use and Transportation Plan</td>
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# LIST OF TABLES

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<tr>
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<tbody>
<tr>
<td>Table 1</td>
<td>Population Trends, Monroe County: 1880-1990</td>
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<td>Table 2</td>
<td>Population 1970-1990, Monroe County</td>
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<tr>
<td>Table 3</td>
<td>Population by Age Groups, Monroe County: 1960-1990</td>
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<tr>
<td>Table 4</td>
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<td>Table 5</td>
<td>Housing 1970 - 1990, Monroe County</td>
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<td>Table 6</td>
<td>Building Permits Issued, Residential Dwelling Units</td>
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<td>Table 7</td>
<td>Total Employed, Monroe County: 1980-1990</td>
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<td>Sanitary Sewer Treatment</td>
<td>26</td>
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<td>Table 9</td>
<td>Summary of Medium to Long-Range Trails Plan and Estimated Costs, Monroe County, Illinois</td>
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Monroe County, Illinois in the 1990's is faced with a variety of challenges, opportunities, and problems that are being addressed in the comprehensive planning process.

Monroe County is an area with many attributes; a high quality of life, high personal incomes, tightly knit social structures, progressive communities, and a very attractive living environment. Monroe County is rural in character but geographically included in a large metropolitan area. The challenge is how to protect these attributes.

The County is starting to grow more rapidly and the pressures of urbanization are starting to be felt. Growth on the one hand strengthens the local economy and adds tax base, but on the other increases demands on schools, roads, and other services and adds stress to the environment. The challenge is to permit growth but in a logical fashion that minimizes the impacts.

Geologically Monroe County faces another challenge -- that of karst topography. Sinkholes dot the landscape of the County, particularly in the central corridor. These sinkholes, while not presenting significant structural problems of note, do act as conduits for pollutants and sediments into the groundwater. The challenge is to develop environmentally sound and rational development policies to protect groundwater resources.

The Flood of '93 has had an enormous impact on Monroe County. The loss of property, incomes, and the disruption of lives will be felt for many years. The County must develop effective means to help heal the wounds of the flood and restore the flood plain agricultural economy, but to do it in such a manner as to limit damages from future flooding.

Other significant issues include farmland preservation, conservation of natural areas, stormwater management, rural utilities, transportation, and economic development.
A. PURPOSE OF THE PLAN

The Comprehensive Plan for Monroe County replaces the 1989 Comprehensive Plan Update as prepared by Southwestern Illinois Planning Commission. Pressures of urbanization, environmental concerns, the Great Flood of 1993, Route 3 improvements, rural water service, etc., all contribute to changing conditions which require a new comprehensive plan.

The purpose of the Plan is to establish a series of policies for the County to guide development over an extended time period. These land use and development policies are intended to create a vision and direction for the County that transcends the current county administration and provides a continuity through successive County Boards.

The Plan provides explicit statements of public policy for guiding and controlling future development in the County and is intended to be used by the County Board, the Planning Commission, the Zoning Board of Appeals, and the County development staff to assist them in their decision making process concerning land use, zoning, development reviews, and public expenditures for infrastructure. It is also intended to establish the relationship between land use development and the highway and local road network to guide future roadway improvements. The Plan intends to illustrate a balance of land uses in the County ranging from agricultural and conservation uses to future urban areas. And finally the Plan recognizes the need to balance the preservation of the Monroe County environment and natural resources with demand and need for increasing development.

B. PLANNING PROCESS

The Comprehensive Plan has been developed in two basic elements: 1) a Policy plan which established goals, objectives and policies, and 2) Plan recommendations and maps. A subcommittee of the Monroe County Regional Planning Commission—the Comprehensive Plan Committee—developed the plan with facilitation provided by Southwestern Illinois Planning Commission. The Plan Committee has been composed of a broad cross section of the community both from a geographical point of view and an interest or occupational perspective.

Community meetings were held in Waterloo and Columbia during the policy plan phase for the purpose increasing the level of public participation in the process. The issues to be addressed during the process were identified to the groups. Comments and suggestions were elicited from those attending. Much of the discussions at the time centered on the proposed relocation of Vilmeyer and karst topography.

Based on the primary issues facing the County the Plan Committee discussed problems and opportunities relative to these issues and then formulated goals, objectives and policies to address them.

The recommendations and map segment of the process made extensive use of SIMAPC's interactive Geographical Information System. The system was used to map and portray various
building constraint factors and then aid in determining most desirable land uses. The GIS system was then utilized to map the Land Use and Transportation Plan Maps. Over several months the Plan Committee provided suggested revision and modifications to the Plan Maps so that it accurately reflected their vision of the County for the future.

The Plan recommendations consist of specific actions to be taken by the County with regard to development practices, development regulations and future infrastructure needs.

C. PLANNING PERIOD

The Comprehensive Plan considers a 20-year planning period through the year 2014. The recommendations shown in the plan for land use should not be construed as "build out" strategy. It is not intended that the County land uses will mirror the map in 2014, but rather that development be encouraged to follow the general land use pattern the Plan suggests. The current growth rate in the County indicates that the County population will increase by 50% during the first ten years of the planning period and it is reasonable to assume that this rate would continue for the second 10-year period. Therefore, the projected population of Monroe County would be on the order of 50,000 by 2014. This potential population represents approximately one-half of the "build out" land use as reflected on the Land Use Plan--given the assumption that the development occurs at residential densities as discussed in the Plan.

D. CURRENT PLANNING ISSUES

The primary issues facing Monroe County center around growth and the County's ability to manage that growth, and recovery from the effects of the Great Flood of 1993. There are many sub-issues that relate to the two issues:

- Residential development in karst areas
- Contaminated groundwater
- Potable water supplies in rural areas encouraging residential growth
- Lack of sanitary sewers in rural areas
- Strip development along rural roads
- Development regulations relative to rural residential
- Development regulations relative to manufactured housing
- Need for road improvements in developing areas of County
- Promotion of commercial and industrial economic development in the County
- Growth management needs for the Illinois Route 3 corridor
- Agricultural preservation in certain areas of the county
- Need for measures to enhance conservation of natural resources
- Flood plain regulations' impact on the agricultural economy
- Housing shortages for flood victims
- Loss of tax base for flood plain taxing districts
• Acquisition and demolition of flood damaged homes
• Relocation of the Village of Valmeyer
• School overcrowding due to growth
• Utility capacity and location relative to development
• Solid waste collection and disposal
• Need for parks and recreational facilities.
SECTION II - BACKGROUND AND TECHNICAL ANALYSIS

A. DEMOGRAPHIC TRENDS

Monroe County is experiencing a period of rapid growth since the late 1980s. The Cities of Waterloo and Columbia commissioned new census counts in 1994 because of this rapid growth. The results of these counts indicate that in the last four years Waterloo grew by 1,700 people or 34% and Columbia by 2,000 people or 36%. These numbers, however, should be interpreted with caution because some immigration was caused by temporary housing induced by the flood as well as the prospect of under-counting in the 1990 census, and annexations of existing development.

Building permits issued for single family dwellings in areas outside of Columbia and Waterloo for the last twelve months suggest that the area is currently growing at an annual rate of five (5%) percent.

Table 1 illustrates that population trends in Monroe County are not consistent with periods of rapid then slower growth. The ratio of population living within corporate limits versus the rural area however is more consistent hovering at the 50% level for the last 40 years.

Table 2 breaks the population data down by community, road districts, and precincts. Figure 1 shows the location of the Road Districts and the precincts within the County.

Table 3 gives the break down of the County population by age group from 1960 through 1990. It is of interest to note that the fastest growing segment of the population in the last 10-year period is the age group between 25 and 44. Increases in this child-bearing group in the 1980s and 1990s could reflect in increases in children in the 0-19 age group as a follow-on. This is a factor that school districts need to be aware of. School enrollments as shown in Table 4 reflect this aspect.

Housing trends naturally parallel population trends. Table 5 illustrates the number of housing units over the period of 1970 to 1990. Table 6 reflects building permits issued by the County (Waterloo and Columbia excluded) over the 1980-1993 period. Figure 2 shows where this development is occurring in the last five years with respect to Road Districts. This suggests that the highest rate of development is occurring in Road Districts 2, 5, and 6. Road Districts 1, 3, 4, and 7 are also experiencing growth. The reader is cautioned that these numbers exclude new housing starts inside the corporate limits of Waterloo and Columbia.

Another trend which is important to note is employment. Table 7 reflects what occupations Monroe County residents held in 1980 and 1990. This indicates that Agricultural employment is on the decline in the County reflecting land conversions and larger and fewer farm operations. Conversely, the largest increases are noted in non-durable manufacturing, finance, insurance, real estate, business, repair services, professional services, and government.
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<tr>
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</tbody>
</table>

**Total Incorporated:** 18,254 18,265 22,186 3,922 15.36%
**Total Unincorporated:** 18,254 18,265 22,186 3,922 15.36%
**TOTAL COUNTY:** 36,508 36,530 44,372 7,832 21.64%

Source: U.S. Department of Commerce, Bureau of the Census, Census of Population and Housing, Summary Tape File 3A.
<table>
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<th>1970</th>
<th>% of Total</th>
<th>1980</th>
<th>% of Total</th>
<th>1990</th>
<th>% of Total</th>
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<td>1,440</td>
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<td>1,199</td>
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<td>1,423</td>
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<td>1,692</td>
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<td>2,298</td>
<td>11.4</td>
<td>3,229</td>
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<tr>
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<td>980</td>
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<td>1,037</td>
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<td>1,095</td>
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<td>1,621</td>
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<td>1,386</td>
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<td>20,117</td>
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Table 4

SCHOOL ENROLLMENTS
1984 - 1994

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<tr>
<th>School Year</th>
<th>Kindergarten</th>
<th></th>
<th>Elementary</th>
<th></th>
<th>High School</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>% Change</td>
<td>No.</td>
<td>% Change</td>
<td>No.</td>
<td>% Change</td>
<td>No.</td>
<td>% Change</td>
</tr>
<tr>
<td>1984-85</td>
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<td>2,192</td>
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<td>3,760</td>
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<tr>
<td>1988-89</td>
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<td>2,451</td>
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<td>1,202</td>
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<td>1991-92</td>
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<td>8.0</td>
<td>4,654</td>
<td>16.8</td>
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<tr>
<td>1993-94</td>
<td>318</td>
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<td>12.5</td>
<td>4,835</td>
<td>3.8</td>
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MONROE COUNTY SCHOOL ENROLLMENT
1993-1994

