

**TABLE OF CONTENTS**

<b>CHAPTER ONE – INTRODUCTION AND PLANNING PROCESS .....</b>	<b>1</b>
INTRODUCTION.....	1
EXISTING LAND USE PATTERNS.....	1
DEVELOPMENT PRESSURES IN THE JACKSON COUNTY COUNTRYSIDE .....	3
POLICY PLAN.....	3
THE PLANNING PROCESS.....	3
Zoning Regulations .....	4
Subdivision Regulations.....	6
Role of the Planning Commission .....	7
Role of the County Commission.....	8
Role of Board of Zoning Appeals.....	9
The Basis of Decision-Making .....	9
BASE MAP .....	10
<b>CHAPTER TWO – DEMOGRAPHICS AND EXISTING CONDITIONS .....</b>	<b>13</b>
POPULATION.....	13
Racial Characteristics .....	15
Median Age .....	17
Population Projections.....	17
Age Characteristics.....	19
MALE-FEMALE RATIO .....	20
EDUCATION .....	21
INCOME CHARACTERISTICS.....	21
HOUSING .....	22
EMPLOYMENT CHARACTERISTICS.....	24
UNEMPLOYMENT RATE.....	25
RURAL RESIDENCES IN UNINCORPORATED AREAS MAP .....	26
DEVELOPMENT IN UNINCORPORATED AREAS OF JACKSON COUNTY .....	27
Rural Residences in Unincorporated Areas .....	27
Nonresidential Structures in Unincorporated Areas .....	27
NONRESIDENTIAL STRUCTURES IN UNINCORPORATED AREAS MAP .....	28
CAPACITY OF URBAN CENTERS TO SERVE GROWTH .....	29
AGRICULTURE AND URBAN DEVELOPMENT .....	29
SOIL TYPES MAP —JACKSON COUNTY, KANSAS .....	30
• GROWTH OF AGRICULTURE AS A KEY PLAYER IN THE ECONOMY OF THE FUTURE;.....	31
PRIME FARMLAND SOILS .....	31
AREAS OF NATURAL SIGNIFICANCE.....	31
KNOWN AREAS OF SENSITIVE HABITAT .....	31
KNOWN SENSITIVE HABITAT AREAS MAP.....	32
THREATENED OR ENDANGERED SPECIES KNOWN OR LIKELY TO OCCUR IN JACKSON COUNTY ...	33

*Table of Contents*

<b>CHAPTER THREE – GOALS, OBJECTIVES AND POLICIES.....</b>	<b>35</b>
FOCUS SESSION SUMMARY .....	35
Future Land Use Issues .....	36
Quality of Life Issues .....	37
Economic Development Issues .....	39
POLICY PLANNING WORKSHOP SUMMARY .....	40
Planning Strategies .....	40
Future Land Use Recommendations.....	41
Quality of Life .....	42
Economic Development .....	45
<b>CHAPTER FOUR—FUTURE LAND USES .....</b>	<b>49</b>
LAND USE TIERS .....	49
Suburban Tiers .....	49
LAND USE TIER MAP .....	50
U.S. 75 Highway Tiers.....	51
Long-term Development Tiers.....	51
Conservation Tiers .....	52
Rural Development .....	52
PLANNING POLICY OF THE LAND USE TIER SYSTEM .....	52
ZONING .....	53
ROADS.....	53
SANITARY SEWERS.....	54
CONFINED FEEDING OPERATIONS .....	54
STREAM BUFFER REQUIREMENTS .....	54
<b>CHAPTER FIVE – TRANSPORTATION .....</b>	<b>55</b>
MAJOR THOROUGHFARE PLAN.....	55
REGIONAL TRANSPORTATION PLANS.....	55
Roadway Classification System.....	55
COUNTY ROADWAYS .....	56
ARTERIAL ROADWAYS.....	56
STATE HIGHWAYS .....	56
ROADWAY CLASSIFICATIONS.....	57
HIGHWAY CORRIDORS .....	58
ACCESS CONTROL .....	59
INTERSECTION SPACING .....	59
DRIVEWAY SPACING .....	60
CORNER CLEARANCE.....	61

<b>CHAPTER SIX – FLOOD HAZARD MITIGATION .....</b>	<b>63</b>
FLOOD MITIGATION PLAN .....	63
DOCUMENTATION OF THE PLANNING PROCESS AND PUBLIC INVOLVEMENT.....	63
Focus Session .....	64
Policy Planning Workshop Summary.....	64
FLOOD MITIGATION PROGRAM.....	64
Program Goals.....	65
KANSAS WATER OFFICE INFORMATION.....	65
Statutory Framework.....	66
Conditions that led to an updated Kansas Hazard Mitigation Strategy.....	67
Kansas Water Plan Objective.....	67
Implementation Activities.....	67
Criteria for Eligibility .....	68
HISTORICAL FLOODING.....	69
Regional Overview.....	69
WATERSHED AREAS OF JACKSON COUNTY .....	73
EXISTING PROBLEM AREAS.....	76
Historical Flooding – Jackson County .....	77
PROFILING HAZARD EVENTS.....	77
FLOOD DAMAGE MAP .....	78
POTENTIALLY VULNERABLE ASSETS .....	79
Banner Creek Reservoir .....	79
Banner Creek Reservoir Emergency Action Plan .....	80
ESTIMATING POTENTIAL LOSSES .....	82
ANALYZING DEVELOPMENT TRENDS.....	82
FLOOD HAZARD MITIGATION GOALS, OBJECTIVES AND STRATEGIES OF JACKSON COUNTY .....	82
ALTERNATIVE RELIEF MEASURES.....	83
Potential Procedures To Mitigate The Effects Of Flooding .....	83
IDENTIFICATION, ANALYSIS AND IMPLEMENTATION OF FLOOD MITIGATION MEASURES .....	84
Multi-jurisdictional Mitigation Strategy .....	85
MONITORING, EVALUATING, AND UPDATING THE MITIGATION PLAN .....	86
Capital Improvements Program .....	86
Plan and Zoning Regulations Updates .....	86
IMPLEMENTATION OF THE FLOOD MITIGATION PLAN THROUGH EXISTING PROGRAMS .....	87
Job Descriptions .....	87
Comprehensive Plan.....	87
Development Permitting .....	87
Site Plan Review .....	87
Subdivision Regulations.....	87
CONTINUED PUBLIC INVOLVEMENT.....	87
Contact Protocol in Flood Emergency .....	87

*Table of Contents*

<b>CHAPTER SEVEN – PROPOSED IMPLEMENTATION.....</b>	<b>89</b>
PLAN EVALUATION/MONITORING.....	89
GRANDFATHER CLAUSE.....	89
CONFINED FEEDING OPERATIONS .....	89
STREAM BUFFER REQUIREMENTS .....	94
Three-zone Buffer System .....	94
Buffer Crossings.....	95
SITE PLAN REVIEW.....	95
“P-D” PLANNED DEVELOPMENT DISTRICT.....	99
LAND EVALUATION AND SITE ASSESSMENT (LESA) SYSTEM .....	106
Land Evaluation .....	107
Site Assessment.....	107
Agricultural Buffer Zones .....	107
<b>APPENDIX A – GLOSSARY OF ACRONYMS.....</b>	<b>109</b>

**TABLES**

Table 2.1 Population Growth (1970-2020) .....	13
Table 2.2 Population Growth in Cities of the County (1990-2020) .....	15
Table 2.3 Racial Characteristics in Jackson County (1980-2020).....	15
Table 2.4 Racial Characteristics Comparisons (1980-2020) .....	16
Table 2.5: Median Age (1970-2020).....	17
Table 2.6: Population Projections (2000-2020) .....	18
Table 2.7 Male-Female Ratio (1980-2020).....	20
Table 2.8 Income Summary (1980-2020) .....	22
Table 2.9: Housing Units Characteristics (1990-2020) .....	23
Table 2.10: Housing Values (1990-2020).....	24
Table 2.11: Employment by Sector (1990-2021).....	25
Table 1.6: Soil Types.....	31
Table 5.1: Roadway Classifications.....	58
Table 5.3: Minimum Intersection Spacing Standards.....	60
Table 5.4: Suggested Maximum Driveway Guidelines .....	60
Table 6.1: Chronology of major and other memorable floods in Kansas, 1844-1999 .....	72
Table 6.2: Jackson County Recent Historical Event Summary .....	79
Table 6.3: Banner Creek Reservoir Hazard Areas.....	80
Table 6.4: Implementation of Mitigation Measures.....	85

## **FIGURES**

Figure 1.1: Vicinity Map .....	2
Figure 2.1 Population Growth Index (1970-2020).....	14
Figure 2.2 Trends in Minority Population (1990-2020) .....	16
Figure 2.3: Population Projections (2000-2020).....	18
Figure 2.4 Population Pyramids (2020) .....	19
Figure 2.5 Educational Attainment of People aged 25 or more (2020).....	21
Figure 2.6: Trends in Housing Occupancy (1990-2020) .....	23
Figure 2.7: Unemployment Characteristics (1991-2020) .....	25
Figure 5.1: Corner Clearance Guidelines.....	61

## **Maps**

Maps are listed individually in each chapter.

***Table of Contents***

*(This Page Left Blank Intentionally)*

## CHAPTER ONE – INTRODUCTION AND PLANNING PROCESS

### INTRODUCTION

Jackson County is located in Northeast Kansas. Its southern edge is ten minutes from the city limits of Topeka and 50 minutes from the western portions of the Kansas City metropolitan area (See Figure 1, the “Jackson County Vicinity”). Jackson County is close to urban centers, yet its rural atmosphere—with small towns and open spaces—is attractive to new residents looking for a quiet life and convenient services. The Jackson County Comprehensive Plan (or “the Plan”) serves as a guide for the planned and orderly growth of unincorporated regions of the County, outside the area cities and beyond the territory of the Prairie Band of the Pottawatomie Nation.

The healthy and orderly growth of more urban uses on rural land relies on a set of well-defined development policies. The Plan provides guidelines for development decisions, both present and future 20 years into the future. Zoning changes, subdivision approvals, redevelopment and new development proposals should be reviewed by referring to the policies of the Plan. Effectively managing anticipated growth to the year 2030 is key to realizing the County’s long-range planning objectives.

The Plan consists of the **Land Use Tier Map** and the supporting text, both of which must be considered when making land use changes. The Plan guides the direction and type of growth, but at the same time is a dynamic tool that accommodates changes in local markets. The Plan serves as the basis for zoning decisions. If applications for zoning changes are in accordance with the Plan they are presumed to be reasonable. If zoning change requests are not in accordance with the Plan, but are perceived as reasonable, the County should review its planning and regulatory documents and amend either the Zoning Regulations or the Plan. Additionally, to comply with state law and ensure that the County proactively responds to development trends, the Plan shall be reviewed annually and thoroughly reviewed and updated approximately every five to ten years.

### EXISTING LAND USE PATTERNS

Unincorporated Jackson County is a large, diverse community. Planning and zoning policies that are contained in this Plan are formulated around a well-structured scope of planning analysis that looks ahead even beyond a pre-set time horizon. Existing development patterns must be understood as Jackson County plans for the future.

Rural Jackson County—beyond the area cities and towns—does not have the needed infrastructure to support urban and suburban growth. Throughout America, suburban and city growth continues to consume rural land. This occurs because it is the natural tendency for people to want to build and buy homes that are brand new, and they are nearly always built on the outer urban fringes, where empty land is available.

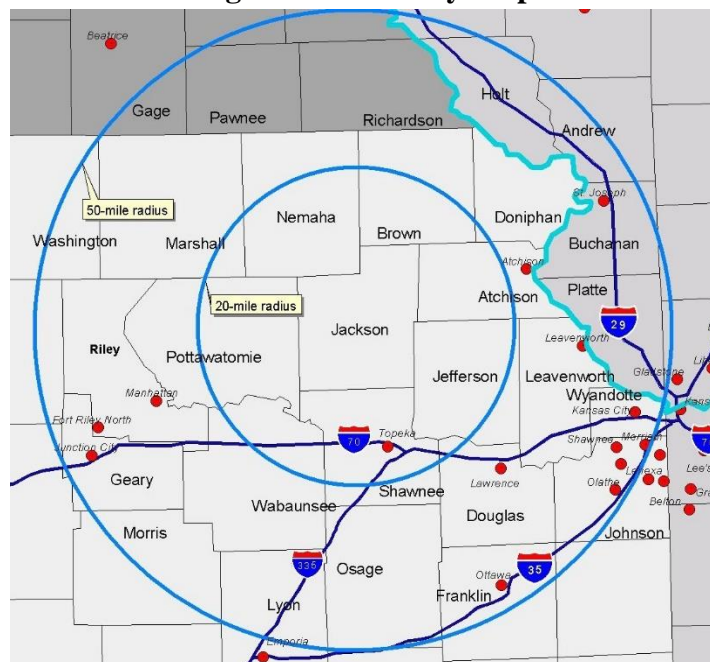
***Introduction and Planning Process***

If the rural areas develop at urban and suburban-zoning densities, which is happening at a rapid pace in suburban and rural areas of our Nation, more services are called for. These urban services—street maintenance, snow removal, police protection, ambulance service, building and zoning enforcement, traffic controls, streetlights—all become too much of a burden on county government with limited fiscal resources. It is county government, after all, that these new “rural-suburbanites” expect will provide “city” services.

Jackson County cannot provide urban services into rural areas. The County cannot afford to build and maintain rural roads to serve dense outlying developments. New commercial and industrial developments are desirable since they will generate jobs and tax revenues, but those funds should be committed for infrastructure to serve those urban uses. Unincorporated rural areas of the County generate relatively little tax revenues to provide services and infrastructure—yet residential growth is extensive along U.S. 75 Highway in rural areas (**Ref. Rural Residences in Unincorporated Areas Map, Chapter 2**).

Therefore, denser residential development along with most commercial and industrial developments should be concentrated in limited areas where there is the ability to provide public services and infrastructure in a timely manner and at reasonable costs. Residential and non-residential development in the unincorporated County will have to be self-supporting in terms of water, sewer, roads, and related infrastructure. The Jackson County Comprehensive Plan objectives require new policies and procedures to be implemented. Development proposals in the developing “Tiers” outside the cities of Jackson County and along U.S. 75 Highway will be reviewed in the future based on a new Site Plan Review procedure.

**Figure 1.1: Vicinity Map**





---

**DEVELOPMENT PRESSURES IN THE JACKSON COUNTY COUNTRYSIDE**

Many people perceive the countryside as a safer, cleaner, cheaper, and more rewarding place to live, compared to the congestion, crime, and high property taxes of cities and the monotony and rising taxes of the suburbs. Meanwhile, a house has become the major investment for many families. The strategy is to:

- (a) buy as much house as possible;
- (b) maximize the federal mortgage interest deduction;
- (c) build up equity in the house while paying off the mortgage; and
- (d) buy or build a house in the countryside where the appreciation potential is high.

The Jackson County plan seeks to define the contradictions inherent in unplanned, unmanaged, uncoordinated land use patterns of urban growth into rural areas. In particular, we need to understand how to accommodate a balance between growth and preservation.

---

**POLICY PLAN**

The County strives to define land use issues in the context of a countywide community. The County now seeks to influence land use development—in the public interest—by preserving its strengths and implementing new community objectives:

- Balance property rights with community rights;
- Encourage growth in appropriate areas of rural Jackson County where utilities can be extended in cost-effective ways to serve growth;
- Accommodate development while implementing new planning policies; and
- Ensure that urban growth occurs in or near the cities, or—if in rural areas—it pays its own way.

The key objectives of the Jackson County Plan are:

- Encourage urban growth where it can be served cost-effectively by the County (or by the cities through annexation); and
- Require growth that cannot be cost-effectively served to pay its own way.

---

**THE PLANNING PROCESS**

A comprehensive plan is an official public document adopted by both the Planning Commission and the County Commission. A comprehensive plan shall constitute the basis or guide for public action to insure a coordinated and harmonious development or redevelopment which will best promote the health, safety, morals, order, convenience, prosperity and general welfare as well as wise and efficient expenditure of public funds. It indicates in general how the citizens of the community want their community to develop in the next 10 to 20 years.

***Introduction and Planning Process***

A comprehensive plan shall show:

1. The general location, extent and relationship of the use of land for agriculture, residence, business, industry, recreation, education, public buildings and other community facilities, major utility facilities both public and private and other uses deemed necessary.
2. Population and building intensity standards and restrictions and the application of those standards and restrictions.
3. Public facilities including transportation facilities and all other types whether publicly or privately owned which relate to the transportation of persons or goods.
4. Public improvement programming based upon a determination of relative urgency.
5. The major sources and expenditure of public revenue including long range financial plans for the financing of public facilities and capital improvements, based upon a projection of the economic and fiscal activity of the community, both public and private.
6. Utilization and conservation of natural resources.
7. Any other element deemed necessary to the proper development of the area.

Before adopting or amending the comprehensive plan, the Planning Commission must hold a public hearing. A notice of the public hearing must be published at least 20 days prior to the public hearing in the official County newspaper. Upon adoption of the comprehensive plan, or any amendment thereto, a certified copy of the plan along with a written copy of the minutes of the public hearing, must be forwarded to the County Commission.

A Comprehensive Plan, and any subsequent amendments, shall not become effective until it has been adopted by the County Commission and the adopting resolution has been published in the official County newspaper.

At least once each year, the Planning Commission shall review the comprehensive plan or any part thereof, and may propose amendments, extensions, or additions to the plan in accordance with the process for the original adoption of the plan (**K.S.A. 12-74**).

**Zoning Regulations**

A zoning regulation is a legislative tool used for implementing the comprehensive plan. Zoning regulations may divide land into districts of such number, shape, area and of such different classes, according to the use of land and buildings and the intensity of such uses, as may be deemed suited to carry out the purposes of the adopted comprehensive plan (**K.S.A. 12-753**).

The purpose of the zoning regulations is to:

- encourage appropriate uses of land;
- maintain and stabilize the value of property;
- reduce fire hazards and improve public safety and safeguard the public health;
- decrease traffic congestion and its accompanying hazards;
- prevent undue concentration of population;
- create a comprehensive and stable pattern of land uses upon which to plan for transportation, water supply, sewerage, schools, parks, public utilities, and other facilities;
- protect and promote the public health, safety, convenience, comfort and general welfare.

Zoning regulations may include, but not be limited to, provisions restricting and regulating the following (K.S.A. 12-753):

- height, number of stories and size of buildings;
- percentage of each lot that may be occupied;
- size of yards, courts, and other open spaces;
- density of population;
- location, use and appearance of buildings, structures and land for residential, commercial, industrial and other purposes;
- conservation of natural resources, including agricultural land;
- use of land located in areas designated as floodplains and other areas, including the distance of any buildings and structures from a street or highway.

Zoning regulations may include, but not be limited to, the following provisions (K.S.A. 12-755):

- provide for planned unit developments;
- permit the transfer of development rights;
- preserve structures and districts listed on the local, state or national historic register;
- control the aesthetics of redevelopment or new development;
- provide for the issuance of special use or conditional use permits; and
- establish overlay zones.

The zoning regulations for Holton have jurisdiction over land within three miles thereof under specific circumstances (K.S.A. 12-715b).

***Introduction and Planning Process***

**Subdivision Regulations**

Subdivision regulations are another legislative tool to implement the comprehensive plan by guiding the subdivision and development of land. Subdivision regulations provide coordination of otherwise unrelated plans as well as internal design of individual sites.

The general purposes of the subdivision regulations are to:

- protect and promote the public health, safety, convenience, comfort and general welfare;
- guide the future growth and development;
- provide for the proper location and width of streets, roads, building lines, open space and recreation and to avoid congestion of population;
- protect and conserve the value of land, buildings and improvements and to minimize conflicts among the uses of land and buildings;
- establish reasonable standards of design for subdivision in order to further the orderly layout and use of land;
- insure that public facilities, including roads, water, sewer and drainage facilities, are adequate to serve the needs of proposed subdivisions.

Subdivision Regulations may include, but not be limited to, provisions for the:

1. Efficient and orderly location of streets;
2. Reduction of vehicular congestion;
3. Reservation or dedication of land for open spaces;
4. Off-site and on-site public improvements;
5. Recreational facilities which may include, but not be limited, to the dedication of land area for park purposes;
6. Flood protection;
7. Storm water runoff;
8. Building lines;
9. Compatibility of design; and

10. Any other services, facilities and improvements deemed appropriate.

Subdivision regulations may provide:

1. For administrative changes to land elevations designated on a plat.
2. For plat approval subject to conformance with the comprehensive plan.
3. For the payment in lieu of the completion of dedication of land.
4. That in lieu of the completion of any work or improvements prior to the final approval of the plat, the County Commission may accept a corporate surety bond, cashier check, escrow account, letter of credit, or other like security in an amount established by the County Commission and conditioned upon the completion of such work or improvements within a specified period.

### **Role of the Planning Commission**

The following are the roles of the Planning Commission.

1. Adopt a comprehensive plan for the physical development of land within the unincorporated areas of the county.
  - Before adopting or amending the Comprehensive Plan hold a public hearing (see page 4).
  - After adoption by the County Commission, the Plan and the adopting Resolution shall be published in the County newspaper.
  - Record a copy of the adopted Comprehensive Plan in the County Register of Deeds office.
  - The Zoning Administrator shall certify a copy of the adopted plan to the cities.
2. Serve as an advisory body to the County Commission.
  - Hold public hearings to obtain public opinion regarding each rezoning, special use permit application, conditional use permit application and proposed text amendment.
  - Adopt a recommendation to the County Commission on each, special use permit application, conditional use permit application and proposed text amendments.

***Introduction and Planning Process***

Note: The Planning Commission may adopt bylaws establishing conditions and procedures that allow a sub-committee of the Planning Commission to make recommendations to the County Commission on zoning amendments (e.g. rezoning) affecting specific property (K.S.A. 12-745).

3. Approve or disapprove both preliminary plats and final plats.

Note: The Planning Commission may adopt bylaws establishing conditions and procedures that allow a sub-committee of the Planning Commission to approve plats (K.S.A. 12-745).

4. Approve or disapprove site plans.

- Review and approve or disapprove site plans for all development except single-family and two-family residential development.

**Role of the County Commission**

1. Enact and amend the zoning regulations and zoning district map after considering the Planning Commission's recommendation.
2. Amend the subdivision regulations after considering the Planning Commission's recommendation. This responsibility does not include approving subdivision plats.
3. Granting of waivers to required public improvements and/or public improvement specifications.
4. Accept or reject dedications of easements, rights-of-way and public lands on subdivision final plats after the final plat has been approved by the Planning Commission.
5. Approve engineering plans for construction of public improvements.
6. Approve financial guarantees or financing mechanisms to ensure construction of all public improvements within subdivision plats.
7. Accept public improvements after they have been constructed and are found to have been constructed in accordance with the approved engineering plans.

### **Role of Board of Zoning Appeals**

1. Primarily a quasi-judicial body rather than an advisory or legislative body.
2. Role in Zoning Administration is limited to the following types of tasks:
  - The appeal of an administrative decision or interpretation where there is an ambiguous provision or an alleged error in the administration of the zoning regulations; and
  - The granting of variances for cases of hardship.
3. The Board of Zoning Appeals is not involved in the administering of the subdivision regulations.

### **The Basis of Decision-Making**

As with other "police powers", the exercise of zoning and subdivision regulations is subject to certain legal limitations. One of the most important of these limitations requires that zoning and subdivision regulations cannot be applied in an "arbitrary or capricious" manner. Decisions regarding zoning and subdivision issues cannot be fixed or arrived at through an exercise of will or by caprice, without consideration or adjustment with reference to principles, circumstances, or significance.

<b>BASE MAP</b>
-----------------



The rural development dilemma stems from the fact that, per capita, the cost of physical and human infra-structures is highest in sparsely populated areas and considerably higher than the costs in "outlying growth towns." For rural economic vitality, the mostly rural counties need more state-backed investment. But the State of Kansas is reducing investment in KDOT and other agencies today given budget cuts.

As development has pushed outward beyond the traditional bounds of regional centers, suburban communities and small rural towns, a new tier of fast growing "rural fringe" development - outside of established communities, located farther from regional centers - has grown at high rates. The 2020 Census shows that rural Jackson County grew since the 2000 Census at a rate of 9.3 percent, while the area towns declined since the 2000 Census at a rate of 2 percent (**Ref. Chapter 2, Table 2.2**).

*(This Page Left Blank Intentionally)*

## CHAPTER TWO – DEMOGRAPHICS AND EXISTING CONDITIONS

## POPULATION

The US Census Bureau's 2000 census brief stated that the Nation's 1990 to 2000 population increase of 32.7 million was the largest in American history. The previous record increase was 28.0 million people between 1950 and 1960, a gain fueled primarily by the post-World War II baby boom (1946 to 1964). Total decennial population growth declined steadily in the three decades following the 1950s peak before rising again in the 1990s. Population growth varied significantly by region in the 1990s, with higher rates in the West (19.7%) and the South (17.3%) and much lower rates in the Midwest (7.9%) and the Northeast (5.5%). Meanwhile, despite overall population growth in each of the past five decades, the Midwest's share of total population fell from 29 to 23%.

Jackson County has added about 3,000 people in the last five decades, growing from 10,300 people in 1970 to approximately 13,239 people in 2020. The County population had been stable between 1980 and 1990, but the decade of the 1990s saw some growth in population. According to the 2020 Census, Jackson County's population is 13,239, an increase of 582 people (about 4.6%) from the 2000 Census (**Ref. Table 2.1, Fig. 2.1**). In comparison, the State of Kansas grew by 9.28% (Source: US Census). The Topeka Metropolitan Statistical Area (MSA) registered a population increase of 37.24% (about 63,268 people).

Table 2.1 Population Growth (1980-2020)

	1980	1990	2000	2020	% Change 80-90	% Change 90-00	% Change 00-20
<b>Jackson County, KS</b>	11,599	11,525	12,657	13,232	-0.64%	9.82%	4.54%
<b>Jefferson County, KS</b>	15,167	15,905	18,426	18,323	4.87%	15.85%	-0.56%
<b>Leavenworth County, KS</b>	54,789	64,371	68,691	81,966	17.49%	6.71%	19.33%
<b>Miami County, KS</b>	21,538	23,466	28,351	34,224	8.95%	20.82%	20.72%
<b>Osage County, KS</b>	15,318	15,248	16,712	15,741	-0.46%	9.60%	-5.81%
<b>Pottawatomie County, KS</b>	14,735	16,128	18,209	25,411	9.45%	12.90%	39.55%
<b>Topeka MSA</b>	154,429	160,976	169,871	233,139	4.24%	5.53%	37.24%
<b>Kansas</b>	2,338,880	2,477,574	2,688,418	2,937,880	5.93%	8.51%	9.28%
<b>US</b>	224,810,186	248,709,166	281,421,906	331,449,281	10.63%	13.15%	17.78%

Source: US Census Bureau

A comparison with a "Control Group" of five similarly sized and similarly situated counties in the region shows a similar trend in most rural counties. The five control counties are:

- Jefferson County, KS;
- Leavenworth County, KS;
- Miami County, KS; Osage County, KS; and,
- Pottawatomie County, KS.

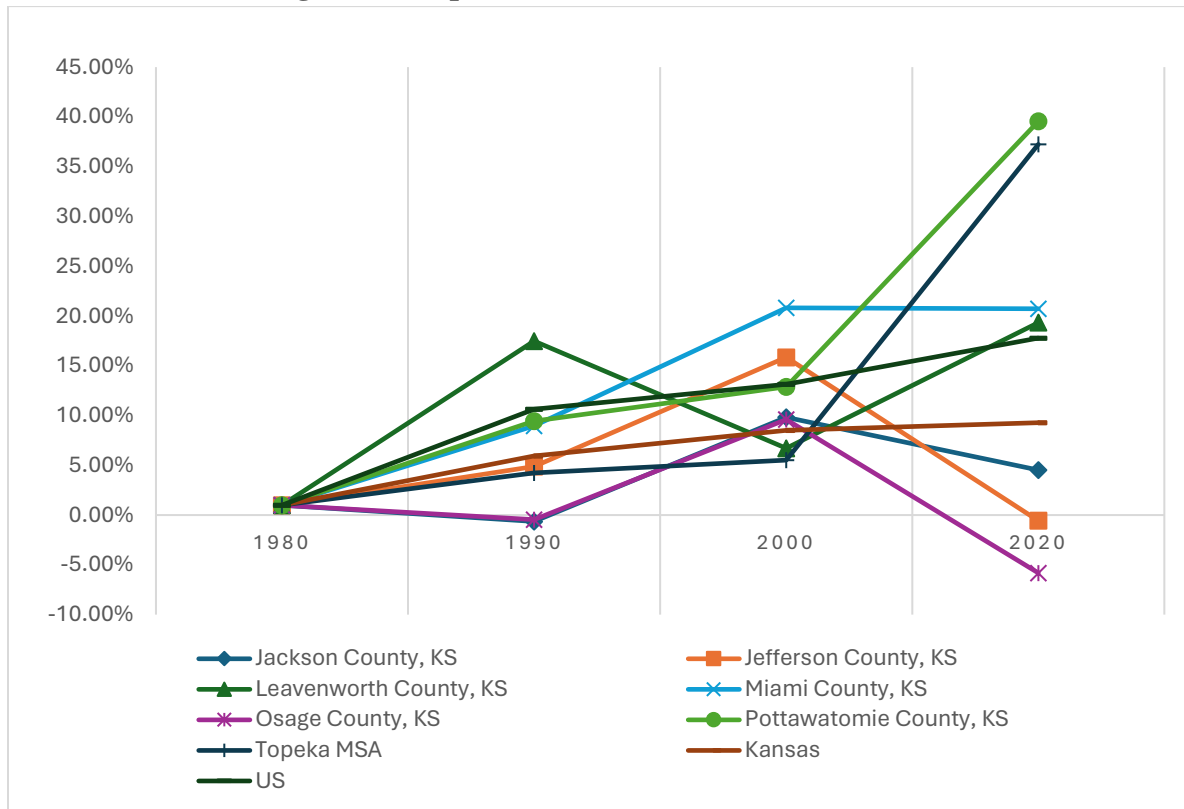
In the last two decades, with the exception of Jefferson County (-0.56%) and Osage County (-5.81%), which decreased in population, all other counties in the control set saw a substantial percentage

***Demographics and Existing Conditions***

increase in population. Pottawatomie County registered the largest increase (about 40%); Miami County and Leavenworth County both had an increase (about 20%). Jackson County increased in population by about 4.54%.

Growth indices, which are a means of comparison of growth rates of different entities assuming the base population of one for each entity, shows that with the exception of the decade of the 1980s, Jackson County has grown at a slower rate than the average of the control counties.