<table>
<thead>
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<th>Kindergarten</th>
<th>Elementary</th>
<th>High School</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Valmeyer</td>
<td>29</td>
<td>266</td>
<td>155</td>
</tr>
<tr>
<td>Columbia</td>
<td>100</td>
<td>779</td>
<td>353</td>
</tr>
<tr>
<td>Waterloo</td>
<td>153</td>
<td>1,280</td>
<td>682</td>
</tr>
<tr>
<td>Non-Public</td>
<td>36</td>
<td>735</td>
<td>267</td>
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<tr>
<td>Schools</td>
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<td></td>
<td></td>
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<tr>
<td>TOTAL</td>
<td>318</td>
<td>3,060</td>
<td>1,457</td>
</tr>
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</table>

Pre-School and Special Education students added an additional 157 to the total enrollment during the 1993-94 school year.
### Table 5

**HOUSING 1970 - 1990**

**MONROE COUNTY**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Columbia</td>
<td>1,434</td>
<td>1,783</td>
<td>2,306</td>
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<td>29</td>
<td>14.29</td>
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<th>Number 1990</th>
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<tr>
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<td>745</td>
<td>1,185</td>
</tr>
<tr>
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<td>745</td>
<td>1,185</td>
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<tr>
<td>Precinct 6-3</td>
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<tr>
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<td>421</td>
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<td>421</td>
</tr>
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<td>230</td>
<td>455</td>
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<tr>
<td>Precinct 13-3</td>
<td>221</td>
<td>230</td>
<td>455</td>
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<tr>
<td>Precinct 14-3</td>
<td>132</td>
<td>149</td>
<td>177</td>
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<td>Precinct 15-3</td>
<td>220</td>
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<td>277</td>
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<td>Precinct 18-3</td>
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<tr>
<td>Total Unincorporated</td>
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<td>TOTAL COUNTY</td>
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<td>8,774</td>
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Source: U.S. Department of Commerce, Bureau of the Census, Census of Population and Housing, Summary Tape File 3A.
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<td>1987</td>
<td>92</td>
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<td>110</td>
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<tr>
<td>1993</td>
<td>143</td>
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</table>

Source: Monroe County Zoning Office.
<table>
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<tr>
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<th>1980</th>
<th>% of Total</th>
<th>1990</th>
<th>% of Total</th>
<th>% Change 1980-1990</th>
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<td>-14.8</td>
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<td>10,867</td>
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</table>

Monroe County residents enjoy the highest per capita income ($20,679) in the Southwestern Illinois region and the second highest in per capita income for the 12 counties in the St. Louis region.

Retail sales in the County totalled $143,096,000 in 1991\(^1\).

Sales tax receipts in 1993 totalled $8,289,397.\(^3\)

**B. DEVELOPMENT LIMITATIONS**

Monroe County has a number of factors which limit the type of development or use of the land. These factors include natural limiting conditions, conditions imposed by federal and state regulations, and other environmental concerns.

1. **FLOOD PLAIN AREA**

The Great Flood of 1993 gave Monroe County residents a new perspective of the term flood plain. On August 1, 1993 the Mississippi River at crest over topped the Columbia Levee District levee. At 49.6 feet on the St. Louis gauge this became the "flood of record" topping the previous flood of record by more than six (6) feet. The levee system - aided by valiant efforts to save it - actually had withheld a 100 year plus flood event. The Columbia Levee break quickly flooded 15,000 acres of farmland, farmsteads, rural residences, roads, and the Union Pacific Railroad. Several farmsteads were literally washed away by the force of the rushing water.

In the early morning hours of August 2nd, the Fountain Creek levees (north and south) were over topped by the rush of water from the Columbia breach flooding the 20 mile long flood plain section protected by the Harrisonville Levee System, inundating the towns of Valmeyer, Harrisonville, and Fults. In all 55,000 acres of farmland were flooded and 2,600 people were driven from their homes.

A year later the County is still only beginning to restore some semblance of order. The magnitude of this disaster has been overwhelming to deal with not only for individuals affected but also for local, state, and federal agencies assisting in recovery efforts.

Damage to homes and businesses was so severe that 525 property owners out of 650 flood impacted properties have requested to be bought out under federal programs. After

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\(^1\)Source: Sales, Marketing and Management Magazine.

\(^3\)Source: Illinois Department of Revenue.
buyout structures will be demolished and deed restrictions will prohibit any future development. This buyout action suggests significant changes in land use in the flood plain area.

As a result of the buyout actions Monroe County and the Village of Valmeyer will take ownership of a certain number of land tracts. Agreement has been reached with the federal government that the majority of the structures in the rural area can be acquired without the land tract and therefore it can stay in private ownership. In those cases where this is not possible the County and the Village of Valmeyer must develop land reuse plans to provide for long term care of these parcels.

Monroe County has in place flood plain regulations which prohibits new development in the 100 year flood plain. Review of these regulations to determine adequacy is needed.

Figure 3 shows the areas in the County designated as flood plain.

It is noted that there is an area of flood plain north of Carr Creek to the St. Clair County line that is protected by a 100 year urban levee section and therefore is exempt from flood plain regulation. While this levee was not over-topped in 1993 there were concerns as to its stability due to sand-boils in the East Carondelet area.

The County does have upland flood plain areas along major streams and along the Kaskaskia River as shown on Figure 3.

2. KARST TOPOGRAPHY

Monroe County has a significant area of land which is characterized as karst terrain. The term "karst" is defined as terrain with distinctive land forms and hydrology that arise from two main factors: the ability of some carbonate rock to easily dissolve as a result of thousands of years of channeling storm runoff and snow melt, and the presence of well developed fracture systems3. Features typical of karst terrain include closed depressions (sinkholes), caves, large springs, blind valleys, and swallow holes (White, 1985)

There are many different types of sinkholes found across the U.S. Certain types of sinkholes can result in catastrophic types of collapse. "Most sinkholes are, in fact primarily formed by slow preferential dissolution of rock along fractures or by slow subsidence due to piping of a surface cover. Therefore, rapid collapse seldom occurs."4


4Albert E. Ogden, Methods for Describing and Predicting the Occurrence of Sinkholes, 1984.
sinkholes and subsequently the groundwater. Private sewage systems in these areas, therefore must provide for the removal of both bacteria and chemical constituents from effluent. Septic systems with lateral seepage fields can generally provide this type treatment quite adequately. In these sinkhole plain areas, however it has been the experience of County development staff that in most cases either the soils are not suitable or there is not sufficient level land to install such a system (including a second backup site).

Surface discharge systems, are not completely effective in removing bacterial components and chemical components. These systems typically have open discharges - which in sinkhole plains mean that the effluent is discharged to a sinkhole. The dilemma that exists in Monroe County is that the karst areas are generally of marginal agricultural productivity, are typically wooded, and have a rolling terrain making these areas key candidates for conversion from agricultural land to residential uses. The property owner can get a much higher dollar amount per acre for this land as residential use. The key is that the land owner has no subsequent liability for environmental degradation that may occur.

Figure 5 shows the location of karst areas with a high rate of vulnerability to contribute to groundwater pollution. Areas shown reflect a high density of sinkholes.

Solutions to groundwater pollution relative to private sewage disposal problems lie in restricting residential development in heavily karsted areas, in requiring sanitary sewer collection and treatment for development, in requiring better planning and engineering of developments in these areas and by providing more consumer education.

A phenomena that has been noted in the County in the past several years is that people from outside of Monroe County who buy property in the County with sinkholes are generally not aware of problems associated with building near a sinkhole. A combination of consumer education and increased liability for developers is a possible solution to this problem.

3. STEEP SLOPES

The bluff line from Columbia south to the County line is characterized by steeply sloped terrain and in certain areas sheer cliffs. This area provides panoramic views. This aspect makes areas at the top of the bluff attractive building sites. Certain other areas of the County also have steeply sloped terrain. Slopes steeper than 15%-20% can present building constraints. Of particular concern is slope stability and erosion potential. Sudden slope failures can result if too much additional weight is placed above the slope.

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Figure 5
MONROE COUNTY
SINKHOLE PLAIN AREAS

LEGEND
- Road Lines
- Rail Lines
- County Line
- Shores of Lakes and Streams
- Sinkhole Plain
- Water Bodies

Southeastern Illinois Metropolitan and Regional Planning Commission
or by undercutting at the base of the slope. The loess soils that are found along the bluff line are highly erosive. Severe head cut erosion can occur if not properly protected. Areas of steep slopes are shown in Figure 6.

4. FORESTED LANDS

Monroe County is fortunate to have a relatively large amount of timber land as shown in Figure 7. The forested areas provide habitat for many species of plants and animals. The forested areas also play a vital role in keeping soil erosion in check and in slowing stormwater runoff.

The timbered areas are located not coincidentally in the same areas as other severe building constraints are found i.e. karst, steep slopes, wetlands, etc. Forefathers in Monroe County decided not to clear this land for farming or development with good reason.

5. WETLANDS

Wetlands in Monroe County are principally found in the flood plains of the Mississippi River and the Kaskaskia River. In the flood plain the hydrology for these wetlands was generally created as a result of river meander scars i.e. Moredock Lake. Another major wetland is Kidd Lake.

Numerous upland pothole type wetlands are found in sinkholes that have sealed over and hold water.

Wetlands are protected by federal regulation. New development is required to avoid disturbing wetlands whenever possible. Figure 8 shows the locations of the larger wetland areas in the County.

6. SEISMIC ACTIVITY

Monroe County is located within a moderate risk Seismic Zone due to its proximity to the New Madrid fault. As a moderate risk damage could be expected with a major earthquake along the New Madrid fault.