**Figure 2.1 Population Growth Index (1970-2020)**



Source: US Census Bureau

**Table 2.2 Population Growth in Cities of the County (1970-2020)**

	1970	1980	1990	2000	2010	2020	Change 1970-2020	% Change 1970-2020
Soldier	173	165	135	122	136	102	-71	-41.0%
Circleville	178	165	153	185	170	153	-25	-14.0%
Netawaka	192	218	167	170	143	139	-53	-27.6%
Whiting	256	270	213	206	187	191	-65	-25.4%
Denison	248	231	225	231	187	146	-102	-41.1%
Delia	168	181	172	179	169	151	-17	-10.1%
Holton	3,063	3,132	3,196	3,353	3,329	3,401	338	11.0%
Mayetta	246	287	267	312	341	348	102	41.5%
Hoyt	420	536	489	571	669	593	173	41.2%
Nine Cities Total	4,944	5,185	5,017	5,329	5,331	5,224	280	5.7%
Unincorporated, JaCo	5,398	6,459	6,508	7,328	8,131	8,008	2,610	48.4%
<b>Jackson County</b>	10,342	11,644	11,525	12,657	13,462	13,232	2,890	27.9%

Source: US Census Bureau

In 2020, Holton—the County Seat—grew by 11% (338 people). The cities of Hoyt and Mayetta also added to their populations at a significant rate of 41%. On average, the cities grew by 5.7%, while the rural areas grew by 48.4%.

### Racial Characteristics

The racial composition of Jackson County has not changed considerably between 1980 and 2020. In 1980 about 95% of the population in Jackson County was white. In 2020 that percentage dropped to 80%. The State and Topeka MSA have a significant minority population but the control counties show trends similar to Jackson County (Ref. Table 2.4). The County has experienced a slight increase in the minority population (Ref. Table 2.3, Figure 2.2). The American Indian/Alaskan Native population forms the largest minority group in the County. In the last two decade they grew by about 25% (232 people) and are now numbered at about 1098 (8% of the County's total population).

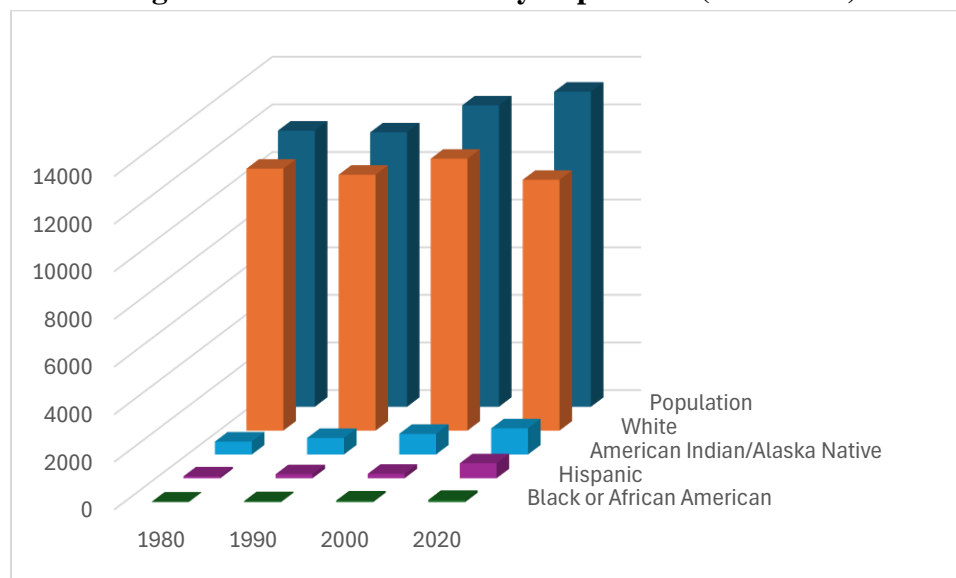
**Table 2.3 Racial Characteristics in Jackson County (1980-2020)**

	Total Population	White	Black or African American	American Indian Alaska Native	Hispanic
1980	11,599	11,001	22	543	80
1990	11,525	10,747	41	693	172
2000	12,657	11,418	67	866	189
2020	13,232	10,534	95	1098	630
change 80-90	-74	-254	19	150	92
change 90-00	1,132	671	26	173	17
change 00-20	575	-884	28	232	441
% change 80-90	-0.64%	-2.31%	86.36%	27.62%	115%
% change 90-00	9.82%	6.24%	63.41%	24.96%	9.88%
% change 00-20	4.54%	-7.74%	41.79%	23.33%	233%

Source: US Census Bureau

***Demographics and Existing Conditions***

**Figure 2.2 Trends in Minority Population (1980-2020)**



Source: US Census Bureau

**Table 2.4 Racial Characteristics Comparisons (1980-2020)**

		White	Black or African American	American Indian Alaska Native	Hispanic
1980	Jackson County, KS	94.80%	0.20%	4.70%	0.70%
	Average of Control Counties	93.05%	5.12%	0.45%	1.54%
	Topeka MSA	88.70%	7.70%	0.90%	4.00%
	Kansas	91.70%	5.40%	0.60%	1.70%
	US	83.10%	11.70%	0.60%	6.50%
1990	Jackson County, KS	93.20%	0.40%	6.00%	1.50%
	Average of Control Counties	91.81%	5.79%	0.78%	2.20%
	Topeka MSA	87.90%	8.10%	1.10%	4.50%
	Kansas	90.20%	5.70%	0.90%	3.60%
	US	80.30%	12.00%	0.80%	8.80%
2000	Jackson County, KS	90.21%	0.53%	6.84%	1.49%
	Average of Control Counties	90.86%	5.20%	0.69%	2.64%
	Topeka MSA	82.89%	9.03%	1.17%	7.26%
	Kansas	90.20%	5.74%	0.93%	7.00%
	US	80.30%	12.32%	0.30%	12.56%
2020	Jackson County, KS	82.70%	1.30%	8.80%	5.70%
	Average of Control Counties	88.80%	2.68%	0.88%	4.96%
	Topeka MSA	66.10%	10.20%	0.70%	16.40%
	Kansas	74.30%	6.20%	1.20%	13.00%
	US	58.90%	13.60%	1.30%	19.10%

Source: US Census Bureau

**Median Age**

Changes in the median age are important indicators of the shift in composition of the City. They are a quick way of establishing target age groups to plan for. Before 1990, the median age of population in Jackson County had been less than the State and National average. After 1990, the County's population has been aging at a rate higher than the National Average. According to the 2020 Census, the median age of the County population is 40.7 years. Jackson County, therefore, has a much older population to plan for.

**Table 2.5: Median Age (1970-2020)**

	1970	1980	1990	2000	2020
<b>Jackson County, KS</b>	29	29	34.9	37.4	40.7
<b>Topeka MSA</b>	33	30	33.9	35.4	39.9
<b>Kansas</b>	33	30	32.9	36.1	37.6
<b>US</b>	31.6	29.2	33.4	35.3	38.5

Source: US Census Bureau

**Population Projections**

Two alternative population growth scenarios for Jackson County have been presented in **Table 2.6**. The first scenario uses linear regression techniques to project the future growth of the County based on its past trends. This method yields an increase in the population by about 600 people in the next 10 years and 700 people between 2010 and 2020. The actual population growth was 575 people in two decades not 1300 people, indicating a much slower growth rate.

The Kansas Water Office uses water demand forecasts to project populations for all Kansas Counties and Cities. Data sources for the latest population projections (prior to the release of the 2000 Census information) included the following:

- 1980 and 1990 Decennial Census counts;
- U.S. Census Bureau population estimates for 1992 and 1994;
- Time series data of active residential water service connections from public water suppliers; and
- Extensive on-site interviews with local government officials, and other groups.

Also included in the method's development was contact with every public water supplier in Kansas for input on perceived changes in population, water use, and water demand occurring in local communities or rural areas.

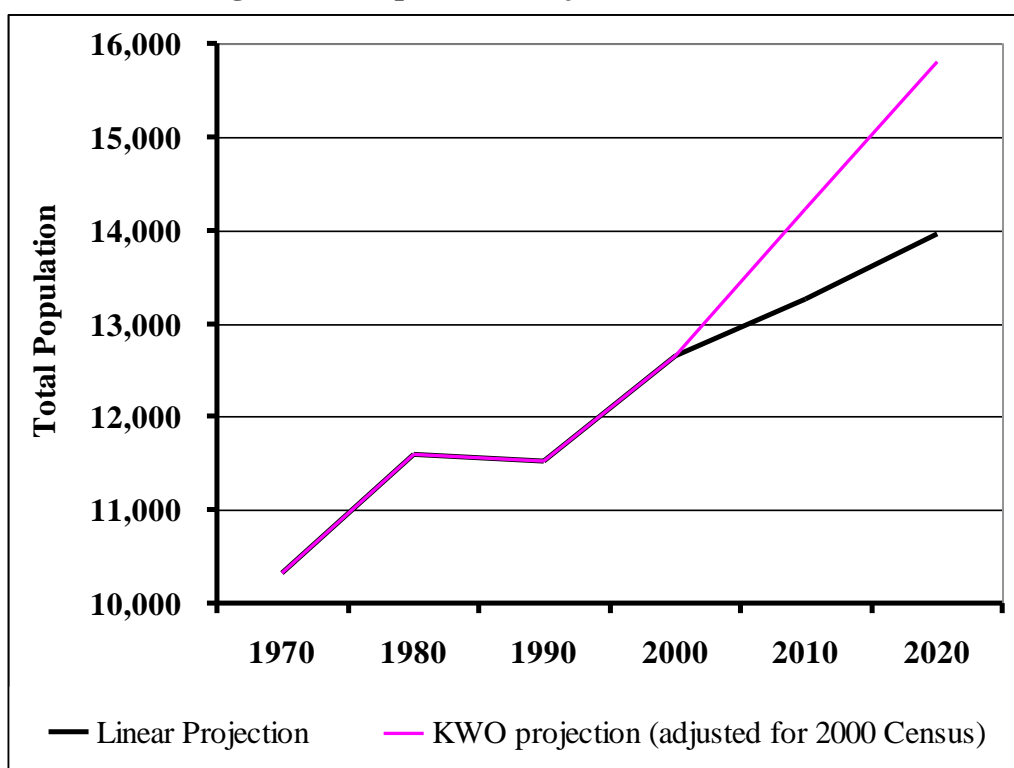
In the second scenario presented here, the Kansas Water Office projections have been adjusted for the 2000 Census. If the County follows the KWO projections, it will add about 3,200 people in the next 20 years.

*Demographics and Existing Conditions***Table 2.6: Population Projections (2000-2020)**

SCENARIO		1970	1980	1990	2000	2010	2020
<b>Using Linear Regression for population 1960 to 2000</b>							
<b>I</b>	Linear Projection	10,315	11,599	11,525	12,657	13,262	13,957
	Growth rate		12.45%	-0.64%	9.82%	4.78%	5.24%
<b>Kansas Water Office</b>							
<b>II</b>	KWO projection (adjusted for 2000 Census)	10,315	11,599	11,525	12,657	14,227	15,797
	KWO projection (based on 1990 Census)	10,315	11,599	11,525	13,161	14,793	16,426
	Growth rate				14.20%	12.40%	11.04%

Source: Kansas Water Office, BWR

The two scenarios indicate growth at the rate of 5% to 12%, an addition of 1,300 to 3,000 people in the next twenty years. The decade of the 1990s saw a percentage growth rate higher than the previous years. The high projection scenario (Scenario II) predicts the county population growing at a rate similar to that of the 1990s, while the linear projection scenario (Scenario I) takes a longer-term growth rate and projects it to the next twenty years.

**Figure 2.3: Population Projections (2000-2020)**

Source: BWR., Kansas Water Office, US Census Bureau



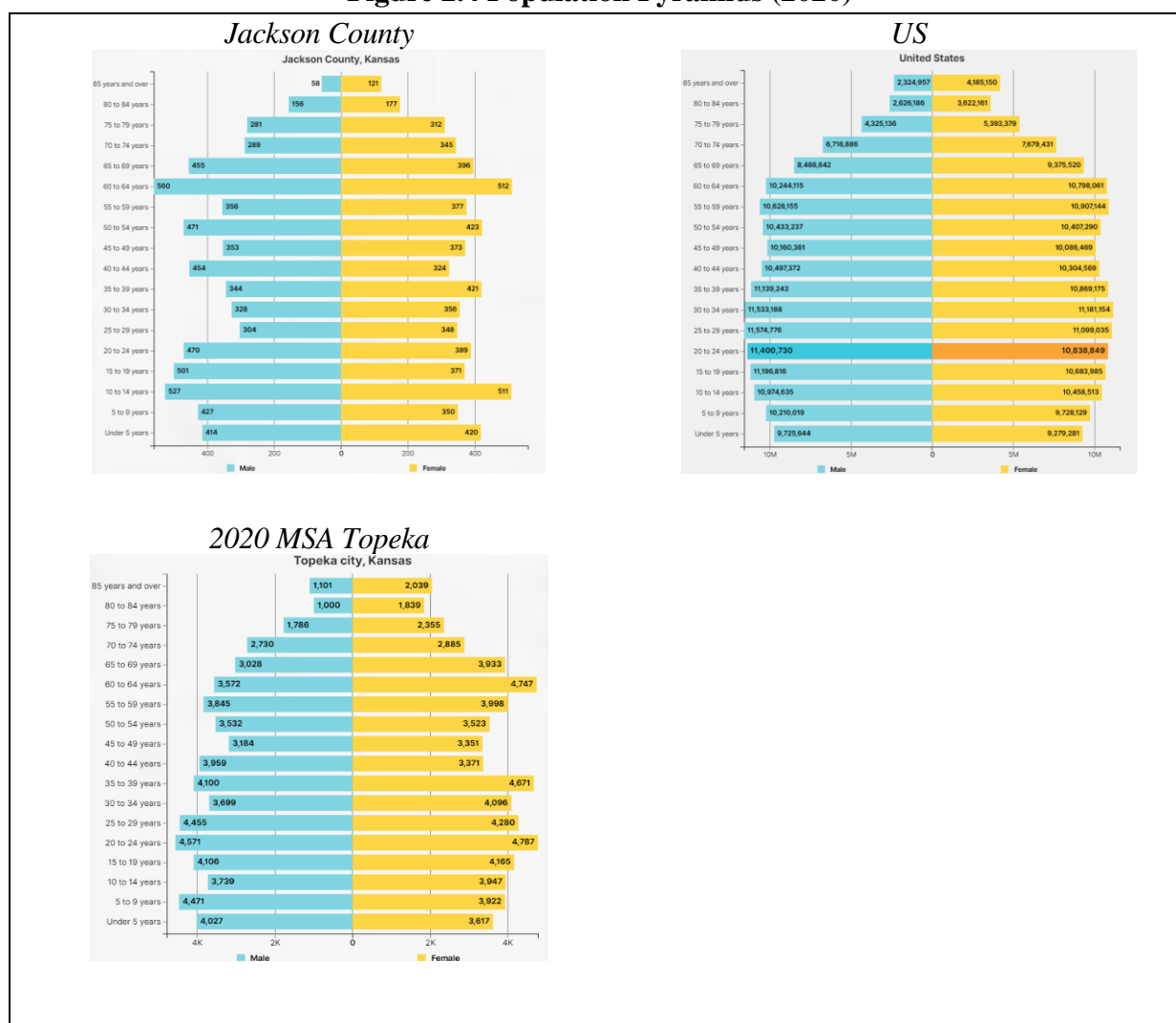
## Age Characteristics

The age distribution of a population is an important feature while analyzing a County's demographic situation. Figure 2.4 uses population pyramids to show the age distribution differences between the City, the County and the National distribution. Population pyramids also show the change in age distribution 2020 (**Ref. Figure 2.4**).

Since the 1990s, there has been no significant change in the age composition of the population. A high pre-teen population, a lower working age population and a high elderly population (over age 65) characterize the City, County and US age distribution.

The teen and elderly population in the County is comparable to the MSA's and the Nation's. The working age and mobile population (18-44) average in the County rose above the MSA's by about 13% and under the Nation's by about 5%.

**Figure 2.4 Population Pyramids (2020)**



Source: US Census Bureau

*Demographics and Existing Conditions***MALE-FEMALE RATIO**

The Male-Female ratio in Jackson County has changed slightly in the last decade to include a higher percentage of women.