Soil conditions and the high water in the bottoms area along the Mississippi River would place this area at highest risk during an earthquake. These soils could become quick (quicksand) during an earthquake.
Figure 8
MONROE COUNTY
WETLANDS

LEGEND

- Road Lines
- Rail Lines
- County Line
- Shore of Lakes and Streams

Wetlands
Water Bodies

Southeastern Illinois Metropolitan and Regional Planning Commission
7. COMPOSITE BUILDING CONSTRAINTS

Figure 9 illustrates the composite effect of these above discussed building constraints. Looking at the County land from this perspective suggests appropriate areas for development and areas not to develop.

C. DEVELOPMENT OPPORTUNITIES

Monroe County finds itself in a very enviable position with regard to development opportunities because it has so many positive attributes.

With the completion of Illinois Route 3 and Interstate 255 people living in the northern portion of Monroe County can commute to downtown St. Louis in 30 minutes or less. Areas within similar travel time on the Missouri side of the river have long since been developed. This improved accessibility serves to connect Monroe County to all parts of the St. Louis region.

As Monroe County is discovered from a locational sense the many other positive attributes only add to the development impetus:

- Low cost land
- Relatively low real estate taxes
- Low crime rates
- Good schools
- Favorable building climate
- A beautiful living environment
- Good units of local government that work effectively
- A rural atmosphere
- Low levels of traffic congestion
- Relative freedom from other urban ills.

Developers in Monroe County have been building high quality type residential units. This has generally set the pattern for new development in the County. Developers, however in large part are developing very low density type developments with low lot cost. It appears that there are opportunities for higher density developments offering more longer term profitability but which would necessitate more up front capital investment. Advantages of higher densities of development are that they can be more cost effective in terms of providing utilities, roads, etc. and are a better use of the land resources.

The quality of life issues mentioned above pertain in large part to residential development. Residential development, however provides the population density necessary to support commercial development. Given the population trends in Monroe County the time is right for significant commercial development.
There are several different types of commercial development for which opportunities exist in Monroe County.

Regional commercial type development would serve all of Monroe County and portions of St. Clair and Randolph Counties. This type would typically cluster development along a major arterial roadway with frontage roads and limited access points. This type development is usually planned as a commercial park with sufficient land to expand the park in phases. Examples of possible use would be:

- A regional retail shopping center
- Professional office buildings i.e. medical, legal, accounting, engineering, and other business services
- Corporate offices and regional business offices.

The primary opportunity for regional commercial development is along Illinois Route 3 between Columbia and Waterloo.

Local or community commercial opportunities also exist in a number of locations in the County. Community commercial uses include local retail stores, and service oriented establishments. Some examples could include food stores, drug stores, convenience stores, auto services, eating and drinking establishments, cleaners, etc. This type development would generally serve individual communities. Clustering of commercial activity is suggested to avoid excessive stripping out along roadways and avoid traffic access problems. Opportunities for this type development exist in the New Town of Valmeyer, along the Waterloo bypass, the Columbia bypass, Hecker and Maestown.

There exists several emerging industrial development opportunities in the County. Some of the basic requirements for industrial development are problem free land, transportation accessibility, high capacity utilities, and a favorable business climate. One of the biggest assets Monroe County has to offer is the positive work ethics of its people. There are four primary sites in the County which have or can have the right ingredients for certain types of industrial development. They are in the Columbia, Waterloo and Valmeyer areas.

D. LAND USE ANALYSIS

1. EXISTING LAND USE

Monroe County covers 388 square miles or 248,320 acres. Agricultural land use comprises the largest single use of land. Current agricultural statistics show that 187,039
acres are involved in agricultural land use with 589 farms averaging 318 acres each. This land use would include land cultivated for crops, pasture land, feedlots and farmsteads.

Conservation land uses make up the second largest land use in the County. Conservation land is typically land left in its natural state such as forested land, lakes, stream beds, or drainage courses, wetlands, steeply sloped areas, etc.

Residential land uses in the County basically fall into two categories. Low intensity urban/suburban residential areas which would average one to six housing units per acre. This type residential area is typically found within municipalities or developments with central sewage systems such as Low-Dei subdivision. The second type of residential land use is categorized as rural residential with densities equal to or less than one housing unit per 2.5 acres. This type development typically has not had public water and sewer services available in the past.

Existing commercial land uses are generally of the community commercial type. Most commercial land uses occur within the existing municipalities. Waterloo and Columbia have a limited amount of what would be termed regional commercial uses. These would include larger retail outlets, and professional services which would draw customers from a large geographic area.

Industrial land use in the County is relatively limited and is not concentrated. What industry is located in the County is basically spot located.

2. LAND USE TRENDS

The most dramatic change in land use has been induced by the Great Flood of 1993. It is fully anticipated that as many as 525 out of 650 single family residences in the flood plain will be acquired and demolished as a part of federal buyout programs.

In the rural areas the County will be permitted to acquire structures only and not take ownership of the land. This is a highly desirable situation for the County in that the County does not have to maintain this land or take it off the tax roles. Equally important is that it permits this land to be restored to agricultural uses and thus kept productive and income producing.

There may also be a small amount of land (100-200) acres which may convert from agricultural use to open space/conservation use because of sand buildup during the flood. Except for this situation the flood or its after effects has not caused any transfers of farmland to conservation uses such as wetlands.

Within the Old Village of Valmeyer the Village is taking ownership of individual lots acquired under the buyout program. The Village is studying ways to convert certain land areas of the town to conservation uses which may include wetland creation. By controlling the hydrology and creating selective borrow areas for filling of basements after demolition the Village would create new wetland areas which could be used for recreation, waterfowl management, etc.

Land use conversion in the flood plain raises a number of issues to be dealt with:

- Real estate tax base loss for Road Districts, Levee and Drainage Districts, the Valmeyer Fire Protection District, Valmeyer School District and others. The question becomes how do they continue their functions.

- Security for farm operations. Farm residences with substantial damage are not able to rebuild, however, farm buildings and equipment will remain. Farm operators have a true concern for protecting their investment due to the potential for theft and vandalism.

Another significant land use trend pertains to residential development in rural areas. The current zoning requirement for a rural residential single family residence is 2.5 acres per unit. Because land costs are relatively very inexpensive the 2.5 acre rule is providing no incentive to locate in a residential development with municipal services. The affect on land use is to take a substantial amount of land from agricultural land uses to a non-productive use. At least 500 acres of land is converted in this manner each year given present development rates. This pattern of development also discourages extension of public utilities to serve such sites because of low densities.

Related to this trend is another serious problems of strip residential development along rural roads. Interpretation of the State Plat Act is currently allowing individuals to subdivide parcels as many times as they want into 2.5 acre tracts thus bypassing the intent of the Subdivision Ordinance. The end result is to destroy the utility of the rural road by permitting numerous access points.

Another stripping out technique has been to develop “fishhook” or “flag” lots with numerous 50’ wide pieces of property starting at the roadway and then opening up at the rear of the lot - generally in the shape of a flag. Again the intent is to sidestep development regulations which would require quality developments.

Individuals seeking to locate manufactured housing (mobile homes) are required to obtain a special use permit to locate in an A-1 Agricultural zoning district. This special use permit also requires that this unit be located on a 2.5 acre or larger tract. There are two issues involved:
a. There is an obvious need for quality manufactured housing subdivision(s) to be developed in the County which would provide more cost effective housing options; and

b. There is a need to revise the method manufactured housing permits are issued.

High rates of land conversion from agricultural use to residential use and other uses along the Columbia/Waterloo corridor is expected. The issue is whether this will be relatively compact development adjacent to existing communities or whether it will be sprawl or leap frog type development.

Development along the Illinois Route 3 corridor is an important land use issue. Strip development with numerous access points off Route 3 should be avoided. Initial patterns of development tend to be permanent patterns. Therefore careful forethought needs to be given to the pattern of land use in this area.

E. TRANSPORTATION ANALYSIS

1. THE EXISTING SYSTEM

The Monroe County highway and road network is comprised of:

- State Highways - 60 miles
- County Highways - 72 miles
- Road District Roads - 418 miles

Municipal streets add additional mileage to this system. The Illinois Department of Transportation has classified these roads as to their functional use as shown on Figure 10.

The existing state and federal highway system consists of Interstate 255, Illinois Route 3, Illinois Route 158, Illinois Route 156, and Illinois Route 159. Monroe County has been fortunate to have a number of important projects included on recent Illinois Department of Transportation building programs. Most notable is the improvements to Illinois Route 3 from Interstate 255 to south of Waterloo. When completed next year Monroe County will enjoy a substantially upgraded facility. Illinois Route 3 is designed as a four lane divided highway with limited access over most of its length and a five lane highway in portions of its length. This improvement will substantially reduce traffic congestion in Waterloo by allowing through traffic to bypass to the west side of town. Longer range Illinois Department of Transportation plans call for Route 3 to be improved to a four lane facility to Red Bud in Randolph County.
Figure 10
MONROE COUNTY
FUNCTIONAL HIGHWAY CLASSIFICATION

NOTE: This figure supercedes the existing 1990 Functional Highway Classification.

LEGEND

- Road Lines
- Rail Lines
- County Line
- Shore of Lakes and Streams
- Water Bodies

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
The County highway and Road District system has historically been an oil and chip system except Maeststown Road, a portion of Kaskaskia Road, and Ames Road with alignments set over a century ago. Many alignments have geometric deficiencies. County highway improvement programs over the last 20 years have targeted specific geometric improvements and bridge replacement. This existing system basically serves as the County's collector roadways. The County Highway Department is undertaking a number of initiatives this year to start an overall upgrade of Bluff Road which carries 4,000 vehicles per day on the northern sections. Improvements targeted are to construct a new road section south from Interstate 255 to remove several jogs in this section and to construct a new bridge across Carr Creek.

Other near term (5-year) improvements to the County system include:

- **Bluff Road**: Columbia to Valmeyer - Widening and surfacing along with alignment change north of Valmeyer around Moredock Lake.
- **Blulff Road**: One-half mile north of County Line - Replace Lake Mildred Bridge.
- **Hanover Road**: Route 3 to New Hanover - Geometric improvements with widening and surfacing.
- **Floraville Road**: Waterloo to County Line - Preliminary Plans and R.O.W. acquisition for widening and surfacing.
- **D Road**: Valmeyer Road south 7/10 mile - Geometric improvements and widening.