**Table 2.7 Male-Female Ratio (1980-2020)**

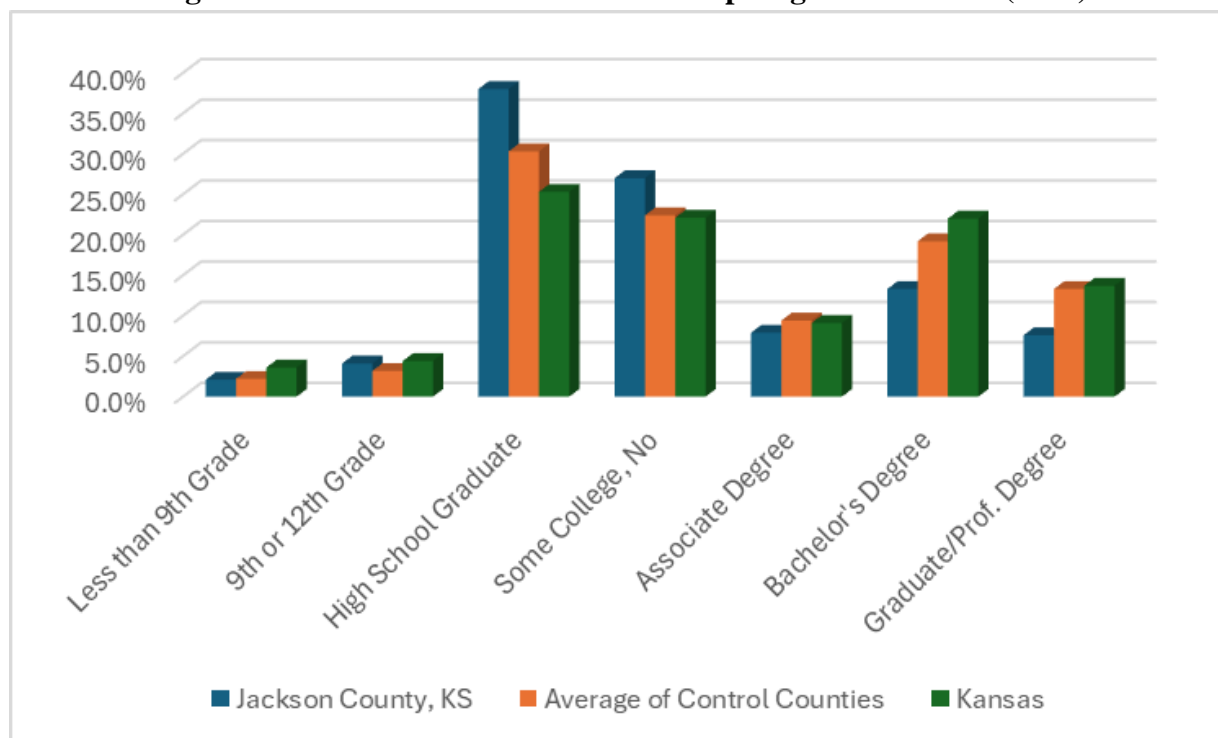
		Males	Females	Males	Females
1980	Jackson County, KS	49.70%	50.30%		
	Average of Control Counties	51.16%	48.84%		
	Topeka MSA	48.30%	51.70%		
	Kansas	48.90%	51.10%		
	US	48.50%	51.50%		
1990	Jackson County, KS	49.40%	50.60%	-0.60%	0.60%
	Average of Control Counties	52.03%	47.97%	1.70%	-1.78%
	Topeka MSA	48.10%	51.90%	-0.41%	0.39%
	Kansas	49.00%	51.00%	0.20%	-0.20%
	US	48.70%	51.30%	0.41%	-0.39%
2000	Jackson County, KS	48.20%	51.80%	-2.43%	2.37%
	Average of Control Counties	51.25%	48.75%	-1.50%	1.63%
	Topeka MSA	48.41%	51.59%	0.64%	-0.60%
	Kansas	49.41%	50.59%	0.84%	-0.80%
	US	49.10%	50.90%	0.82%	-0.78%
2020	Jackson County, KS	50.70%	49.30%	5.19%	-4.83%
	Average of Control Counties	50.98%	49.02%	-0.53%	0.55%
	Topeka MSA	48.20%	51.80%	-0.43%	0.41%
	Kansas	50.20%	49.80%	1.60%	-1.56%
	US	49.10%	50.90%	0.00%	0.00%

Source: US Census Bureau

**EDUCATION**

According to 2020 data regarding education statistics for people over the age of 25, about 62% of the population in the County has a high school diploma or less as their highest educational attainment. This trend is typical in rural counties but is more pronounced in Jackson County (**Ref. Figure 2.5**).

**Figure 2.5 Educational Attainment of People aged 25 or more (2020)**



Source: US Census Bureau

**INCOME CHARACTERISTICS**

In 2020, Jackson County experienced a lower rate of increase in per-capita income when compared to the average of control counties. The rate of increase of median household incomes fell short by about 5%. This indicates that a lack of job opportunities or lower labor participation rates due to other factors, resulted in a smaller than desirable workforce. The estimates for 2000 median household incomes indicate the trend continuing through the 1990s. Therefore, a comparison with Leavenworth County reveals that while in 1980 the difference in median household incomes between the two Counties was about \$3,000, in 2000 that difference is estimated at over \$8,000. The 2020 numbers supported that trend.

*Demographics and Existing Conditions***Table 2.8 Income Summary (1980-2020)**

		1980	1990	2000	2020	% Change 80-90	% Change 90-00	% Change 00-20
Median Household Income	Jackson County, KS	\$15,689	\$25,088	\$40,451	\$70,385	59.91%	61.24%	74.00%
	Jefferson County, KS	\$17,275	\$29,017	\$45,535	\$74,562	67.97%	56.93%	63.75%
	Leavenworth County, KS	\$18,655	\$33,055	\$48,114	\$77,925	77.19%	45.56%	61.96%
	Miami County, KS	\$16,937	\$29,392	\$46,665	\$85,564	73.54%	58.77%	83.36%
	Osage County, KS	\$15,257	\$24,542	\$37,928	\$66,155	60.96%	54.54%	74.42%
	Pottawatomie County, KS	\$15,037	\$25,769	\$40,176	\$85,241	71.37%	55.91%	112.17%
	Topeka MSA	\$17,772	\$30,864	\$40,988	\$50,709	73.67%	32.80%	23.72%
	Kansas	\$16,516	\$29,281	\$40,624	\$68,925	77.29%	38.74%	69.67%
Per Capita Income	Jackson County, KS	\$6,166	\$10,794	\$18,606	\$32,499	75.06%	72.37%	74.67%
	Average of Control Counties	\$6,611	\$11,265	\$19,797	\$37,054	70.41%	75.74%	87.17%
	Topeka MSA	\$7,868	\$13,934	\$20,904	\$31,376	77.10%	50.02%	50.10%
	Kansas	\$7,358	\$13,056	\$20,506	\$37,919	77.44%	57.06%	84.92%

Source: US Census Bureau

**HOUSING**

The housing market in Jackson County has been strong throughout the last decade. The total housing units increased by 500 units, an 11.6% increase. The control counties on an average added to their housing stock by about 16%. The Topeka MSA saw an increase of about 7% and Kansas' housing stock increased by about 8.5%.

Rates of owner-occupancy of housing remained stable at around 75%, much higher than the average for the control counties (about 70%), and the MSA and State average of 62%. Renter-occupancy and vacancy rates increased by less than one percent. These statistics indicate a very strong housing market in the County.

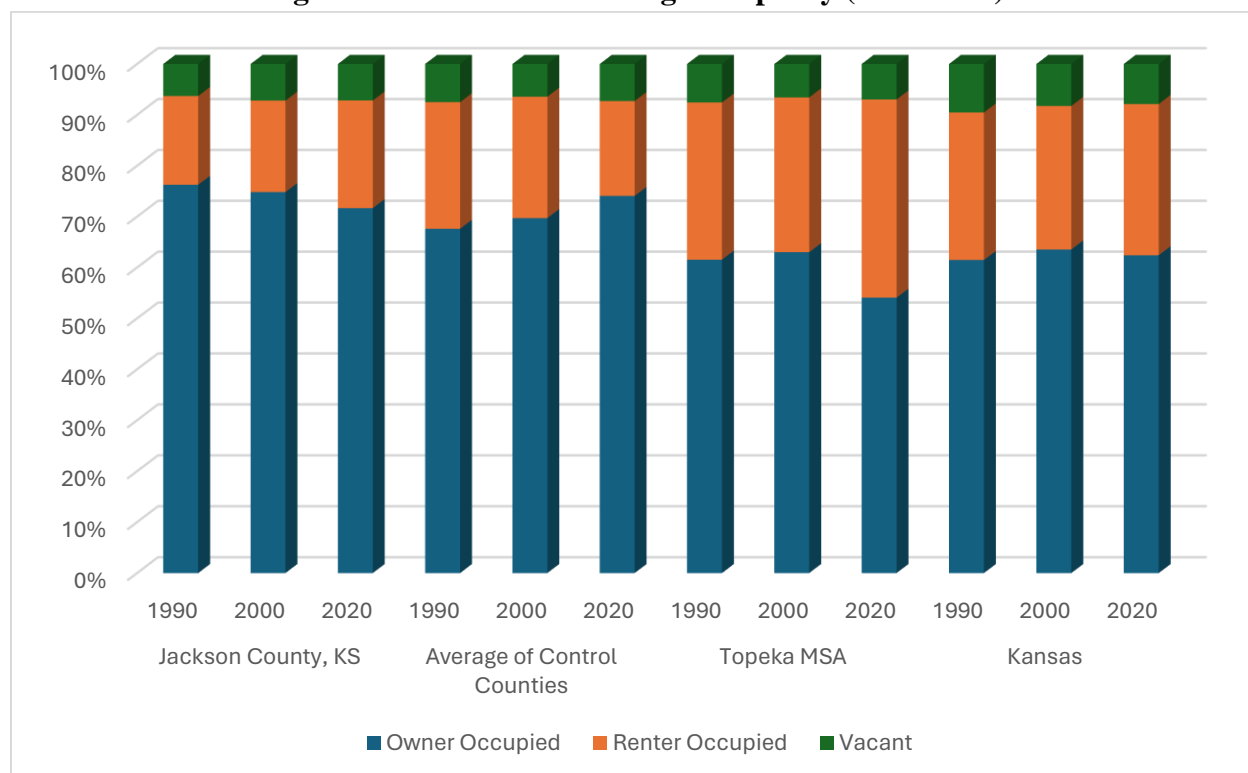
As of May 2002, the 2000 Census data on housing values, median rents and median mortgages has not been released. In 1990, housing values in Jackson County were comparable to most counties in the control set, with the exception of Leavenworth County. Monthly median mortgages and rent were comparatively lower than their counterparts in other counties.

Table 2.9: Housing Units Characteristics (1990-2020)

		Total Housing Units	Occupied Units	Owner Occupied	Renter Occupied	Vacant
Jackson County, KS	1990	4,564	4,277	76.25%	17.46%	6.29%
	2000	5,094	4,727	74.81%	17.98%	7.20%
	2020	5,583	5,182	71.67%	21.15%	7.18%
	% Change	22.33%	21.16%	-6.01%	21.13%	14.15%
Average of Control Counties	1990	9,869	9,128	67.61%	24.88%	7.51%
	2000	11,441	10,705	69.71%	23.86%	6.43%
	2020	14,019	13,232	74.07%	18.64%	7.29%
	% Change	42.05%	44.96%	9.55%	-25.08%	-2.93%
Topeka MSA	1990	68,991	63,768	61.53%	30.90%	7.57%
	2000	73,768	68,920	63.01%	30.42%	6.57%
	2020	60,054	55,870	54.07%	38.96%	6.97%
	% Change	-12.95%	-12.39%	-12.12%	26.08%	-7.93%
Kansas	1990	1,042,307	943,065	61.47%	29.01%	9.52%
	2000	1,131,200	1,037,891	63.53%	28.22%	8.25%
	2020	1,275,689	1,175,294	62.40%	29.73%	7.87%
	% Change	22.39%	24.62%	1.51%	2.48%	-17.33%

Source: US Census Bureau

Figure 2.6: Trends in Housing Occupancy (1990-2020)



Source: US Census Bureau

*Demographics and Existing Conditions***Table 2.10: Housing Values (1990-2020)**

		<b>Household Size</b>	<b>Housing Value</b>	<b>Monthly Mortgage</b>	<b>Monthly Rent</b>
<b>Jackson County, KS</b>	<b>1990</b>	2.70	\$50,827	\$539	\$225
	<b>2000</b>	2.63			
	<b>2020</b>	2.55	\$169,100	\$1,471	\$821
<b>Jefferson County, KS</b>	<b>1990</b>	2.70	\$51,610	\$580	\$333
	<b>2000</b>	2.66			
	<b>2020</b>	2.51	\$193,000	\$1,525	\$832
<b>Leavenworth County, KS</b>	<b>1990</b>	3.30	\$57,124	\$693	\$426
	<b>2000</b>	2.69			
	<b>2020</b>	2.70	\$261,400	\$1,737	\$1,195
<b>Miami County, KS</b>	<b>1990</b>	2.80	\$52,983	\$599	\$331
	<b>2000</b>	2.66			
	<b>2020</b>	2.58	\$253,100	\$1,774	\$1,034
<b>Osage County, KS</b>	<b>1990</b>	2.60	\$50,773	\$551	\$261
	<b>2000</b>	2.54			
	<b>2020</b>	2.51	\$138,400	\$1,287	\$781
<b>Pottawatomie County, KS</b>	<b>1990</b>	2.70	\$51,286	\$584	\$295
	<b>2000</b>	2.65			
	<b>2020</b>	2.80	\$221,600	\$1,694	\$1,009
<b>Topeka MSA</b>	<b>1990</b>	2.50	\$55,948	\$636	\$393
	<b>2000</b>	2.46			
	<b>2020</b>	2.27	\$138,900	\$1,177	\$893
<b>Kansas</b>	<b>1990</b>	2.60	\$57,073	\$647	\$379
	<b>2000</b>	2.59			
	<b>2020</b>	2.50	\$206,600	\$1,542	\$975

**EMPLOYMENT CHARACTERISTICS**

Employment characteristics in Jackson County have changed since the 1990s. In 2021, The services sector (24.8%) and farming sector (18.4%) were the largest sectors in the County economy, employing about 46.8% of the total workforce. Government sector was the third largest employer, employing 14.8% of the workforce.

The Bureau of Economic Analysis' estimates for 2021 indicate a shift in the economic structure of the County. The services sector added about 1,292 jobs in the County, increasing its share of the total workforce to over 28.4%. The farming sector increased by about 16% and in 2021 employed 18.4% of the total workforce. Though the construction, manufacturing and transportation sectors do not form a significant portion of the County economy, they have seen significant growth rates since the 1990s.

Table 2.11: Employment by Sector (1990-2021)

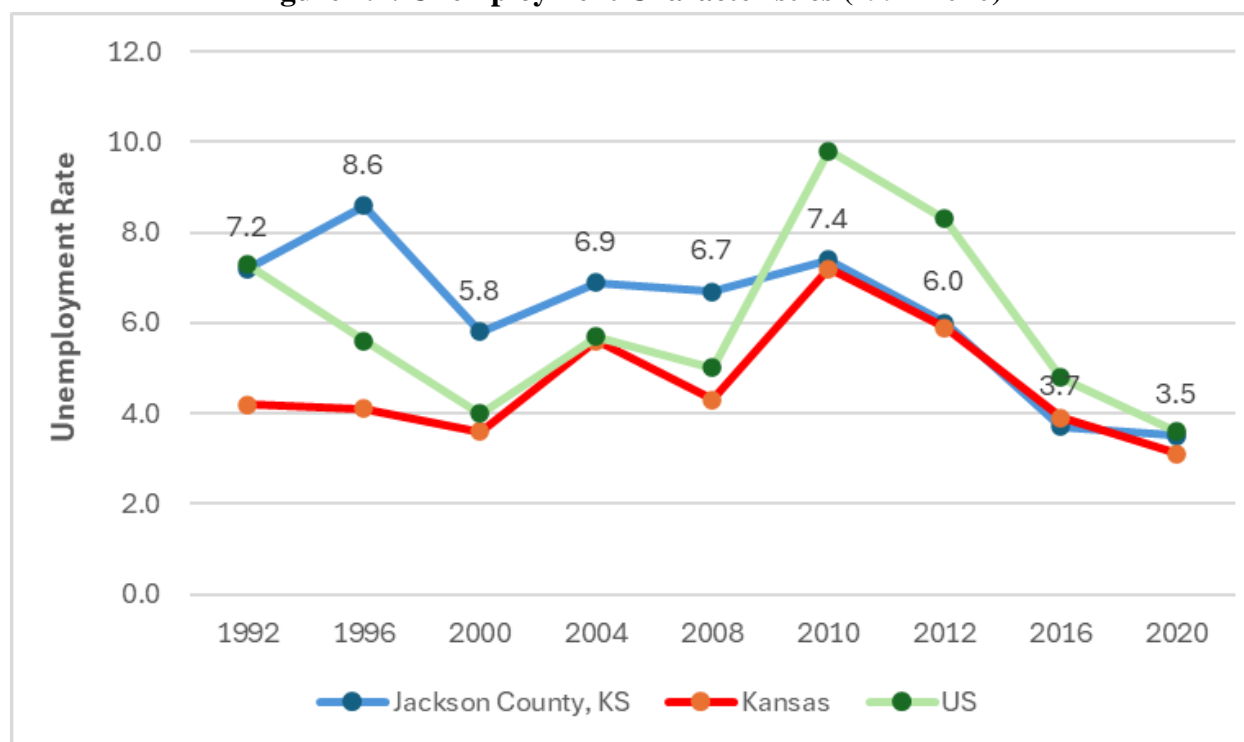
DESCRIPTION	1990	% OF TOTAL	1999	% OF TOTAL	2021	% OF TOTAL	NET CHANGE	PERCENT CHANGE
<b>Total full- &amp; part-time employment</b>	5,032	100.0%	7,132	100.0%	7,687	100.0%	555	7.8%
-Farm employment	1,219	24.2%	1,120	15.7%	1,413	18.4%	293	26.2%
-Nonfarm employment	3,813	75.8%	6,012	84.3%	6,274	81.6%	262	4.4%
-Private employment	2,893	57.5%	4,977	69.8%	5,135	66.8%	158	3.2%
-Ag serv., for., fish, and other 3	64	1.3%	-	0.0%	241	3.1%	241	100%
-Mining	-	0.0%	-	0.0%	-	0.0%	0	0.0%
-Construction	327	6.5%	497	70.0%	666	8.7%	169	34.0%
-Manufacturing	282	5.6%	355	50.0%	762	9.9%	407	114.6%
-Transportation and public utilities	142	2.8%	103	14.0%	402	5.2%	299	290.3%
-Wholesale trade	139	2.8%	130	18.0%	90	1.2%	-40	-30.8%
-Retail	810	16.1%	945	13.3%	491	6.4%	-454	-48.0%
-Finance, insurance and real estate	237	47.0%	326	46.0%	303	3.9%	-23	-7.1%
-Services	888	17.6%	2,510	35.2%	2,180	28.4%	-330	-13.1%
-Government and government enterprise	920	18.3%	1,035	14.5%	1,139	14.8%	104	10.0%

Source: US Census Bureau

## UNEMPLOYMENT RATE

Between 1992 and 2008, unemployment rate in the County had been higher than the average in the State and the Nation. It has been lower since the economic slowdown, indicating a strong resilient economy. As of January 2020, the unemployment rate in the County is 3.5%.

Figure 2.7: Unemployment Characteristics (1992-2020)



Source: US Bureau of Labor Statistics

Note: Data is not seasonally adjusted. As of Jan. 1

<b>RURAL RESIDENCES IN UNINCORPORATED AREAS MAP</b>
---



<b>DEVELOPMENT IN UNINCORPORATED AREAS OF JACKSON COUNTY</b>
--

**Rural Residences in Unincorporated Areas**

Most of the rural residences outside of the incorporated areas in Jackson County are located within close proximity of the US Highway 75 corridor. The map of Rural Residences in Unincorporated Areas displays that the most rural residential development is occurring in this area of the county. The Jackson County, Kansas 2002 Farm and Home Plat and Directory can provide more exact records of the number of residences per section of the county.

The map depicting these trends is on the following page.

**Nonresidential Structures in Unincorporated Areas**

Like the rural residences, many of the nonresidential structures in unincorporated areas are concentrated along the US Highway 75 Corridor and outside the limits of the cities boundaries. The majority of these structures are commercial uses, while most of the industrial structures are located north of Holton along the corridor.

Jackson County also has a unique situation in that there are many rural residences that in the past have applied for and succeeded in a change in zoning in order to meet the needs of operating home businesses. Presently, the map showing nonresidential structures clearly shows the result of issuing changes in zoning for home businesses, as there are many individual pockets of commercial and industrial zoning scattered about the unincorporated areas of the county. Today, many of these home businesses no longer exist but the zoning is still in place.

The maps depicting these trends are on the preceding and following pages.

<b>NONRESIDENTIAL STRUCTURES IN UNINCORPORATED AREAS MAP</b>
--

**CAPACITY OF URBAN CENTERS TO SERVE GROWTH**

Are the small cities capable of serving urban growth? Are they incapable of attracting urban growth with sustainable services? If urban growth spreads across the county, then the established urban centers are not providing attractive services; and they are not planning effectively to annex land and serve growth.

The Plan calls for Jackson County to encourage urban fringe growth to be served by the cities where practicable.

**AGRICULTURE AND URBAN DEVELOPMENT**

The costs to agriculture are high if urban development spreads across the country, unplanned. Both large-scale and small-scale agricultural commerce provides open space, scenic views, wildlife habitat, and a climate for passive recreation, and, if care is given, clean air and a healthy environment. Farming adds to the local economy through its productive capacity—the wealth from farm products harvested every year and the jobs created to produce them.

The Jackson County plan defines “good” farmland primarily based on soil types, as provided in Chapter Seven (**Ref. Soil Types Map**). These soils are primarily along the floodplains but also in the valleys. The economic, social and environmental conflicts surrounding prime farmland use have been studied and debated for decades in the U.S. and around the world, for example:

Prime agricultural soils represent the highest level of agricultural productivity; they are uniquely suitable for intensive cultivation with no conservation hazards. It is extremely difficult to defend agricultural lands when their cash value can be multiplied tenfold by employment for relatively cheap housing. Yet the farm is the basic factory – the farmer is the country’s best landscape gardener and maintenance work force, the custodian of much scenic beauty. Mere market values of farmlands do not reflect the long-term value or the irreplaceable nature of these living soils. An omnibus protection of all farmland is difficult to defend; but protection of the best soils in a metropolitan area would appear not only defensible, but also clearly desirable. (Ian McHarg, *Design With Nature*, 1969)

There are secondary benefits to maintaining a rural “sense of place”: attracting tourists, offering hunting and fishing opportunities as well as trails for hiking - even large public events, such as the county fair and other ag-related activities. At the same time, near-term implementation is important. Regulation of land development is one way the Plan is to be implemented.

But urban development in agricultural areas has done more than convert farmland to other uses. It has clear costs that impair the productivity and viability of the farms that remain. Today it is a rare farm that has not felt the impact of increasing population in some manner. The shift of population into more rural areas has produced multiple costs to farming that, combined, create what has been termed an “impermanence syndrome,” a gradual eroding away of farming, gradual disinvestment in farming, and ultimately of farmers themselves. The costs result in limits to:

<b>SOIL TYPES MAP—JACKSON COUNTY, KANSAS</b>
--

**GROWTH OF AGRICULTURE AS A KEY PLAYER IN THE ECONOMY OF THE FUTURE;**

- productivity and efficiency of the farms and farming; and
- sustainability and sustainable farming practices.

**PRIME FARMLAND SOILS**

Soils in the County have been rated *good*, *fair*, and *poor*, according to the potential for production of grain and seed crops (**Ref. “Soil Types Map”**.) A rating of *good* means that the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* means that the habitat can be created, maintained or improved in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* implies that the limitations are severe. Habitat can be created, maintained, or improved in most places, but management is difficult and must be intensive.

Farm protection under Land Evaluation and Site Assessment (LESA) system—detailed in Chapter Seven of the Plan—should be considered for prime farmland soils. Prime farmland soils have been classified as the soils rated “good” for cultivation of grain and seed crops. These constitute about 102 square miles in the County (**Ref. Table 1.6**) and are best suited for grain and seed crops. Grain and seed crops are seed-producing annuals such as corn, sorghum, wheat, oats, and barley. The major soils properties that affect the growth of grain and seed crops are the depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considered.

**Table 1.6: Soil Types**

<b>Soil Potential for Grain and Seed Crops</b>	<b>Area in acres</b>	<b>Area in Square Miles</b>	<b>% of total area*</b>
Good	65,161	102	16.6
Fair	299,646	468	76.4
Poor	27,324	43	7.0

Source: Kansas GIS Database, Soil Conservation Service, BWR

\*Calculations do not include a two mile strip of land all along the western edge of the County as soil information was missing from the State GIS database.

**AREAS OF NATURAL SIGNIFICANCE****KNOWN AREAS OF SENSITIVE HABITAT**

For identifying and mapping potentially sensitive habitat areas of Jackson County, the records of the Kansas Biological Survey (KBS) were investigated. The KBS is a non-regulatory, non-degree granting service and research unit of the University of Kansas and the State of Kansas. The programs and activities of the KBS focus on environmental and biological issues at state, regional, national and global levels. An additional function of the KBS is to support and maintain the Kansas Natural Heritage Inventory (KSNHI).

*Demographics and Existing Conditions*

<b>KNOWN SENSITIVE HABITAT AREAS MAP</b>
--

The mission of the KSNHI is to collect, manage, and disseminate information about the biological features of Kansas. A database of over 4,500 locations of rare species and natural plant communities is maintained by the KSNHI. The data is gathered primarily from staff field surveys, but also from chance observations, literature reports and Kansas Museum records.

Map 3 “Known Areas of Sensitive Habitat and Cultural Significance,” reflects the known locations of rare or endangered plants, animals and natural plant communities in Jackson County. Although 47 locations have been indicated, the map is not exhaustive and other sites may occur that have not been surveyed and incorporated into the Kansas Natural Heritage database.

Plants or animals are designated "rare" based on their status under the federal Endangered Species Act, Kansas protection status and global rank. The Kansas ranking system ranges from demonstrably secure in Kansas to critically imperil because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres).

The Kansas Natural Heritage Inventory defines a “Natural Plant Community” as a native plant association such as the tall prairie grass association. Knowledge of community associations provides information on species, including those classified rare or endangered, that are usually found to be a part of these communities or associations.

This information allows for early notification of potential resource conflicts, such as converting a valuable tall grass prairie community to cropland or suburban development of the habitat of an endangered species. It is recommended that, should the county incorporate a land use evaluation scheme, a comprehensive natural survey should be performed and incorporated into the evaluation criteria.

On the following page is a map of known sensitive habitats in Jackson County. Below is a list of the threatened or endangered species known or likely to occur in Jackson County compiled by the Kansas Department of Wildlife and Parks.

**THREATENED OR ENDANGERED SPECIES KNOWN OR LIKELY TO OCCUR IN JACKSON COUNTY**

**American Burying Beetle** (*Necrophorus americanus*) - Endangered: May occur in suitable grasslands and upland woodlands. Endangered nationally.

**Bald Eagle** (*haliaeetus leucocephalus*) – Endangered: known to occur as a regular winter resident at Perry reservoir and along the Kansas River where waterfowl, fish, and other prey are abundant. Critical habitat has been designated. Endangered nationally.

**Chestnut Lamprey** (*ichthyomyzon castaneus*) – Threatened: May occur infrequently in the Kansas River.

**Eastern Spotted Skunk** (*Spilogale putorius interrupta*) – Threatened: May occur in woodland edges, brushy rocky grasslands, wood draws, and old debris piles or abandoned buildings.

**Eskimo Curlew** (*Numenius borealis*) – Endangered: Formerly a regular spring transient. Has not been recorded in Kansas since 1902, but a few birds may still migrate through Kansas. Endangered nationally.

**Flathead Chub** (*Platygobio gracilis*) – Threatened: known to occur historically in the main stem Kansas River. May still rarely occur, but modification of the river’s channel and flow regime have largely eliminated the fish’s preferred habitats. Critical habitat has been designated.

**Least Tern** (*Sterna antillarum*) – Endangered: Known to occur as an occasional seasonal transient or summer visitant at large impoundments along the Kansas River where small fish are abundant for the bird to feed on. Endangered nationally.

**Threatened or Endangered Species Known or Likely to Occur in Jackson County (cont.)**

*Demographics and Existing Conditions*

**Northern Redbelly Snake** (*Storeria occipitomaculata occipitomaculata*) – Threatened: Known to occur in suitable habitat. Requires native upland woodlands with abundant dense leaf litter, rock, logs, or other debris available for cover.

**Peregrine Falcon** (*Falco peregrinus*) – Endangered: Known to occur as an occasional winter transient or visitant. Prefers wetlands and other water bodies where waterfowl and other bird life concentrate. Endangered nationally.

**Piping Plover** (*Charadrius melodus*) – Threatened: Known to occur as a rare seasonal transient at wetlands, lakes, and rivers where bare to sparsely vegetated shorelines are available. Threatened nationally.

**Snowy Plover** (*Charadrius alexandrinus*) – Threatened: Known to occur as an occasional seasonal transient or summer visitant on bare to sparsely vegetated shores of wetlands, impoundment's, and rivers.

**Sturgeon Chub** (*Macrhybopsis gelida*) – Threatened: Restricted to larger sandy rivers where they frequent areas swept by currents especially at heads of islands and sand bars. Has been documented in the Kansas River. Critical habitat has been designated.

**Western Earth Snake** (*Virginia valeriae elegans*) – Threatened: Known to occur in suitable habitat. Prefers rocky hillsides in moist woodlands and woodlands edges. Spends daylight hours beneath rocks, logs, or leaf litter.

**Western Silvery Minnow** (*Hybognathus argyritis*) – Threatened: Prefers large shallow sandy rivers where it utilizes runs and backwater pools. Historically occurred in the Kansas River.

**White-faced Ibis** (*Plegadis chihi*) – Threatened: Known to occur as an occasional seasonal transient or summer visitant at wetlands and other water bodies.

**Whooping Crane** (*Grus americana*) – Endangered: Known to occur as an infrequent seasonal transient. Endangered nationally.



## CHAPTER THREE – GOALS, OBJECTIVES AND POLICIES

### FOCUS SESSION SUMMARY

The Jackson County Comprehensive Plan was initiated in May 2002, in a multi-step process. The planning consultants met with the County Commission, Planning Commission and staff to discuss planning issues in general and agree upon a timeline. The consultants then distributed an existing conditions questionnaire to the area cities to determine the level of services provided by the cities, and a report on demographic trends in Jackson County relative to statewide trends and data from similarly situated Kansas counties.

The public involvement/consensus-building process involves two public policy workshops and follow-up meetings with staff and citizens of Jackson County, as summarized below.

- The first public workshop, the “Focus Session,” allowed the community to identify the most critical issues facing the Jackson County community in the coming years.
- A second public workshop, a “Policy Planning Workshop,” was held to formulate “Action Steps” for the issues identified as most critical to Jackson County’s future.
- A series of public meetings hosted by the Planning Commission were held to discuss the workshop results, goals and objectives, and the draft plan and planning maps, in particular the Future Land Use Plan Map.