2. TRANSPORTATION ISSUES

An issue that was raised was the effectiveness of the Road District form of maintenance. Is it better to have a consolidated county highway system where the county performs all maintenance. This question was analyzed from a number of perspectives. On the surface from a pure management perspective it would have to be said that it would be more efficient to have one large central system to deliver road maintenance services. This could include central management, central financial records, central bulk purchasing, more efficient use of labor and equipment. The fact of the matter is, however that the reverse is true. Having an electorate based (consumer) driven system with part-time supervision and labor, but with county based purchasing, equipment backup system, and county supported engineering provides good results. County supplied labor charges are significantly higher than the road district can provide. This appears to be a case of - if it isn't broke, don't fix it.

There are three road districts which bear closer scrutiny. These are the three flood impacted districts which have had revenues cut considerably. These include District's 8, 9, and 10. Options could include: a reduced level of maintenance/service,
consolidation with other districts, higher taxes etc. These are issues which will require a high level of local input to decide.

The most significant issue facing the County highway system and the Road Districts is how to correct serious highway deficiencies in developing areas of the County. The dilemma always facing transportation officials is do you correct the problem before development occurs (when the tax base is not there) or after development occurs and rights-of-way can’t be acquired. There are certain areas of the County where development is inevitable and improvements will be necessary. At the same time there is a need to designate a collector system to accommodate growth. Collector roads in urban areas are generally spaced on a one to two mile spacing on a grid pattern. The particular area of concern is the Waterloo/Columbia corridor and specifically roads such as Floraville Road, HH Road, New Hanover Road, D Road, Gall Road, Steppig Road, and Palmer Road.

F. **UTILITY SYSTEMS ANALYSIS**

This section will identify existing utility services in the County and potential shortfalls in service.

1. **POTABLE WATER SERVICE**

One year ago Monroe County faced an upcoming shortfall in potable water supply for the County. Waterloo’s plant and system were near capacity and Valmeyer’s and Maestas’s water treatment plants needed major upgrading. Residents in the rural areas with contaminated wells were forced to haul water.

One year later the scenario is significantly different. Waterloo has entered a service agreement with Illinois American Water Company to supply up to 1.5 MGD via a new main extended from Millstadt. As a part of this service agreement Illinois American has installed a one million gallon ground storage reservoir along Illinois Route 158 with booster pumps and rechlorination.

The Fountain Water District has constructed a new well field and treatment plant in Valmeyer. A 250,000 gallon elevated storage tank located in the New Town of Valmeyer will serve as the point of distribution. The District has constructed 38 miles of water mains to serve the west central area of the County. The District plans main extensions as funding and users are founded. This system has been designed for potable water supply only without fire flow capacity.

The New Town of Valmeyer will be supplied by Fountain Water District through a bulk sale agreement. Valmeyer is constructing its own distribution system and 150,000 gallon elevated storage reservoir. High capacity fire flow is designed into the system.
Maeystown is in the process of upgrading its entire system. Wells and treatment plant will be located at Chaffin Bridge. A 70,000 gallon elevated storage tank situated to the east of the Village will provide both good pressure and fire flow capacity.

Columbia purchases its water from Illinois American Water Company and is serviced by a mainline extended from Cahokia paralleling Illinois Route 3.

Hecker is supplied potable water through the Freeburg-Smithton-Hecker Water Commission. An 8" main serves the Village from Smithton. Potable water system locations are shown on Figure 11.

The Great Flood of '93 demonstrated the need for a careful look at potable water supplies in the region. In particular the need for flood protected well heads and treatment plants was shown. The need to have emergency interconnects so that if a treatment plant is shutdown there are other supply options was also proven.

2. SANITARY SEWER SERVICE

Monroe County sanitary sewer service is limited to the communities of Columbia, Waterloo, Valmeyer, and Hecker and the subdivisions of Lou-Del and Timber Lakes. Treatment plant capacities and average flows are shown in Table 8.

The Columbia average flow is .60 MGD, however, occasionally in wet weather periods flow can approach capacity. The lagoon south of Carr Creek was inundated by flood waters in 1993. Based upon projected land use for the Columbia area consideration needs to given to treatment capacity expansion. The City of Columbia is currently in the planning stage of adding capacity at the Carr Creek site.

Columbia has requested a Facility Planning Area (FPA) expansion to extend their prospective service area to the south and east of the City as shown on Figure 12. Approval of this request has been given by the Areawide Management Coordinating Board. Final approval by IEPA is pending.

Waterloo in anticipating future growth is planning a new lagoon system to the east of the City. Waterloo straddles two drainage basins which basically follows Illinois Route 3. Therefore treatment capacity in each basin will allow for a higher percentage of gravity flows to each plant. Expanded treatment will give Waterloo an 8,500 population equivalent capacity. The City has requested a Facility Planning Area (FPA) expansion as shown on Figure 12. Approval has been granted by the Areawide Management Coordinating Board. Final approval by IEPA is pending.

Valmeyer’s Facility Planning Area has been increased to include the new town site. The Village’s existing treatment plant is being put back into service. The retrofit design
MONROE COUNTY
POTABLE WATER SERVICE

LEGEND

- Road Lines
- Rail Lines
- County Line
- Shore of Lakes and Streams
- Water Bodies

Corpusa Limits
Fountain Water District Mains
Illinois American Mains
1/2 Mile Boundary

Service Areas

Southeastern Illinois Metropolitan and Regional Planning Commission
includes the potential for subsequent plant expansion through the use of extended aeration.

Maestystown has been planning the development of sanitary sewage facilities, but to date has not found a way to fund installation.

Table 8

<table>
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<th>Design Flow</th>
<th>Receiving Stream</th>
<th>Actual Flow</th>
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<td>Valmeyer</td>
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<td>Duck Creek</td>
<td>(Not Operating)</td>
</tr>
</tbody>
</table>

3. STORMWATER MANAGEMENT

Levee and Drainage Districts in Monroe County serve the combined purpose of maintaining the levee system and maintaining internal drainage. The real estate tax supported Districts include Fish Lake, Columbia, Harrisonville, Fort Chartes and Ivy Landing and Stringtown. The territory of these Districts encompass only the Mississippi River flood plain area. The upland areas which contribute significantly to high storm flow volumes and sediment from erosion are not in Districts.

The Great Flood of '93 has put a substantial burden on most of these Districts due both to heavy expenses and loss of tax base. There is a need for a more comprehensive approach to stormwater management and erosion control in the County.

4. TELECOMMUNICATIONS

Telephone service in Monroe County is provided by Harrisonville Telephone Company and GTE. GTE services the Hecker area and the extreme eastern area of the County while Harrisonville serves the balance.
Harrisonville Telephone Company has been making substantial capital investment to provide state of the art services for the County. The Company has 100% digital switching capabilities. All of its switching offices are linked or planned to be linked with fiber optic cable. A five million dollar corporate office building is under construction in Waterloo. The Company is also building a new service network to serve the New Town of Valmeyer. Extensive repairs were required as a result of the Flood of '93.

Harrisonville Telephone Company is capable of providing business and industry considering a Monroe County location with high quality services and with superhighway connection. Similarly school districts can be provided a "distance learning environment" through fiber optic connections.

5. ELECTRIC POWER SERVICE

Electric service in Monroe County is provided by Illinois Power Company, Monroe County Electric Cooperative and the City of Waterloo.

Illinois Power Company has franchise agreements with Columbia, Valmeyer, Hecker and Maestown. Illinois Power also serves portions of the unincorporated areas of the County. In Waterloo the City owns the distribution system and has backup generating capabilities but purchases power from the Illinois Municipal Electric Association.

Monroe County Electric Cooperative serves portions of the unincorporated areas of the County.

Both Illinois Power and Monroe County Electric Cooperative have had extensive repairs due to the Flood of '93. Illinois Power is making substantial investment in the New Town of Valmeyer by installing a new 34.5KV line for backup power and new underground service for the town.

6. NATURAL GAS

Illinois Power and the City of Waterloo provide natural gas service in the County. Illinois Power has franchise agreements with Columbia, Valmeyer, Hecker and also serves several subdivisions, i.e. Lou-Del. The company has ample capacity to serve future development in the County.

The City of Waterloo provides gas distribution services for areas within the City.
SECTION III - PLAN ELEMENTS

A. GOALS, OBJECTIVES, AND POLICIES

The goals, objectives, and policies that have been developed in Phase I of the planning process form the framework upon which the plan recommendations were developed. Collectively goals, objectives, policies, and plan recommendations describe the vision of the future for the County.

Goals are general statements of purpose or proposed long term ideals, while objectives are more specific short term statements of purpose. Objectives may be used to measure the achievements of a plan. Policies outline the procedure for accomplishing specific objectives.

1. GROWTH GOAL AND OBJECTIVES FOR MONROE COUNTY

GOAL: * Optimum levels and intensities of growth to promote the health, safety, enjoyment and well being of County residents.

OBJECTIVES: * A continuation of the present moderate rate of growth.

* Growth that will contribute to the economic vitality of the County.

* Growth that will not over tax the ability of the County and individual units of government to provide services.

* Growth that will not adversely affect the County's scenic and natural resources.

POLICIES: * Encourage the formulation of appropriate standards for development in environmentally sensitive areas.

* Promote a favorable business climate within the County through the development and implementation of effective business location and retention strategies.

* Revise existing regulatory controls and develop new ordinances as necessary to provide for the preservation and conservation of the County's natural resources.

2. LAND USE DEVELOPMENT GOAL AND OBJECTIVES

GOAL: * A desirable balance between urban and rural land use activities, existing and future development, and the natural environment.
OBJECTIVES:

- To provide for an adequate amount of urban development on land that is appropriate for urban expansion;
- to preserve prime farmland and forest areas to the extent practical by discouraging urban sprawl;
- to minimize development costs in areas in transition from rural to urban settlement by the orderly extension of public utilities and community facilities;
- to discourage scattered residential development when the resulting urban densities will not support a full range of urban services;
- to protect the economic base of the agricultural community and promote the highest and best use of the land; and
- to enhance the appearance of the County by preserving areas of natural beauty, and by encouraging urban development proposals which are compatible with the surrounding environment.