The Jackson County “Focus Session” was held June 18, 2002. The session provided an opportunity for residents, landowners, business and civic leaders, and other community stakeholders to identify issues that are critical to the County's future. Citizens were invited and the session was open to the public. 25 residents, business owners and elected officials from within the Jackson County gathered and identified issues that would shape the County for the next 20 years.

The process for *Issues Identification* used at the Focus Session was a structured idea-sharing procedure. Participants identified issues as a group and then refined, clarified and prioritized issues in “break-out” groups. The breakout groups discussed the following series of issues:

1. **Future Land Use:** Issues discussed related to future development decisions in unincorporated Jackson County.
2. **Quality of Life:** Issues discussed focused on factors that make the rural areas attractive as places to live and do business.
3. **Economic Development:** Issues discussed related to attracting and maintaining a strong economic base.

*Goals, Objectives and Policies*

Information from the Focus Session served as a basis for the follow-up "Policy Planning Workshop" workshop in summer 2002. Following is a discussion of the issues identified, including the top issues as ranked by each of the break-out groups.

**Future Land Use Issues**

During the large group discussion it became clear that a key challenge facing Jackson County is targeting urban development in appropriate areas and preserving the rural lifestyle and small-town character in other areas. Other items that were addressed through the Comprehensive Plan process are identifying amendments to the zoning and subdivision regulations that are necessary to accomplish the County's desired goals. All of the information gathered will be evaluated and utilized in the formation of the Comprehensive Plan for Jackson County.

**Top 5 Issues:**

1. Long-term zoning including changes in use, density and lot size.
2. Coordination of infrastructure, services and maintenance.
3. Suitability of land use based on soil, environmental and prime agriculture land evaluations.
4. Orderly and sequential growth including designation of growth areas.
5. Education of the public regarding the land use development process.

A complete list of all issues identified during the large group exercise with a short narrative follows:

**1. *Long-term zoning including changes in use, density and lot size.***

The participants expressed the desire to create long term zoning that would prevent small acre (3-10 acre) lot development in areas zoned for agriculture, and require large acre (40 acre) lot development in order to preserve agricultural land. In addition, the participants expressed the need for use restrictions in the form of Special Use Permits and Planned Unit Development as a part of long-term zoning. Finally, it was expressed that the highway corridor should be preserved for high density development.

**2. *Coordination of infrastructure, services and maintenance.***

Concern was raised for where future development could be served by infrastructure. The participants stated the need to coordinate development where services would be suitable.

**3. *Suitability of land use based on soil, environmental and prime agricultural land evaluations.***

The participants expressed an interest in ensuring that development takes place on appropriate land determined through evaluation and ensures that agricultural land is preserved during the development review process. A "Land Evaluation Site Assessment" (LESA) system was discussed as a means of achieving the objective.

**4. *Orderly and sequential growth including designation of growth areas.***

Concerns were raised regarding the type and amount of growth in areas of the County that could possibly threaten the agricultural/rural character of the area. By guiding growth in

designated areas of the County, this threat could be diminished and prevented on the urban fringe of the cities edges. The idea of "growth tiers" was discussed.

**5. *Education of the public regarding the land use development process.***

There was general concern by the participants that by informing the public about the land use and development process then development could be better understood and maintained as a whole. The plan update was seen as a means of educating the public about the issues.

**Other Issues Identified:**

- ***Balance between growth and preservation of agricultural land.*** Concerns were raised regarding development in certain parts of the County that are threatening to harm the rural fabric and quality of the farmland. Participants felt strongly towards striking a balance between managing new growth, while protecting the agricultural land and their identity.
- ***Provision of housing variety/residential growth.*** Participants expressed their desire for greater availability of choices in housing to accommodate the needs of all residents of different income levels.
- ***Need for commercial/industrial commercial growth areas.*** The participants voiced concerns for the need to establish clear areas that will be designated for commercial and industrial growth in the County in order to plan for adequate infrastructure to accommodate these future uses.

**Quality of Life Issues**

Jackson County benefits from both its rural small town character and from its close proximity to the Topeka area. In addition, the County is home to the Prairie Band Potawatomi Nation Indian Reservation. The break out group identified quality of life issues that would increase the County's sense of coordination between all residents of the County. While close to more urban needs in the Topeka area, Jackson County must invest in community assets and strive to retain and capitalize on the County's established character.

**Top 5 Issues:**

1. Coordination between cities, the county and the tribe.
2. Preserve prime farmland and agricultural value.
3. Provide adequate services: roads/schools/solid waste.
4. Adequate youth activities including positive after school programs.
5. Code Enforcement including new codes, property maintenance and clean up.

*Goals, Objectives and Policies*

A complete list of all issues identified during the large group exercise with a short narrative follows:

1. ***Coordination between cities, the county and the tribe.***  
The participants expressed the need for individual cities, the County, and the Prairie Band Potawatomi Nation to openly communicate and work closely together in order to ensure that Jackson County has a successful future and maintains a high quality of life. In addition, educating the public about the planning process will improve coordination among residents.
2. ***Preserve prime farmland and agricultural value.***  
Preservation of prime agricultural land was considered crucial to preserving agriculture in the County and to maintain a rural lifestyle. A large lot requirement in the agriculture district was discussed.
3. ***Provide adequate services: infrastructure and waste.***  
Adequate services will be needed to provide for future expected growth in the County. Therefore, the County Comprehensive Plan must reinforce the need to plan for infrastructure and services that includes environmental awareness and ensures a quality lifestyle.
4. ***Adequate youth activities including after school programs.***  
Participants shared a favorable opinion to provide adequate youth programs as a key aspect contributing to the quality of life in Jackson County. A necessary component of this is using after school programs to ensure that children with working parents have a supervised place to go after school.
5. ***Code Enforcement including new codes, property maintenance and clean up.***  
The participants expressed the need for better code enforcement and the need to conduct building inspections to maintain the quality of residential structures and other structures in the County.

**Other Issues Identified:**

- ***Housing variety.*** The participants advocated for the need for more housing choices in the County as vital to the quality of life. This includes affordable housing for all age groups.
- ***Public Safety.*** Concerns were raised for maintaining appropriate public safety services to accommodate new growth. The participants felt that this was essential in order to ensure the current level of public safety and crime prevention in both urban and rural areas.
- ***Preserve rural small town character and sense of place.*** The participants were concerned with uncontrolled growth affecting the rural character of the County. Therefore, the Comprehensive Plan must reinforce the need and desire of the residents to maintain the county's agricultural base and rural lifestyle while protecting open space.

**Economic Development Issues**

Population growth in the last decade and current growth trends along Highway 75 provide opportunities for economic growth in Jackson County. The group identified several businesses, opportunities and developmental issues that are necessary to improve the investment and the overall economic climate of the Jackson County. The group felt that it is important that growth be accommodated; however, the growth must be conducive to Jackson County's quality of life, uniqueness and character.

**Top 5 Issues:**

1. Planning for and Marketing Economic Development:
  - Promote primary industry and tourism/growth
  - Support local businesses
  - Maintain agricultural base
2. Housing choices and variety.
3. Availability of land for industrial and commercial development
4. Sewer and water availability
5. Environmentally friendly development

A complete list of all issues identified during the large group exercise with a short narrative follows:

**1. *Planning for and Marketing Economic Development***

The participants shared their concern for the need to develop a more aggressive marketing plan while supporting local business owners. In addition, economic incentives should be offered to attract businesses to Jackson County while maintaining an agricultural base. It was also expressed that the County should determine the type of new businesses and development they would like to see in the designated growth areas.

**2. *Housing choices and variety.***

The need was identified for a more diverse range of housing in Jackson County in order to provide adequate housing for all ages and incomes. Variety was requested in both price range and type of housing structures available.

**3. *Availability of land for industrial and commercial development.***

Participants voiced a concern for the need to provide an adequate amount of land for future industrial and commercial development in order to ensure that this type of development occurs in appropriate locations in the county.

**4. *Infrastructure availability***

Adequate sewer, water and road conditions are vital to future industrial and commercial development. The participants expressed the necessity of the county to encourage development where there is existing infrastructure and to plan for the availability of these

*Goals, Objectives and Policies*

services where it will be needed in the future. In order to be cost effective, the County should not allow businesses to locate where infrastructure is not available.

**5. *Environmentally friendly development***

The participants expressed their desire to advocate for businesses and development that would practice and encourage positive environmental actions and awareness in order to protect the natural resources of the County.

**Other Issues Identified:**

- ***Labor training.*** Concern was expressed from the participants for the need to determine resources to provide training for county residents to ensure they have adequate skills for employment.

<b>POLICY PLANNING WORKSHOP SUMMARY</b>
---

**Planning Strategies**

Approximately 30 individuals participated in the Jackson County Policy Planning Workshop in August 2002, of whom six were Potawatomi Tribe Planning Commission and staff. The focus of the Workshop—an interactive planning workshop—was to gain detailed insights into the preferences, strategies and desired policies for current and future development in unincorporated Jackson County. The workshop format helps build consensus on actions to be taken to reach the goals of the plan.

During the Workshop, participants collaborated in teams on detailed questions. Questions were prepared based upon information from demographics summaries, population forecasts, and input from the “Focus Session.” The teams summarized their discussions in workbooks and on maps of Jackson County. Throughout the Workshop issues were discussed in terms of both the near-term and long-term plans.

Participants were asked to identify specific examples and preferences relating to the questions and issues discussed. Comments are organized by the three major categories identified during the Focus Session, as ranked by the participants.

**Future Land Use Recommendations**

**Goal 1:** Encourage development in Jackson County in an orderly, suitable and efficient pattern, providing long term zoning and coordinated services for growth in order to preserve agricultural land.

*Focus Session Issues: Long term zoning, coordination of infrastructure, orderly growth.*

**Objective 1:** *Implement use restrictions such as Special Use Permits and Planned Unit Development.*

Strategy 1: Amend zoning and subdivision regulations to create alternatives, such as special use permits whereby specific conditions can be placed on particular land uses where site-specific development restrictions are appropriate.

Strategy 2: Establish a special use permitting procedure for non-ag uses in the ag-zoning districts, in lieu of spot zoning to commercial or industrial classifications.

Strategy 3: Adopt standards of review for specific uses such as: manufactured housing.

Strategy 4: Address issue of home occupations.

Strategy 5: Adopt access restrictions along major county roads.

Strategy 6: Enforce lot depth-to-width ratios to eliminate long, narrow lots.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: 2004

**Objective 2:** Encourage high density development along the U.S. 75 Highway Corridor.

Strategy: Plan for industrial parks along 75 Highway near Holton and Hoyt.

Strategy: Designate areas on Future Land Use Map.

Responsible Entity: County

Resources to be Used: Done

Timeline for Completion:

**Objective 3:** Require large acre (20-acre lot) development in areas zoned agricultural.

Strategy: Discourage industrial use in the Rural Tier.

Strategy: Develop frontage requirements.

Strategy: Disallow mobile homes built before the modern HUD code, and allow “manufactured homes” built under the HUD code.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: Ongoing

**Objective 4:** Designate growth areas where new development will be allowed to occur.

Strategy: Designate the following growth tiers:

*Goals, Objectives and Policies*

- U.S. 75 Highway Tier;
- Suburban Density Tier;
- Rural Density Tier; and
- Agricultural Preservation Tier.

Strategy: Use a Land Evaluation System in some situations to help ensure that development takes place on appropriate land and that agricultural land is accounted for as a consideration during the development review process.

Strategy: Coordinate all utilities, access roads and sewer districts in designated growth areas.

Strategy: Adopt a land use plan for the perimeter of the Banner Creek Reservoir land to assure compatible development.

Strategy: Focus urban land uses around the principal towns and along U.S. 75 Highway.

Strategy: Support agriculture in rural areas: allow clusters of more dense housing, or rural subdivision if they “pay their way” with both on-site and off-site improvements.

Responsible Entity: County

Resources to be Used: Done

Timeline for Completion: NA

**Goal 2:** Promote a better understanding of the land use and development process to residents of the county.

*Focus Session Issues: Education of the public.*

**Objective 1:** Actively educate the public about the land use and development process.

Strategy: Utilize the newspaper, radio and council meetings as a way to share information

Strategy: Publish a planning brochure with planning policy from both the Tribe and the County Planning Commission.

Responsible Entity: County

Resources to be Used: Local Funds

Timeline for Completion: Ongoing

**Objective 2:** Educate the public about the roles of service providers.

Strategy: Conduct joint monthly fire district meetings.

Strategy: Conduct joint annual city meetings.

Strategy: Conduct joint annual city/county meetings.

Strategy: Conduct joint monthly county/Tribal Council meeting.

Responsible Entity: County and local agencies

Resources to be Used: NA

Timeline for Completion: Ongoing

**Quality of Life**



**Goal 1:** Increase cooperation and knowledge of the planning process among all residents of the county in order to promote a higher quality of life.

*Focus Session Issues: Coordination among all County residents, education.*

**Objective 1:** Encourage open communication between cities, the county and the Prairie Band Potawatomi Nation.

Strategy: Continue to maintain good relationship regarding road maintenance and improvements.

Strategy: Holton and Jackson County: Continue sharing equipment for road maintenance.

Strategy: Study the Tribes ability to increase treatment capacity for sewer service.

Strategy: Study long-term sanitary sewer services along U.S. 75 Highway as it may be coordinated with the upgraded capacity of the wastewater treatment plant at the casino.

Strategy: Assess the demand for water as a long-term need.

Strategy: Coordinate the ability to pave roads where future development is wanted.

Strategy: Plan for asphalt road improvements as a long-term viable level of service, rather than chip and sealing county roads.

Strategy: Consider adopting road impact fees for improving major county roads.

Responsible Entity: County and local agencies

Resources to be Used: NA

Timeline for Completion: Ongoing

**Objective 2:** Educate residents regarding planning procedures and how these procedures can help improve the quality of the community.

Strategy: Continue joint meetings between the county and Tribe Planning Commissions.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: Ongoing

**Goal 2:** Develop strategies for preserving prime farmland and agricultural value.

*Focus Session Issues: Prime farmland, agricultural value, small town character.*

**Objective 1:** Utilize a large lot requirement in the agriculture district: 20 to 20-acre lots.

Strategy: Initiate a Land Evaluation and Site Assessment (LESA) system.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: 2004

***Goals, Objectives and Policies***

**Goal 3:** Provide adequate services that will ensure a quality lifestyle.

*Focus Session Issues: Infrastructure, waste disposal, public safety, and youth.*

**Objective 1:** Encourage the planning of infrastructure that will incorporate environmental awareness and contain growth within manageable service areas.

Strategy: Adopt the County Flood Hazard and Mitigation Plan at city and tribal levels.

Strategy: Prepare an evacuation plan for the reservoir.

Responsible Entity: County and local agencies

Resources to be Used: NA

Timeline for Completion: 2005

**Objective 2:** Support maintenance of current services that will continue to ensure the current level of public safety and crime prevention in all areas of the County.

Strategy: Address safety issues of kids playing in the roads.

Strategy: Study how to consolidate certain services for efficiency.

Strategy: Study how to eliminate redundancy such as two fire districts called on the same fire alarm.

Strategy: Utilize soil and conservation cost share programs for correcting sewer management.

Strategy: Work with the State Water Office in Topeka to promote long-term water quality in the Kansas River.

Strategy: Adopt water quality controls for the Banner Creek Reservoir drainage basin watershed

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: Ongoing

**Objective 3:** Provide activities that will enhance youth in the community and provide a safe and supervised environment.

Strategy: Utilize new Boys and Girls Club at K Road

Strategy: Coordinate with new Parks and Recreation Director to develop programs.