POLICIES:

- Guide new development into compact and compatible growth patterns which maximize the use of existing transportation facilities, public utilities, and other services and amenities;
- discourage scattered "leap-frog" development;
- maintain and strictly enforce development regulations and adopt new ordinances as may be necessary to manage growth and development;
- discourage "strip and build" development practices which remove all vegetation and alter the natural drainage; and
- periodically examine and revise the County Plan and ordinances to ensure that current conditions are reflected.

RESIDENTIAL DEVELOPMENT OBJECTIVES:

- To provide high standards for the design and construction of housing units and subdivisions;
- to protect, improve or rebuild residential areas to conserve and upgrade the residential character of the County;
- to discourage rural residential areas from developing in "strip" patterns along the roads of the County.
* to provide for a wide range of housing unit types for all income levels and age groups within the County; and

* to provide for the separation of residential areas from more intensive and incompatible uses, such as agricultural, commercial and industrial uses, through natural and manmade buffers.

**POLICIES:**

* Develop specific programs, including the adoption and active enforcement of housing and building codes, to address residential problems;

* promote the planning, design and construction of a wide range of housing unit types in various price ranges;

* encourage adequate mobile home subdivisions in appropriate areas of the County;

* prevent incompatible commercial and industrial land uses from intrusion into residential areas;

* protect, so far as possible, residential neighborhoods from heavy traffic.

**COMMERCIAL & INDUSTRIAL DEVELOPMENT OBJECTIVES:**

* To locate and encourage the development of commercial and industrial activity in concentrated nodes that will be safe and attractive;

* to encourage the location and development in the County of businesses and industries that will be responsible members of the Monroe County community, and that will enhance the quality of life.

**POLICIES:**

* Encourage the planning and construction of new commercial development in attractive, well-designed clusters to curtail sprawling, strip commercial development along major traffic arteries;

* conduct a thorough design review of proposed commercial and industrial developments to ensure that provisions are made for attractiveness, safety, compatibility and traffic flows;

* retain and strengthen existing commercial areas to increase convenience, compatibility and profitability;
* encourage the establishment of industrial parks, designed attractively and efficiently with adequate facilities, service roads, and other necessary supporting facilities to centralize the location of industrial development;

* encourage the development of ordinances that establish industrial and commercial performance standards for the protection of the County’s environment;

* discourage the occurrence of obnoxious and offensive fumes, odors, noises, effluent, by-products and emissions in the County; and,

* prohibit the disposal of toxic and radioactive wastes in the County and the location of any facilities which accept such waste.

**PARK & RECREATION DEVELOPMENT OBJECTIVE:**

* To provide park and recreation facilities in sufficient quantity and variety to effectively serve the present and future needs of all County citizens.

**POLICIES:**

* Acquire recreational lands before urban development occurs;

* develop County parks with a variety of recreational opportunities to accommodate the differing recreational needs of County citizens;

* encourage the commercial development of the County’s natural resources such as wetlands, forest areas and rivers to expand the range of recreational opportunities available within the County.

* support the development of multi-use trails within the County to connect points of interest and local destinations and to provide linkages with trails outside the County; and

* encourage cooperation between the County and municipalities to meet the recreational needs of both the urban and rural populations.

**NATURAL RESOURCE OBJECTIVE:**

* To maintain control of the use of County natural resources and to protect and enhance the natural resources of the County for future generations.

**POLICIES:**

* Preserve selected woodlands or other nature areas, scenic vistas, and historic sites from destruction and encroachment by urban development, sprawl and highways;

* preserve flood plains for stormwater management and recreation purposes;
* require that any future mining operations utilize simultaneous excavation and rehabilitation methods which will return the land to a useful purpose according to a predetermined plan;
* discourage development where physical conditions such as soil types, drainage patterns, internal flooding and ponding, steep slopes, and other constraints create developmental, environmental and/or health problems;
* encourage the use of sound farming techniques to conserve the agricultural land resources of the County; and,
* encourage the consideration of information on farm land quality in development decisions.

**CITIZEN PARTICIPATION OBJECTIVE:**

* To encourage citizen participation in the operation of and planning for the County.

**POLICIES:**

* Provide full information coverage of the problems and plans of the County government and the Plan Commission;
* encourage county-wide organizations to undertake specific improvement projects or to sponsor programs that will benefit the County; and
* hold a semi-annual County open house for residents to meet County officials, department heads and to discuss problems and complaints.

3. **KARST AREA GOALS AND OBJECTIVES**

**GOAL:**

* Improve environmental quality and protect natural resources in karst areas.

**OBJECTIVES:**

* Provide land development options for karst areas that maintain and protect land values;
* encourage agricultural and residential land use practices which reduce soil erosion, chemical runoff and animal waste runoff, and promote conservation tillage and chemical management;
* encourage stormwater management practices to reduce soil erosion and retard runoff;
* protect groundwater resources from contamination from new development by requiring appropriate sewage disposal systems;
• protect groundwater resources from contamination by prohibiting waste from being dumped into sinkholes.

POLICIES:
• adopt a county subdivision ordinance amendment which adds additional considerations for developments and provide prototype land development options in karst areas;
• adopt an amendment to the county health code which requires environmental safe solutions for sanitary sewage disposal in karst areas;
• develop a county stormwater management plan to reduce contamination of surface and groundwater from soil erosion, chemical runoff, and animal waste runoff;
• establish a countywide license/inspection program for both new and existing private sanitation systems;
• adopt an amendment to the subdivision ordinance which requires that final approval of a subdivision plat clearly establishes each lot to be a marketable, buildable, and permittable lot. NOTE: Excluding any unforeseeable problems. (At which time the landowner, developer, and the County share equal responsibility in resolving that problem.)

4. FLOOD PLAIN GOAL AND OBJECTIVES

GOAL: • Protect life and keep property out of harms way.

OBJECTIVES: • Prohibit new development in flood plain area.
• Encourage agriculture as the predominant land use in the flood plain.
• Encourage secondary land uses for conservation purposes.
• Encourage reconstruction of the Mississippi River Levee System to at least previous flood protection level and complete a study of increasing the level of flood protection.

POLICIES: • Strictly enforce the County Flood Plain Ordinance.
• Restrict public investment in infrastructure and public buildings in the flood plain area to the minimum required.
* Task the U.S. Army Corps of Engineers to restore flood level protection to its previous level as soon as practical.

5. TRANSPORTATION GOAL AND OBJECTIVES

GOAL: * Provide for the safe and efficient movement of goods, services and people throughout Monroe County.

OBJECTIVES:
* Provide high quality transportation facilities at a reasonable cost;
* Provide a means to improve roadway deficiencies in developing areas of Monroe County;
* Identify collector routes on at least a two-mile grid area in developing areas of Monroe County;
* Encourage an improved transportation corridor from Southern Illinois through Monroe County to St. Louis, MO;
* Provide for improved transit services within Monroe County and connections with regional public transit services;
* Pursue opportunities to develop or expand a general aviation airport in Monroe County;
* Promote access control and management on Monroe County’s arterial highways;
* Encourage development of a trail network utilizing dedicated rights-of-way and/or use of secondary roads.

POLICIES:
* Adopt an official map identifying planned highway improvements with right-of-way reservations;
* Correct geometric and sight line deficiencies on roads in developing areas of Monroe County;
* Create the Monroe County Transit District for the purpose of improving transit services;
* Discourage the use of heavily travelled roadways by non-motorized forms of transportation;
* Encourage the identification and use of lightly travelled roadways as connecting links between points of interest and trails designated for non-motorized use;

* Encourage the preservation and development of Monroe County levees and abandoned railroad rights-of-way as appropriate for non-motorized trail use.

6. ECONOMIC DEVELOPMENT GOAL AND OBJECTIVES

GOAL: * Sustain existing economic activity in the county and create new employment and business opportunities.

OBJECTIVES: * Retain existing business and industry by providing an attractive business climate.

* Promote new industrial and commercial businesses by providing for properly planned, zoned and serviced development areas.

* Promote business development in cooperation with city efforts.

* Promote the expansion of tourism-related economic activity.

* Promote expanded local capture of agricultural sector economic activity.

POLICIES: * Establish an industrial development organization to retain, expand, and attract businesses to the County in cooperation with the cities.

* Encourage the identification and development of light industrial and commercial parks in conjunction with the municipalities.

* Participate in the marketing and promotion of Monroe County as a tourist destination.

* Encourage expansion of agricultural exports through the County and development of agricultural processing facilities.
B. LAND USE PLAN

The Monroe County Land Use Plan reflects the development opportunities which present themselves to the County along with the physical building constraints and limiting factors. The Land Use Plan should be considered as a generalized land use which reflects patterns and direction of growth as well as patterns for preserving natural features and existing land use. The Land Use Plan intends to balance competing needs. Urban development land use conversion needs on the one hand are balanced with the need to retain non-urban activities such as agriculture and open space.

I. LAND USE CATEGORIES

Following is a description of land use categories used in this plan.

a. AGRICULTURAL

This land use category includes land under cultivation for crops, pasture, animal production, farmsteads, and farm related business.

This category provides for:

• the preservation and promotion of the agricultural economy

• The preservation of the rural life style and agricultural heritage

• The protection of important agricultural land from conversion to other uses.

b. CONSERVATION

Land in this category is best suited to be retained in a natural state. It includes land with the natural resources which should be protected and land unsuited for development due to one or more building constraints. Use of conservation land could include:

• Forested open space

• Drainage basins, lakes, and streams

• Major wetland areas and areas subject to repetitive flooding

• Wildlife conservation areas

• Active and passive park land
c. RESIDENTIAL

Residential land use has been broken into two categories that reflect the density of
development suggested in each. In both categories the land use is comprised primarily
of single family houses on individual lots. Higher density residential development such
as multi-family units, mobile home parks etc. are suggested to be developed within
corporate municipalities or in locations where public utilities are available.

(1) RESIDENTIAL - LOW DENSITY

This land use category is suggested in areas adjacent to existing municipalities
where utility extensions can be expected to occur as development moves outward
from current city boundaries. This land use would have single family houses with
average densities of one to six units per acre. This area could include planned unit
type developments, or subdivision type development. Mobile home subdivisions
may be considered in these areas.