Strategy: Conduct a countywide parks and recreation study jointly with the Tribe.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: 2005

**Goal 4:** Provide a reasonable variety of housing choices while properly maintaining existing property.

*Focus Session Issues: Code enforcement, property maintenance, housing choices.*

**Objective 1:** *Implement code enforcement and building inspections to maintain the quality of residential and nonresidential structures in the County.*

Strategy: Develop codes regarding out of compliance sanitary systems, abandoned cars and trash.

Strategy: Evaluate how the Tribe is looking into alternative ways to deal with enforcement such as physically helping owners to clean up property rather than fines or taking to court.

Responsible Entity: County

Resources to be Used: NA

Timeline for Completion: 2005

**Objective 2:** Encourage new residential construction to promote a variety of types, sizes, and range of prices of housing choices.

Strategy: Provide additional affordable housing: initiate public efforts to off-set “investment gap”.

Strategy: Provide more moderate cost housing.

Strategy: Provide move-up housing.

Responsible Entity: County and Private Sector

Resources to be Used: NA

Timeline for Completion: Ongoing

## **Economic Development**

**Goal 1:** Promote aggressive economic development by planning and marketing.

*Focus Session Issues: Marketing economic development, planning, availability of land, environmentally friendly development.*

**Objective 1:** Encourage primary industry and tourism growth while supporting new and existing local businesses.

Strategy: Designate an industrial park site and provide infrastructure.

Strategy: Support an Enterprise Facilitation Board over the 5 northeast counties.

Strategy: Create ambassadors for the County.

Strategy: Prepare a multifaceted marketing plan for the county and the City of Holton, in cooperation with 5-county economic development effort:

- Industrial/employment base;
- Tourism, including the casino trade; and
- Conference Center.

*Goals, Objectives and Policies*

Strategy: Publish the positive findings of the area business survey.

Strategy: Investigate ways Jackson County can provide an improved environment for new and existing entrepreneurs' business start-up and growth.

Implement needed policy or program changes as appropriate to create a more entrepreneurial county environment.

Responsible Entity: County and Jackson County Development Corporation (JCDC)

Resources to be Used: JCDC

Timeline for Completion: Ongoing

**Objective 2:** Determine the type of new businesses and development the County would like to see in designated growth areas while maintaining agricultural base.

Strategy: Designate the Jackson County Kansas Development Corporation as the lead agency to set an "Action Agenda" with the county and the area cities for determining the types of businesses to recruit.

Strategy: Follow the Future Land Use Tier Map in targeting non-ag and non-residential development in unincorporated areas of Jackson County, in particular within the Suburban Tier and the U.S. 75 Highway Tier.

Strategy: Investigate industry and economic sector growth opportunities for Jackson County.

Strategy: Consult with rural business leaders and key business associations.

Strategy: Obtain additional detailed information on existing business sectors in the multi-county region around Jackson County.

Responsible Entity: JCDC

Resources to be Used: NA

Timeline for Completion: Ongoing

**Objective 3:** Provide an adequate amount of land for new growth in order to ensure that the development is appropriately planned for, where urban services can be extended.

Strategy: Target commercial growth at intersections with U.S. 75 Highway.

Strategy: Target industrial growth around Holton.

Responsible Entity: County, City and JCDC

Resources to be Used: NA

Timeline for Completion: Ongoing

**Objective 4:** Provide economic incentives to attract new businesses to the county in coordination with the Tribe and area cities.

Strategy: Survey current businesses to better understand their needs.

Strategy: Offer public financing options like Tax Increment Financing (TIF).

Strategy: Develop a sliding tax scale for local businesses

Responsible Entity: JCDC  
Resources to be Used: NA  
Timeline for Completion: Ongoing

**Objective 5:** Ensure that new business development is adequately served with community utilities and meets site planning standards.

Strategy: Adopt new site plan review standards and procedures to ensure that urban tiers development along U.S. 75 Highway pays its way.

Responsible Entity: County  
Resources to be Used: NA  
Timeline for Completion: Ongoing

**Goal 2:** Provide more diverse housing in the county.

*Focus Session Issues: Housing choices and variety.*

**Objective 1:** Provide for “Grandfather” privileges for legal lots of record 3-acres or greater in ag-zoning districts.

Strategy: Allow reconstruction and construction of single-family residences in ag-zoning districts provided the lot is no less than 3-acres and of record on the date of the new zoning regulation amendments adopted to implement this Plan.

Strategy: Allow owners of smaller, legal lots of record to seek variances from the minimum lot size, with strict standards for granting variances enforced.

Strategy: Allow owners of contiguous parcels and legal lots of record 40-acres or larger to make sell-offs for home sites (for example for children of the owners) of 3-acre parcels or larger; provided that the remaining contiguous parcels or lots shall be required to meet average densities of no less than one unit per 20 acres in ag-zoning districts.

Responsible Entity: County  
Resources to be Used: NA  
Timeline for Completion: 2004

**Objective 2:** Encourage development of adequate housing for all ages and income levels.

Strategy: Develop a community survey of housing needs.

Strategy: Designate a manufactured home park and update manufactured home park standards.

Responsible Entity: Cities and Counties  
Resources to be Used: Grant funds  
Timeline for Completion: Ongoing

*Goals, Objectives and Policies*

**Goal 3:** Ensure adequate infrastructure is provided for future industrial and commercial development.

*Focus Session Issues: Sewer and water availability.*

**Objective 1:** Encourage development where there is existing infrastructure, or where it can be extended.

Strategy: Extend sewer services for future commercial and industrial use along 75 Highway in the following areas:

- north and south of Holton;
- 150<sup>th</sup> Road near Mayetta; and
- 214 Highway near Hoyt.

Strategy: Extend sewer services for future residential uses 2-3 miles around existing developed areas of the Holton “service area,” and 1.5 miles around smaller cities.

Responsible Entity: Cities and Private Sector

Resources to be Used: Public and Private Assessments

Timeline for Completion: Ongoing

**Objective 2:** Discourage businesses from locating where the infrastructure is inadequate or where it is not planned.

Strategy: Coordinate with cities and the Tribe.

Responsible Entity: Cities and County

Resources to be Used: NA

Timeline for Completion: Ongoing

## CHAPTER FOUR—FUTURE LAND USES

### LAND USE TIERS

The Land Use Tier system was developed to help evaluate proposed residential and commercial development across the County. The tier boundaries were laid out utilizing several factors while providing ample area to accommodate 20 years of growth:

- Natural barriers—primarily ridgelines—which result in drainage flows to creeks and rivers in major basins and sub-basins, particularly in recognition of water quality concerns;
- Man-made improvements, such as highways and major roads, sanitary sewer systems, (both current and future improvements) and related urban systems that support non-agricultural growth;
- Major regional improvements, such as the Banner Creek Reservoir; and
- Political boundaries, primarily at the edges of the cities in Jackson County.

As new development and infrastructure are built, tier boundaries must be reevaluated so that these improvements are taken into consideration when new proposals are reviewed. The Plan establishes a **planning “tier system,”** which includes:

- Suburban tiers;
- U.S. 75 Highway tiers;
- Long-term Development tiers; and
- Conservation tiers.

The Jackson County Comprehensive Plan provides several new policies and procedures:

- Development proposals in the developing “Tiers” outside the cities of Jackson County and along U.S. 75 Highway will be reviewed in the future based on a new Site Plan Review procedure.
- Encourage development in the tiers as provided below.

**Suburban Tiers** are where growth is encouraged near urban areas at suburban densities (greater than 5-acre lots), or at urban densities if urban street and sewer standards are met; and along portions of the U.S. 75 Highway, K-116 and other highway corridors adjacent to the area cities.

**Zoning:** The County encourages suburban residential development, allowing urban densities only when served by public or private community sanitary sewer systems. Also, allow commercial and industrial zoning along regional roadway corridors if served by community systems.

**Roads:** Improved with a hard surface (asphalt or concrete to city standards), dedicated to the public. Gravel if for residential development larger than 5-acre lots, in which case they must be privately owned and maintained. Paved access to all residential subdivisions via a public road from a paved County road is required.

***Future Land Uses***

<b>LAND USE TIER MAP</b>
--------------------------

<p>The tier map boundaries are laid out utilizing several factors while providing ample area to accommodate 20 years of growth:</p>
---

- |  |
|--|
| <ul style="list-style-type: none"><li>• Natural barriers, such as major drainage basins and sub-basins;</li><li>• Municipal sanitary sewer improvements planned and completed;</li><li>• Regional improvements, such as highways and major roads;</li><li>• Major regional improvements, such as the Banner Creek Reservoir; and</li><li>• Political boundaries.</li></ul> |
|--|



**Sanitary Sewer:** Extension of municipal sewers encouraged. On-site septic systems allowed for development at suburban-residential densities (larger than 5-acre lots); however, a double plat must be prepared and submitted with the preliminary plat to show how the land can be re-subdivided and served by municipal sewers at a future date. The double plat requires the Preliminary Plat to show rights-of-way, easements and related dedications for future urban density should the land be annexed in the future. The Final Plat would not have to show these items.

**U.S. 75 Highway Tiers** are where growth is encouraged at suburban densities (greater than 5-acre lots), or at urban densities (smaller than 1-acre lots), served by municipal sanitary sewer services or by a community system of shared water and sanitary sewers, built to city standards. They are shown on the “Land Use Tier Map” around established urban areas within 1 ½ miles of the U.S. 75 Highway right-of-way, within the drainage basins where municipal sewers are built or planned. Policies for development under County control are as follows:

**Zoning:** The County encourages urban development, including commercial and industrial zoning, if served by community sewers and water.

**Roads:** Paved with a hard surface (asphalt or concrete to County standards), dedicated to the public.

**Sanitary Sewer:** Provided through a city, or if a private community system built to city standards. Individual on-site septic systems allowed for development at rural densities (larger than 20-acre lots) only in cases where city services are not provided or planned for in 10-20 years.

**Long-term Development Tiers** are where agriculture is encouraged to continue and rural ag-residential development on minimum 20-acre lots is encouraged; but where future sewer and water service could support urban uses along U.S. 75 Highway.

**Zoning:** The County encourages agricultural zoning and allows agricultural-residential zoning on minimum 20-acre lots, while permitting 3-acre lot cluster zoning at an average net density of one unit per 20-acres. Commercial and industrial zoning would not be allowed unless community sewer and water service is extended to the area. Urban-density subdivision would be allowed if they “pay their way” in terms of sewer, roads and related infrastructure.

**Roads:** Gravel if on 5-acre lots or larger, in which case they must be privately owned and maintained. Paved with a hard surface (asphalt or concrete to city standards), dedicated to the public if smaller than 5-acre lots. Paved access via a public road is required to all residential subdivisions.

**Sanitary Sewer:** On-site septic systems allowed for development at rural densities larger than 5-acre lots.

*Future Land Uses*

**Conservation Tiers** are where floodplain, bottomland and other designated agricultural soils suggest preservation of “good soils” (or prime farmland); also around Banner Creek Reservoir. This designation of superior soils shall be considered when reviewing development proposals. Residences allowed only at agricultural-preservation densities (larger than 20-acre lots), or on 3-acre clustered zoning at average of ag-preservation density.

**Zoning:** The County allows agricultural zoning; or 3-acre clustered zoning at average net density of one unit per 20-acres. Commercial and industrial zoning would not be allowed.

**Roads:** Private drives, or public roads if improved to standards of the County.

**Sanitary Sewer:** On-site septic systems allowed for development at ag-preservation density (larger than 20-acre lots).

**Rural Development**

**Rural Density Development** is encouraged on large parcels throughout rural Jackson County—outside the designated tiers. Rural cluster residential densities are allowed at average net density of one unit per 20-acres. Residential developments at suburban and urban densities may be allowed on strict standards.

**Zoning:** The County encourages agricultural zoning and allows agricultural-residential zoning on minimum 20-acre lots, while permitting 3-acre clustered zoning at average net density of one unit per 20-acres. Commercial and industrial zoning would not be allowed. Suburban and urban densities may be allowed on strict road and sewer standards: Urban-density subdivision would be allowed if they “pay their way” in terms of sewer, roads and related infrastructure.

**Roads:** Gravel if on 5-acre lots or larger, in which case they must be privately owned and maintained. Paved with a hard surface (asphalt or concrete to city standards), dedicated to the public if on 5-acre lots or smaller. Paved access via a public road is required to all residential subdivisions.

**Sanitary Sewer:** On-site septic systems allowed.

<p><b>PLANNING POLICY OF THE LAND USE TIER SYSTEM</b></p>
---

These policies are proposed, because unincorporated Jackson County is a large, diverse community. Rural Jackson County—beyond the area cities and towns—lacks urban infrastructure to support urban and suburban growth. If the rural areas develop at urban and suburban-zoning densities, more services are called for. These urban services—street maintenance, snow removal, police protection, ambulance service, building and zoning enforcement, traffic controls, animal control, streetlights—all become too much of a burden on county government with limited fiscal resources if urban development is not built to proper standards in the beginning.

**Suburban Tiers** are where growth is allowed at suburban densities or at urban densities if stricter standards are met. They are outside cities, in the urban service areas, where cities can extend services. Annexation would be encouraged, if adjacent to a city.

**U.S. 75 Highway Tiers** are where growth is encouraged at suburban densities or at urban densities if served by city sanitary sewers, built to city standards. They are shown on the “Growth Tier Map” along the U.S. 75 Highway corridor where sewers can be extended on gravity flow. Annexation would be encouraged, if adjacent to a city.

**Long-term Development Tiers** are where agriculture is encouraged to continue and rural agricultural development on minimum 20-acre lots is encouraged; but where future sewer and water service could support urban uses along U.S. 75 Highway.

**Conservation tiers** are where floodplain, bottomland and other designated agricultural soils dictate preservation of “good soils” or prime farmland; also land around Banner Creek Reservoir. Residences would be allowed only at agricultural-preservation densities (larger than 20-acre lots), or as cluster development on levee-protected bottomlands or other prime farmland soils, elevated above the base flood level.

**Grandfathering** policies shall establish that legal lots of record will be regulated as legal, conforming lots when the Plan is adopted, making them legal to develop as they were recorded (either as a single lot or subdivision plat) prior to date of the zoning ordinance amendments.

## ZONING

The County should update its zoning regulations to differentiate among residential, commercial, and industrial land uses and development densities.

**Urban-density Residential:** Minimum lot size 10,000 square feet, no maximum.

**Suburban Residential:** Minimum lot size 5-acre, no maximum.

**Agricultural-Residential:** Minimum lot size 20-acres, no maximum.

**Rural Cluster Residential:** Minimum lot size of 3-acres, maximum of 5-acres, clustered at an average net agricultural-residential density of one unit per 20 acres.

**Agriculture-Preservation Residential:** Minimum lot size 20-acres, no maximum.

## ROADS

The Plan calls for the County to update its subdivision regulations to adopt standards for gravel and paved public roads: hard surfaced asphalt roads. Other roads in rural areas may be gravel and kept private. Paved roads shall be improved to standards developed and updated by the County which should coordinate with the area city standards.

*Future Land Uses*

<b>SANITARY SEWERS</b>
------------------------

Public sewers (city or privately owned community systems) are required for development in U.S. 75 Highway Tiers. All community systems must be approved by the KDH&E and built to County standards. On-site septic systems must be built to County standards.

<b>CONFINED FEEDING OPERATIONS</b>
------------------------------------

By establishing and enforcing standards and properly managing animal waste, valuable water resources can be protected. Preventing contamination is the key to protecting water quality in Jackson County. The Kansas Separation Rule, 65-171d, provides regulation for confinement animal feeding operations. The following information, outlining the Kansas Separation Rule, K.S.A. 65-171d, was taken from the Kansas Department of Health and Environment website.