(2) RURAL RESIDENTIAL

This land use is suggested in areas undergoing transition from agricultural to more
intensive residential uses. Rural residential areas typically may have public potable
water, but not sanitary sewer service. Density of development would range from
estate type units at one unit per ten acres to rural subdivision at 1 unit per acre.

d. COMMERCIAL

Commercial land uses include retail stores, business services, business offices,
professional services, showroom/warehouse type outlets, automotive related activities,
eating and drinking establishments, and certain agricultural businesses. The commercial
category includes two types of use. Regional type developments serve the entire
County and portions of other counties. This type land use suggest clustering of
commercial activities into park type developments with frontage roads and limited
access from arterial streets. Such uses could include shopping centers, professional
offices or business parks.

Community commercial uses generally consist of local retail and service type
businesses. Clustering of development is suggested. Highway businesses including
automotive related commercial uses are included.

e. INDUSTRIAL

This category of land use includes manufacturing, warehousing and distribution.
Suggested activities include fabrication and assembly operations, wholesale trade,
warehousing and distribution, mineral extraction and agricultural related industrial
operations. Industrial location typically requires both good transportation connections and utility services.

C. LAND USE PLAN RECOMMENDATIONS

The Monroe County Land Use Plan (located in pocket at end of document) reflects what is considered to be the highest and best use of land in Monroe County for the planning period. Following are recommendations for each land use category:

1. Agricultural Land Use Recommendations -- Agricultural land use recommendations as shown on the Land Use Plan indicates that a high percentage of the land in Monroe County is recommended to remain in agricultural land use. The plan reflects 155,090 acres of land or 62% of County land remain for agricultural land use.

The plan recommends agricultural preservation in areas shown for agricultural use. That is to say that development regulations discourage conversion of agricultural land to other uses. Agricultural land in the Mississippi River floodplain is aided in this recommendation by flood plain regulations which prohibit development and by land conversions induced by flood buyouts. The plan recommends a very low density of residential development in agricultural areas to protect the rural character and the utility of the land for farm operations. These very low densities for residential development also reflect the limited infrastructure (particularly water and sewer services) available in these portions of the County.

Another plan recommendation regarding agricultural land use pertains to farming practices in karst areas. It is recommended that each farming operation in karst areas using conventional row crop tillage institute one or more of the following sediment control practices:

- No till/low till for row crops
- Conversion to alfalfa/clover or other legume type crops
- Sinkhole repair with sediment control, drainage, and venting features
- Installation of other erosion and sediment control features.

It is suggested that an organized effort be established to develop a clover/alfalfa production, processing, marketing and transportation program to make this an economically viable mass-produced product of Monroe County. A combined private sector/public sector approach could be utilized. The private sector could provide the production, processing and marketing capabilities while the public sector provides production incentives, technical assistance, and river/rail transportation facilities.

2. Conservation Land Use Recommendations -- Conservation land uses as shown in the plan amounts to 57,678 acres or 23% of the land acreage. The recommendation of the plan is that these areas essentially remain in their natural state.
The plan recommends the acquisition of a 525-acre tract of land adjacent to the New Village of Valmeyer for use as a combined Village/County Park. This tract of land is classed as a "natural area" by the Illinois Department of Conservation and holds a large stand of native hardwood trees, stands of prairie grasses and many species of wildlife, spring-fed streams and scenic overlooks. It is recommended that this park be developed as a passive park with a system of trails for hiking and equestrian use.

The plan recommends preservation of a conservation corridor which follows the bluffs from Columbia on the north to the Randolph County line on the south. The intent of preserving this corridor would be to protect scenic views, continuous forest habitat, and environmentally sensitive land.

3. Residential Land Use Recommendation – Residential land uses are illustrated as residential and rural residential. The residential category of land use represents low intensity single family land uses of one to six units per acre as is currently found in existing communities. This type of land use is recommended in and around the existing communities of Waterloo, Columbia, Hecker, Maeystown and the new town of Valmeyer. The location where this land use is suggested is either served by utilities or has the prospect for logical extension of municipal utilities. The residential land use shown in the Columbia and Waterloo vicinities is included in their recently approved Facilities Planning Areas (FPAs). These prospective service area were approved by the Areawide Management Coordinating Board (AMCB) (administered by SIMAPC) and are pending approval by the Illinois Environmental Protection Agency.

It is recommended that the County establish close working relationships with the cities to expand utility capacities to accommodate new growth. As a parallel recommendation it is recommended that Waterloo and Columbia pursue annexation and pre-annexation agreements with landowners and developers to provide for a smoother transition from rural to urban uses and improve the cities ability to finance line extensions.

Specifically it is recommended that residential development in these areas take the form of subdivision development—as opposed to single unit strip development.

It is recommended that the County assist prospective developers in planning, zoning, and permitting of one or more manufactured housing subdivision(s) in this land use area. The residential low intensity land use as shown on the land use plan represents 10,720 acres of land outside the current city limits or 4% of the total land use.

The second category of residential land use recommended is rural residential. This land use category is recommended in areas of transition from rural to urban. The area recommended is a circumferential area around Waterloo and including the intervening area toward Columbia. This area would be suited for large estate type developments and rural subdivisions with larger lot sizes. Typically development would have potable water but not municipal sewage collection and treatment services. The land area shown on the Land Use Plan for this category represents 18,299 acres or 7% of total land use.
4. Commercial Land Use Recommendations -- The plan recommends two areas of the County be developed as regional commercial centers. The first area is along Illinois Route 3 between Lou-Del subdivision to north of Hanover Road. Properly planned with frontage roads, limited access and extension of sewer service from Waterloo, this area has the potential for near term development. It is recommended that a corridor development plan be initiated as soon as possible to detail land planning, access control, utility extensions development incentives and marketing objectives.

A second regional commercial land use area is recommended on the northwest side of Columbia from Sand Bank Road north to I-255 and from Illinois Route 3 to relocated Bluff Road. The high degree of accessibility combined with the pattern of development set by Luhr Bros., Burlington Environmental, and Illinois Power lends itself to continued regional commercial development. Careful review of the drainage system in the flood plain is recommended.

A number of areas are recommended for community commercial land use development. In the Columbia area they include:

- Illinois Route 3 north of the I-255—an area that can take advantage of I-255 sight exposures.
- Select points along the Illinois Route 3 Columbia bypass area.
- Illinois Route 3 at Gilmore Lake Road.
- A strengthening of commercial activity on Main Street in downtown Columbia.

In the Waterloo area community commercial is recommended:

- Along the northern leg of the Illinois Route 3 bypass from HH Road to Moore Street.
- Continued infilling along the northern section of old Route 3 north of Hammacher Street.
- Continued infilling at the intersection of the new Illinois Route 3 bypass and Illinois Route 156.
- Continued infilling on the south leg of old Illinois Route 3 in the Breezy Hill area.
- Strengthening of downtown commercial activity.

Other community commercial land use development is recommended in the new Village of Valmeyer in its downtown area, in Mayestown and in Hecker.
It is recommended that the communities developing community commercial activity give particular attention to incorporating access control features, limiting curb cuts and fitting commercial activity in with the character of existing development.

5. **Industrial Land Use Recommendations** — A number of areas within the County are recommended for light industrial land uses:

- Along Interstate 255 at Columbia there is an existing combination of large land tracts, interstate access, rail access via the Union Pacific Railroad and the potential for river access. The site has unlimited groundwater as well as access to potable water and sanitary sewer service from Columbia. The site has the potential for warehousing/distribution operations as well as manufacturing and assembly.

It is suggested, however, that the levee section protecting this flood plain area be studied for the possible inclusion of levee stabilization protection features.

- At New Hanover Road along Illinois Route 3 an industrial park to accommodate highway oriented industrial activity is recommended. This area would be served by Waterloo utilities. Potential users include manufacturing, fabrication, and assembly type operations as well as warehouse/showroom and distribution facilities.

- South of Waterloo along Illinois Route 3 is an area suited for highway oriented type industrial activities. A continuation of the current pattern of agricultural-related industrial services is a potential for this site. Water and sewer services, however, are not available to this site.

- Along Illinois Route 156 west of Illinois Route 3 bypass is an area which offers potential for continued development for distribution type operations and agricultural-related industrial services. This area extends along Illinois Route 156 to the Fairgrounds. Utility services are in place and provided by the City of Waterloo.

- The Village of Valmeyer has developed a small scale industrial park within the new village site. The park is principally serving as a site for flood impacted Valmeyer industries to relocate, however, several tracts remain available for purchase. They are utility served.

- Valmeyer Underground is a major industrial initiative being taken by the Village to develop 4.5 million square feet of space which was previously a limestone quarry. The site is served by the Union Pacific Railroad and will have direct access to Bluff Road (see Transportation Plan). Water and sewer services are available from Valmeyer and high capacity electric and gas are
available on-site from Illinois Power. The site, which is located out of the flood plain, offers potential for long-term storage, manufacturing and underground farming operations. The constant 56°F temperature provides certain environmental control features.

6. Public Land Use Recommendations -- There is one area recommended for consideration as public use. This is the potential for conversion of the Columbia private airport to become a general aviation-public use facility. If the owners are receptive to this recommendation a public sponsor would be needed. The public sponsor could be the City of Columbia, Monroe County, or Kaskaskia Port District. A public general aviation airport facility can access Federal Aviation funds for improvements at a 90/10% ratio. In addition to supporting general aviation interests for the area, this facility could facilitate development of the adjacent business park and industrial area.

D. TRANSPORTATION PLAN RECOMMENDATIONS

The Monroe County Transportation Plan recommendations are presented in two components:

- Long-Range Transportation Plan, and
- Five-Year (Short-Range) Improvements Program.

The Long-Range Transportation Plan as illustrated on the Land Use and Transportation Plan (rear pocket) and on Figure 13 establishes a system of highways and roads to accommodate projected development. This system of highways and roads establishes a classification for each road according to its functional use.

The Plan addresses future functional needs of the system from the following stand points:

- Improvements to existing roads which are near capacity, have geometric deficiencies and/or have other safety concerns;
- Identifies missing sections to accommodate functional need or future development.

Recommended Highway and Road Improvements are listed below by their functional category:

**Principal Arterials**

Improvements to principal arterials in Monroe County are intended to 1) upgrade the connection between the County and the rest of the metropolitan area and to southern Illinois, and 2) improve the traffic carrying capacity in and through the County and, 3) create development opportunities.
• I-255 Interchange at Ramsey Road. This interchange is recommended to provide access to the planned industrial and commercial area along I-255.

• Illinois Route 3 -- It is recommended that Illinois Route 3 be upgraded to a four-lane divided limited access road south from Waterloo to Red Bud. This improvement is considered to be the next leg of improvements necessary to upgrade highway access from the St. Louis region to southern Illinois.

**Major Collectors**

The major collector road system is intended to provide access from all points of the County to population/business centers and the arterial system. Improvements to this system are intended to upgrade the utility of these roads to permit them to serve their functional purpose.

• Bluff Road — It is recommended that this road be upgraded for 12.5 miles from Palmer Road at Columbia to Illinois Route 156 in Old Valmeyer. On the north end of this section Bluff Road should be built on new alignment from Palmer Road south for approximately .8 miles with a new bridge crossing of Carr Creek. It is recommended that Bluff Road be upgraded to a 22-foot asphaltic concrete surface with 4-foot shoulders. Geometric improvements to increase sight line distances are recommended for several locations. At the south end of this segment it is recommended that Bluff Road be constructed on new alignment from Moredock Lake to Illinois Route 156 on the east side of the Union Pacific Railroad. An existing right-of-way (acquired for the Great River Road) is available for this 1.9 mile section. This new alignment will avoid two rail crossings and make for a more direct connection to Bluff Road south of Valmeyer.

South of Old Valmeyer two geometric improvements are recommended to eliminate 90° curves, one at Pinkels Woods and the second at the Chalfin Bridge. A longer range recommendation would be to relocate Bluff Road to the east side of the Union Pacific Railroad at Maeys Station. Replacement of the Lake Mildred Bridge south of G Road is planned.

• Valmeyer Road — A new road to connect Bluff Road to the New Village of Valmeyer and to Illinois Route 156 is recommended. This road would provide a direct route for New Valmeyer to the north.

• Hanover Road — This road is planned as a major east-west connecting route between Illinois Route 3 and Bluff Road. Improvements recommended include realignments at several substandard curves and cross section improvements for surface widening, addition of shoulders and drainage. It is also recommended that the surface be upgraded to asphaltic concrete as a longer range improvement.
• Floraville Road — It is recommended that cross sectional improvements be made for surface widening, shoulders and drainage. It is also recommended that the section from Roger Street to east of the Waterloo city limits (Hammacker Street) be upgraded to an asphaltic concrete surface with curb and gutter.

• Kaskaskia Road — It is recommended that Kaskaskia Road from LL Road to Renault be upgraded with surface widening, shoulders, and drainage improvements. An asphaltic concrete surface is recommended for this section.

Minor Collectors

• Ramsey Road/DD Road — In keeping with the I-255 interchange recommended above, it is suggested that Ramsey Road south of I-255 be upgraded to DD Road to allow heavy truck access into the industrial area. DD Road similarly should be upgraded from Ramsey Road to Palmer Road to allow through access and connections for both the industrial area and the regional commercial developments.

• Palmer Road — It is recommended that public access be obtained through Columbia Quarry such that Palmer Road can be extended to connect with Bremser Road in St. Clair County. The completion of this section would in effect provide Columbia with a northern bypass route connecting Illinois Route 158 with Illinois Route 3/I-255. Interconnection with Rueck Road and Bluffside Road will allow access to and from development on the north side of Columbia.

• Bottom Road — An intersection improvement is recommended at D Road to correct a dangerous situation.

• D Road — This road is in a rapidly developing corridor and is very narrow and has many sharp curves. It is recommended that this road be realigned to correct geometric deficiencies and be widened with shoulders and drainage improvements. This upgrade is suggested from Bottom Road to Hanover Road.

• Gall Road — This road is also in an area expected to undergo extensive development. Geometric improvements along with widening, shoulders and drainage improvements is recommended from Illinois Route 3 to Hanover Road. Several roadway realignments are recommended between Hanover Road and HH Road to make this road a more continuous through-route north to south.

• Steppig Road — This road will be a key in developing a grid collector system in this area. On the west end of Steppig Road from D Road to Bluff Road improvement is needed to remove a steep grade and narrow pavement width. On the east end between Gall Road and Illinois Route 3 a new road section is recommended. Connection is suggested at Gilmore Lake Road.
• Roger Street -- It is recommended that this street on the east side of Waterloo be extended north to Country Club Lane. Completion of this roadway will help establish a grid development pattern in this expected growth area.

• Heck Drive Extension -- It is recommended that this public subdivision street be extended south to Illinois Route 156.

• LL Road/MM Road -- This recommended road improvement is for a new section to interconnect LL Road with MM Road to form a continuous through collector route from Illinois Route 3 to Maeystown. A realignment to correct a geometric deficiency on MM Road is also recommended.

The short range Five-Year Improvement Program intends to prioritize planned improvements according to need and financial resources available. The following projects have been designated for this short range program.

• Bluff Road improvement from Columbia to Valmeyer (Monroe County)
• Woodland Ridge Extension -- from New Valmeyer to Bluff Road (Valmeyer/County)
• D Road from Bottom Road to Hanover (Columbia/County)
• Hanover Road - Illinois Route 3 to D Road (Monroe County)
• Roger Street - Hammacher (Floraville Road) to Country Club Lane (Waterloo/County)
• Floraville Road -- Waterloo to County Line (County)
• Bluff Road -- Lake Mildred Bridge replacement (County)

It is recognized that many of the suggested improvements will be years away due to funding limitations. It is recommended that the County prepare and adopt an "official map" which identifies longer range improvements to County roads. The "official map" as provided for by State Statutes requires developers to recognize planned roadway improvements such that necessary rights-of-way are protected and reserved.

Monroe County currently is transit served by Bi-State Development Agency through limited bus service to Columbia and Waterloo. It is recommended that Monroe County study more closely the merits of establishing a Monroe County Transit District as St. Clair and Madison Counties have done to more effectively control the level and type of transit service provided and the use of transit funds.
Monroe County has the opportunity to make more use of its location along the Mississippi River for access to river transportation. Development of port facilities could enhance industrial development potential in the County. Careful site assessment needs to be performed to determine optimal locations for such facilities. Such factors as proximity of navigation channel, water depths at various river stages, potential for sand bars, access to land-side transportation, etc. must be considered.

Monroe County, along with St. Clair and Madison Counties, have been included in a "Regional Trails Plan" prepared by SIMAPC and funded by the Illinois Department of Conservation. The portion of this plan which pertains specifically to Monroe County is excerpted below.

* The Monroe County Trails Plan provides for over fifty-four miles of regional trails totaling more than $8.2 million over the twenty year planning period. (See Table 9.) Unlike Madison and St. Clair Counties, however, Monroe County has no active funding application for trail development and no proposed projects which appear to be approaching readiness for short-range development (with the possible exception of the local trails proposed for the New Town of Valmeyer). The regional trails that are planned for Monroe County are illustrated graphically on Figure 14.

Short-Range Plan

Although no regional trails projects are proposed for short-range development in Monroe County, certain organizational actions can be taken toward implementation in the not too-distant future of county policies which have been formulated to facilitate trail development. The following policies pertaining to trail development in the County have been taken from the Monroe County Plan, now in the final stages of completion by the County with technical assistance from Southwestern Illinois Planning Commission:

"Support the development of multi-use trails within the County to connect points of interest and local destinations and to provide linkages with trails outside the County;"

Encourage cooperation between the County and municipalities to meet the recreational needs of both the urban and rural populations;

Discourage the use of heavily travelled roadways by non-motorized forms of transportation;

Encourage the identification and use of lightly travelled roadways as connecting links between points of interest and trails designated for non-motorized use; [and]

Encourage the preservation and development of Monroe County levees and abandoned railroad rights-of-way as appropriate for non-motorized trail use."
Table 9
SUMMARY OF MEDIUM TO LONG-RANGE TRAILS PLAN AND ESTIMATED COSTS
MONROE COUNTY, ILLINOIS

<table>
<thead>
<tr>
<th>Trail No.</th>
<th>Trail Name</th>
<th>Length in Mi.</th>
<th>Acquisition</th>
<th>Construction</th>
<th>Total Development</th>
<th>Annual Operation &amp; Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO204</td>
<td>Columbia Bike &amp; Pedestrian Trail</td>
<td>2.0</td>
<td>12,000</td>
<td>300,000</td>
<td>312,000</td>
<td>3,000</td>
</tr>
<tr>
<td>MO326</td>
<td>Monroe Co. Levee Trail</td>
<td>46.0</td>
<td>None</td>
<td>6,900,000</td>
<td>6,900,000</td>
<td>69,000</td>
</tr>
<tr>
<td>MO331</td>
<td>Kaskaskia River Trail</td>
<td>6.6</td>
<td>None</td>
<td>990,000</td>
<td>990,000</td>
<td>9,900</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>54.6</td>
<td>$12,000</td>
<td>$8,190,000</td>
<td>$8,202,000</td>
<td>$82,020</td>
</tr>
</tbody>
</table>

Having established an official position on trail development, consideration should now be given to designating one or more entities capable of coordinating, sponsoring (as a funding applicant) and managing trails. The County may wish to form a committee to investigate how this could best be accomplished so that projects could be identified and development could progress at a relatively rapid pace, much in the same manner it has occurred in St. Clair County. Thus, short-range trail planning activity in Monroe County should focus on organizational matters aimed at implementation of trail development policies.

Medium- to Long-Range Plan

The fifty-four plus miles of regional trails planned for Monroe County are currently considered as prospects for development in the medium- to long-range planning period for the reasons stated above. (See Figure 14.) These proposed trails are designed to take advantage of Monroe County’s extensive levee system and the State of Illinois owned land of the Kaskaskia River Canal along the eastern boundary of the County. The proposed Monroe County Levee Trail would be connected with the proposed levee trail in St. Clair County and would offer the potential for continuation into Randolph County, thus providing Monroe County with regional connections consisting of a continuous forty-six mile trail serving the western part of the County. It would also include connection to Bluff Road near Columbia and north of Valmeyer. The Kaskaskia River Trail in the east is a 6.6 mile continuation from St. Clair County and also offers the potential for continuation into Randolph County. The proposed Columbia Bike and Pedestrian Trail provides another two miles of proposed trails for the County and provides an opportunity for connection to other potential trails within the County.
Other Potential Trails

Monroe County contains a number of other potential trails. Most of these would follow existing roadways either as separated trails or, more likely, as on road facilities. Some of the more desirable routes have been identified on Figure 14. These routes generally connect population centers, proposed trails, and scenic, natural and cultural points of interest. The longest east-west potential trail within the County would connect the proposed Monroe County Levee Trail with the proposed Kaskaskia River Trail with intermediate connections to Bluff Road (Kaskaskia Historic Trail), Maeystown, Illinois Caverns and Illinois Routes 3 and 159. Bluff Road is the longest north-south potential trail identified, but this route has its limitations due to conflicts with motorist which would most likely necessitate a separated trail. Other potential roadway trails shown on Figure 14 provide access to some of the County’s other scenic areas and points of interest, while at the same time provide connections between Columbia, Valmeyer and Waterloo.

Abandoned roads within the County may also offer some potential for trail use as may the abandoned railroad between Columbia and Red Bud. This abandoned railroad right-of-way, however, does not appear to offer a great deal of potential, since it has been abandoned for approximately twenty years."

E. UTILITY SYSTEM RECOMMENDATIONS

1. POTABLE WATER SERVICE

The public water service in Monroe County has been measurably improved within the last year. There are a number of longer range issues which should be addressed.

- Interconnection of systems for emergency conditions
- Planning for service extensions into developing areas
- Addition of strategically located storage facilities

Specific interconnections which should be considered include:

- Interconnect the Illinois American Millstadt to Waterloo main with the Illinois American Cahokia to Columbia main between Gilmore Lake Road at Illinois Route 3 and Columbia.
- Interconnect the Fountain Water District System with Maeystown’s new system at the northern limits of the Village.
• Make permanent the interconnection of the Fountain Water District and the City of Waterloo at the Fairgrounds.

• A Fountain Water District Phase II interconnection with Illinois American at Hanover Road.

Based upon projected land use between Waterloo and Columbia systems planning to preliminarily locate and size an eventual distribution system needs to occur. A component of this planning is the siting of additional storage facilities both for pressure and fire flow considerations. Urban design standards must be used in these developing areas. Rural delivery system standards without fire flow must be discouraged in these areas.

2. SANITARY SEWER SERVICE

Waterloo and Columbia have wisely looked at their Facility Planning Areas and mutually agreed on boundaries. This allows these two cities to start long range service planning consideration with a knowledge of what the service area will be. It is recommended that Waterloo, considering the longer range, should look at the Andy’s Run and Northern Fountain Creek Basins for a potential future treatment plant siting and collection system.

In the Columbia Facility Planning Area the Carr Creek plant site is well located for servicing future development in the Carr Creek drainage basin.

It is suggested that Maestown continue to seek funding sources to develop a collection and treatment system for the Village.

3. STORMWATER MANAGEMENT SYSTEMS

It is recommended that Monroe County support legislative efforts to permit counties in Southwestern Illinois to have the option to develop stormwater utilities for the purpose of developing long term stormwater management systems in the County.

F. DEVELOPMENT PRACTICE RECOMMENDATIONS

The following recommendations are intended to provide the vehicle to implement Plan recommendations. These recommendations are specific to the legal instrument applicable for implementation.

1. ZONING ORDINANCE

Specific changes recommended for inclusion in a zoning ordinance amendment or update include the following:
a. It is recommended that a new Agricultural Zone District be created with a minimum lot size of ten (10) acres. It is suggested that the land uses illustrated as Agricultural and Conservation on the Land Use Plan be included in this category. Existing lots of record and existing residential structures at the time the ordinance change would take effect would be grandfathered. This action would tend to preclude stripping out of non-farm residences along rural roads. Included in this District would be areas in sinkhole plains.

b. Creation of a Rural Residential Zone District for areas illustrated in the land use plan. The primary land use in this zone would remain agricultural, however, single family residential units would be a permitted use. It is recommended that minimum lot sizes would remain at the current 2½ acres per lot.

c. An Incentive Overlay Zone for portions of the above mentioned Rural Residential Zone is recommended to provide developers and land owners opportunities for developing higher density residential developments in areas capable of supporting it. This Incentive Overlay District is intended to encourage development in and around the existing communities with municipal services generally in the area shown in the Land Use Plan as “Residential”. Developments within the zone would have available to them density credits which would enable them to reduce lot sizes. Examples of these credits would be - development provides potable water, central collection system for wastewater, have entered a pre-annexation agreement with adjacent community, have a stormwater management plan in place, follow city development standards, etc. The end result would be to allow subdivisions with lots in the ½ acre to one (1) acre range if all incentives are met.

d. Single lot sizing and frontage requirements are recommended to be modified to discourage excessive stripping out along County roads and flag type lots. The minimum lot frontage along County roads for single lots should be 320 feet and parcel sizing should require that newly platted parcels have a maximum depth to width ratio of 4:1.

e. An update to the Zone District maps is recommended so that the zones more closely represent the intent of the Comprehensive Plan. Specifically more land around the existing communities should be zoned residential and certain zoning anomalies such as Rural Mobile Home Districts be eliminated.

2. SUBDIVISION ORDINANCE

Recommended actions and ordinance changes for the County subdivision regulation include the following:

a. Careful review and comparison of Waterloo, Columbia and Valmeyer subdivision ordinances needs to occur along with follow up coordination with these
communities such that the County's ordinance is at least as restrictive as the municipalities. The intent here is to not discourage development in the municipalities versus the County due to ordinance inequities.

b. A sewage disposal plan is a recommended requirement for a subdivision plat submittal. This would require that more forethought be given to the type and location of sewage disposal systems and thus help ensure that lots platted are buildable.

c. It is recommended that subdivisions with more than ten (10) lots with density of not more than .40 residential units per acre (2½ acre lots or less) be required to install a central collection system with an approved form of secondary treatment and effluent discharge and that subdivisions of 2½ acre lots or more have the option to provide private sanitation treatment systems that have been approved by Illinois Department of Public Health and the Bi-County Health Department for use in those areas, provided that soil conditions, runoff factors and other site conditions are suitable for such systems. It is also recommended that either system include a community shared maintenance program that insures the system and components thereof are continuously maintained and functioning properly.

d. It is recommended that more detailed subdivision plats be required to be prepared by developers so that County development staff can more easily evaluate the plat. Examples of greater detail include location of sinkholes, level of topographic detail, drainage patterns, identification of building sites, sewage disposal locations, special flood hazard areas and steep slopes.

e. It is recommended that the subdivision preclude structures from being located in the lower elevations segments of sinkholes. This area of a sinkhole (regardless of whether it is open or closed) may experience subsidence due to unseen voids.

f. It is recommended that plats for developments in the Karst areas contain a disclosure statement indicating that this is a Karst area and the suitable precaution must be take to avoid future problems. This statement would also act as a disclaimer notice on the part of the County stating in effect that the County does not represent that these lots are safe for construction.

g. It is recommended that the Subdivision Ordinance be amended to reflect that instances when plats will not be required will be for division or subdivision of tracts of five (5) acres or more rather than the current 2½ acres and that the sale of single lots less than five (5) acres would require a plat rather than the current 2½ acre requirements.

h. It is recommended that minimum standards for subdivisions include set-aside requirements for open space.
3. **BI-COUNTY HEALTH CODE**

A modification to the existing Bi-County Health Code is recommended to more effectively control sewage effluent.

a. A sewage disposal inspection system is suggested to be established. This would require Bi-County Health to inspect private sewage systems when home ownership changes hands. This will help eliminate flagrant violations of existing State of Illinois private sewage disposal standards.

b. A second recommendation is to establish strict effluent standards for sewage discharges in karst areas.

4. **STORMWATER DRAINAGE AND DETENTION ORDINANCE**

It is recommended that Monroe County adopt a stormwater management type ordinance to reduce the potential for downstream flooding, stream destabilization, and erosion. With extensive development occurring in the County it is imperative that a new problem not be created. Buildings and paved surfaces with low water permeability add significantly to the rate and volume of runoff. An ordinance similar to that adopted by the Village of Valmeyer is suggested for the County (with appropriate modification). This ordinance would require developers to include retention/detention structures as a part of their development.

5. **SOIL EROSION AND SEDIMENT CONTROL ORDINANCE**

This recommendation is an adjunct to the Stormwater Ordinance mentioned above. This ordinance would require developers and individual home builders to incorporate temporary and permanent erosion control features into development projects. Monroe County has an extensive amount of highly erodible soils which need to be conserved.

6. **BUILDING CODES**

It is recommended that Monroe County adopt the BOCA (Building Officials Code Administration) codes. This will help ensure quality development in the future. The BOCA building code also includes specific requirements for seismic conditions which may be important in the future. In addition to adopting the BOCA code it is recommended that the County establish a building inspection program to include qualified building inspectors.

7. **SOLID WASTE**

It is recommended that Monroe County determine the feasibility of establishing a uniform weekly roadside refuse collection system for rural residents and individual
municipalities who wish to participate. The feasibility analysis would include the cost for providing this type of service under various scenarios of participation and services, i.e., with and without recycling programs. If costs are determined to be reasonable, the County Board would need to adopt an ordinance to create the uniform procedures, charges, and required participation.

8. **ECONOMIC DEVELOPMENT**

It is recommended that the County establish an Economic Development Commission for the purpose of positioning the County for industrial and commercial opportunities. The Commission should have representation from financial institutions, real estate, developers, targeted land owners, utilities and local government.

The primary purposes of such a commission is to detail a plan of approach to implement economic development projects.

Considerations include:

- Determine targeted business and industry types
- Determine land tracts to be targeted
- Plan for roadway improvements or other transportation connections
- Develop agreements with land owners
- Develop a financial vehicle for initial site improvements
- Develop a financial incentives package
- Develop a sales and marketing approach
- Determine local point of contact
- Networking with other development groups.
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