The process for reviewing confined feeding operation applications is summarized in **Chapter 7, Implementation.**

<b>STREAM BUFFER REQUIREMENTS</b>
-----------------------------------

Headwater streams are often severely degraded by urbanization. As a consequence, many communities have adopted stream buffer requirements as part of an overall watershed protection strategy. Stream buffers are an integral element of any local stream protection program. By adopting some of these rather simple performance criteria, communities can make their stream buffers more than just a line on a map. Better design and planning also ensure that communities realize the full environmental and social benefits of stream buffers. Recommendations in this section are from the APA, PAS Memo of August 2000.

The ability of a particular buffer to actually realize its many benefits depends to a large extent on how well the buffer is planned or designed. In general, a minimum base width of at least 100 feet is recommended to provide adequate stream protection. In most regions of the country, this requirement translates to a buffer that is perhaps three to five mature trees wide on each side of the channel

The policies and standards for providing stream buffers along local streams in Jackson County under a countywide protection program—including performance criteria—are summarized in the next **Chapter 7, Implementation.**

## CHAPTER FIVE – TRANSPORTATION

### MAJOR THOROUGHFARE PLAN

The Major Thoroughfare Plan establishes a classification system for various highways and roadways within the County. In addition, access control standards and guidelines are cited which establish minimum distances for intersections and driveways along “Highways” and “Arterial” roads (**Ref. Major Thoroughfare Plan map**).

Local roads and streets do not serve trips independently; rather, most trips involve movement through a network of roadways. A functional classification system of roadways provides a method for channeling traffic in a logical, efficient and safe manner.

### REGIONAL TRANSPORTATION PLANS

Widening of U.S. 75 Highway north of Shawnee County is complete. KDOT improvements are being considered in its current funding cycle, including a fly-over exit ramp for northbound traffic onto 150<sup>th</sup> Street to the casino. The timing and level of improvement of the state routes and county roads is ongoing, though not planned in an official 5-year capital improvements program (CIP).

#### Roadway Classification System

The existing road and highway network is classified by function. Roads and highways are grouped into classes or systems according to the service they provide. The factors that identify roadway classifications include:

- the level of through-traffic movement; and
- access to adjacent land or individual properties.

Roadways are not classified by the amount of traffic they carry; however, higher traffic volumes are usually consistent with upper level roadway classifications, as discussed below.

The functional classification for roadways employs a hierarchical structure to identify the operation of all roadways within a transportation system. The hierarchy of road types in ascending order is: local roads, collector roads, arterial roads, and expressways/freeways. Lower level roadways, such as local or collector roads, provide more direct access to property than do higher level roadways, such as arterial roadways or expressways.

Roadway classifications dictate the design standards for the construction of a roadway. The function of a roadway, traffic volume, and adjacent land use determine the type of roadway that should support daily traffic activity. General roadway design standards have been developed by the American Association of State Highway Transportation Officials (AASHTO) as defined in "A Policy of Geometric Design and Highways and Streets." The ability to improve an existing roadway by constructing additional lanes or other improvements to AASHTO standards, however, may be

***Transportation***

constrained by the existing development in growth areas. The standards summarized below for arterial, collector, and local roadways also reflect locally adopted standards.

<b>COUNTY ROADWAYS</b>
------------------------

County roadways can be further classified as minor collector roadways (two-lane). The two-lane collector roadway functions to collect traffic from local roads and residential neighborhoods. Because traffic volumes on two-lane collector roadways may range more than 1,500 vehicles per day, residential properties abutting the collector road may not be as desirable as those abutting a local road. To accommodate traffic volumes, a minimum right-of-way of 60 feet is needed. Depending on local conditions such as traffic volumes, up to an 80' right-of-way may be warranted. Parking should not be allowed; and private access to the county road should meet the new access control standards.

<b>ARTERIAL ROADWAYS</b>
--------------------------

Arterial roadways—rural major roads—are appropriate for carrying traffic through primarily residential areas without directly accessing any of the properties. A minor arterial road section includes 12-foot through lanes and should provide a left-turn bay at major rural intersections. Minimum travel widths should be based on traffic capacity. Public roads and private drives should be required to meet access control standards when taking access to an arterial road. The range for traffic volume on an arterial roadway is above 12,000 vehicles per day.

<b>STATE HIGHWAYS</b>
-----------------------

State Highways are primary arterial roadways that are partially access controlled. These routes are typically the highest traveled corridors, serve major activity centers and carry the major portion of trips entering or leaving the county and the cities of the county. State Highways serve major activity centers and carry a high proportion of traffic on a limited number of roadway miles. A road section ideally includes 12-foot through lanes. They could also include a 12-foot to 16-foot wide center two-way left-turn lane in urban areas. A minimum right-of-way of 100 feet is recommended. Traffic volumes on this type of roadway range up to 25,000 vehicles per day.



*Jackson County should coordinate with the state in adopting access control standards to ensure roads are safe when development takes direct access.*

#### ROADWAY CLASSIFICATIONS

The roadway classifications described above are applicable to the major roadways in the County and the projected growth areas. These roadways are classified based on their function that corresponds with the description of the roadway classifications. Table 5.1 lists examples of the functional classification of collector roadways depicted on the “Major Thoroughfare Plan” map. Roads that are not identified as a collector road, arterial road or expressway/freeway are classified as local roads. As development occurs within the growth areas, other roadways need to be classified as either collector or arterial roadways.

**Transportation**

<b>Table 5.1: Roadway Classifications</b>	
<b>Name of Roadway</b>	<b>Roadway Classification</b>
U.S. 75 Highway	State Highway
Highway 116	State Route
150 <sup>th</sup> Street	Rural Arterial

Examples: see Map for complete list.

**HIGHWAY CORRIDORS**

U.S. 75 Highway and the state routes function as major thoroughfares for regional access and local collector access. Major land uses such as the state routes to the Banner Creek Reservoir access roads are served by these primary roadways. The Kansas Department of Transportation estimates the Average Annual Daily Traffic (AADT) for major roadways in Kansas. The traffic counts are derived primarily from 24-hour traffic volumes recorded with portable traffic counters. Heavy commercial volumes were obtained from visual or machine vehicle classification counts. The AADT counts are cited in Table 5.2.

<b>Table 5.2: Average Daily Traffic (ADT)</b>		
<b>Rank</b>	<b>Count Location</b>	<b>ADT</b>
1	HWY 75 North of Hoyt	13,600
2	HWY 75 at RS 318 (South of Hoyt)	13,500
3	HWY 75 as it passes through Hoyt	13,100
4	HWY 75 at RS 321 in Mayetta	10,600
5	HWY 75 at State HWY 16 in Holton	10,100
6	HWY 75 North of Mayetta	9,590
7	HWY 75 South of Holton and State HWY 16	9,350
8	HWY 75 at RS 1354 (between Mayetta and Holton)	9,240
9	HWY 75 at RS 324 (North of Holton)	6,420
10	HWY 75 at RS 800	6,187

Source: Kansas Department of Transportation

Traffic counts on other routes, such as on Highway 116 are less than 6,000 cars per day. These lesser levels of traffic do not warrant road widening.



Development along the federal and state highways must be carefully planned in order for efficient funneling of traffic onto local and collector roads. Further, roads and driveways intersecting the major collectors that provide links to the highways must be designed in a manner that will minimize traffic conflicts and maximize access to new development and major land uses.

#### ACCESS CONTROL

Just as the design of a roadway helps to move traffic efficiently, controlling access to the roadway system can help do the same. The lack of an adequate access control policy or plan increases the probability of having traffic hazards and increased traffic congestion. Traffic hazards and traffic congestion reduce the capacity of the roadway to accommodate the traffic volumes for which it is designed. Traffic congestion and traffic hazards increase the pressure to widen roadways, which requires additional public funds.

Roadway capacity can be increased or decreased in a number of ways. The method utilized most frequently to increase capacity is to widen a road to provide additional travel lanes. In some instances, however, it is not feasible to add additional travel lanes due to land uses on either side of existing roadways. In these instances, other methods of increasing roadway capacity may be more appropriate. Other methods include constructing intersection improvements, turn bays, medians, restricting road and driveway access or providing traffic signal timing improvements. Conversely, road capacity can be decreased by adding cross roads, driveways, traffic signals, or other traffic control devices. By developing an access control policy, road capacity can be maintained to efficiently accommodate future development.

Specific design characteristics associated with each functional classification depend on factors such as projected traffic volumes and local access control policies. Traffic volumes of 10,000 or more vehicles per day can be accommodated by a two-lane arterial road that includes turn bays, good signal and intersection spacing, and private driveway access control. In many cases, a well-built two-lane arterial road can function as well as a four-lane road at approximately half the cost.

U.S. 75 Highway and K-16/9/62 provide regional access as well as access to abutting properties. Therefore, it is critical that a sound access control policy be followed as development occurs on property directly abutting the highway. Access control for major county roads becomes critical for efficient movement of local traffic as residential and commercial growth occurs.

#### INTERSECTION SPACING

Adequate distance between intersections is essential for the safe and efficient flow of traffic. Appropriately spaced intersections provide through-motorists an opportunity to respond to traffic entering the street from a side street. Table 5.3 shows the recommended minimum standards for spacing intersections, determined by through-traffic speed.

**Transportation**

<b>Table 5.3: Minimum Intersection Spacing Standards</b>	
<b>Through-Traffic Speed</b>	<b>Minimum Intersection Spacing</b>
30 mph	210 feet
35 mph	300 feet
40 mph	420 feet
45+ mph	550 feet

Source: Institute of Transportation Engineers

**DRIVEWAY SPACING**

Like a street, private driveways create an intersection with a public street. Conflicts and potential congestion occur at all intersections - public and private. Methods to reduce conflict include:

- Separating the conflicts by reducing the number of driveways and intersections;
- Limiting certain maneuvers such as left turns; and
- Separating conflicts by providing turn lanes.

No access drives should be located within the operations area of an intersection. Driver conflicts need to be spaced in order to eliminate overlaps between through traffic and right turns.

It is recommended that new driveway locations should comply with the minimum corner clearance criteria indicated in Figure 5-1. Proper spacing of driveways permits adequate storage and stacking of automobiles on the public street. This distance may have to be increased in cases with high volumes to ensure that driveways do not interfere with the operation of turning lanes at intersections.

The number of driveways accessing undivided arterial roadways should be minimized. The following standards in Table 5.4 are based on AASHTO standards and the Institute of Transportation Engineers (ITE) Manual.

<b>Table 5.4: Suggested Maximum Driveway Guidelines</b>		
<b>Maximum Number of Driveways</b>	<b>Driveway Spacing</b>	
	<b>Undivided Arterial Roads Length of Lot Frontage</b>	<b>Divided Arterial Roads Length of Lot Frontage</b>
1	0-399 feet	0-529 feet
2	400 - 899 feet	530 - 1199 feet
3	900-1,399 feet	1200 - 1859 feet
4	1,400-1,899 feet <sup>1</sup>	1860 - 2525 feet <sup>2</sup>

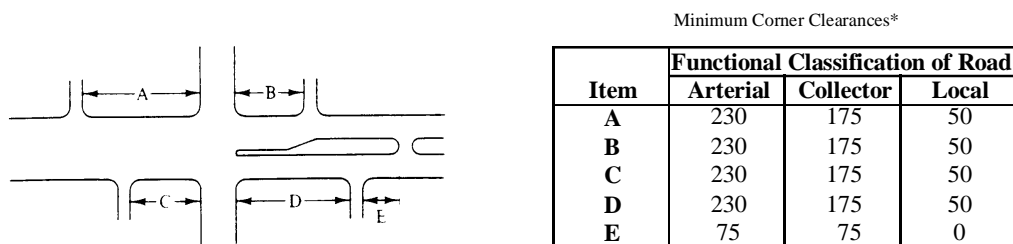
Source: Institute of Transportation Engineers (ITE) Manual

Notes:

<sup>1</sup> For each 500 feet above 1899 feet, one additional driveway is permitted.<sup>2</sup> For each 665 feet above 2525 feet, one additional driveway is permitted.

CORNER CLEARANCE

Figure 5.1: Corner Clearance Guidelines



Guidelines for signalized intersection control

Source: Based on Institute of Traffic Engineers Handbook

Specific minimum corner clearance guidelines are listed in Figure 5.1. These guidelines can be used to regulate new commercial developments located along arterial or collector streets.

***Transportation***

*(This Page Left Blank Intentionally)*

## **CHAPTER SIX – FLOOD HAZARD MITIGATION**

<b>FLOOD MITIGATION PLAN</b>
------------------------------

The purpose of this chapter is to provide a mitigation plan for flood events affecting Jackson County, Kansas. The flood mitigation plan incorporates a historical floods evaluation and provides recommendations for mitigating the effects of future flood events. Existing problem areas are identified from historical flood event data addressed from both regional (statewide) and local (Jackson County) perspectives. Existing problem areas are defined as those areas where potential for structural damage, property damage and loss of life is anticipated. Alternative relief measures have been identified as a part of this review. The mitigation plan concludes by providing recommended procedures that could be implemented to control the effects of flooding.

<b>DOCUMENTATION OF THE PLANNING PROCESS AND PUBLIC INVOLVEMENT</b>
---

The Jackson County Comprehensive Plan was initiated in May 2002, in a multi-step process. The Jackson County Flood Hazard Mitigation Plan was prepared concurrent with the Comprehensive Plan. The planning consultants met with the County Commission, Planning Commission and staff to discuss planning issues in general and flood plan issues.

The public involvement/consensus-building process involved two public policy workshops and follow-up meetings with staff and citizens of Jackson County, as summarized below.

- The first public workshop, the “Focus Session,” allowed the community to identify the most critical issues facing the Jackson County community in the coming years, including flood mitigation.
- A second public workshop, a “Policy Planning Workshop,” was held to formulate “Action Steps” for the issues identified as most critical to Jackson County’s future. A breakout group to discuss flood issues was facilitated.
- A series of public meetings hosted by the Planning Commission was held to discuss the workshop results, goals and objectives, and the draft plan and planning maps, including flood mitigation plans.
- The final Public Hearing prior to adoption of the Comprehensive Plan will provide yet another opportunity for the public to both hear information about the Jackson County Flood Hazard Mitigation Plan and comment on the plan.

***Flood Hazard Mitigation***

**Focus Session**

The Jackson County “Focus Session” was held June 18, 2002. The session provided an opportunity for residents, landowners, business and civic leaders, and other community stakeholders to identify issues that are critical to the County's future. Citizens were invited and the session was open to the public. 25 residents, business owners and elected officials from within the Jackson County gathered and identified issues that would shape the County for the next 20 years.

The process for ***Issues Identification*** used at the Focus Session was a structured idea-sharing procedure. Participants identified issues as a group and then refined, clarified and prioritized issues in “break-out” groups. Information from the Focus Session served as a basis for the follow-up “Policy Planning Workshop” workshop in summer 2002

**Policy Planning Workshop Summary**

Approximately 30 individuals participated in the Jackson County Policy Planning Workshop in August 2002, of whom six were Potawatomi Tribe Planning Commission and staff. The focus of the Workshop—an interactive planning workshop—was to gain detailed insights into the preferences, strategies and desired policies for flood mitigation among other issues in Jackson County. The workshop format helps build consensus on actions to be taken to reach the goals of the plan.

During the Workshop, participants collaborated in teams on detailed questions. Questions were prepared based upon information from demographics summaries, population forecasts, and input from the “Focus Session.” The teams summarized their discussions in workbooks and on maps of Jackson County. Throughout the Workshop issues were discussed in terms of both the near-term and long-term plans. Participants were asked to identify specific examples and preferences relating to the questions and issues discussed.

<b>FLOOD MITIGATION PROGRAM</b>
---------------------------------

The Kansas Department of Commerce and Housing (KDOC&H) administers the Flood Mitigation Assistance Program as one implementation activity. The Flood Mitigation Assistance program provides funding to assist communities in implementing measures to reduce or eliminate the long-term risk of flood damage. The Flood Mitigation Assistance Program is a pre-disaster grant program.

Since Jackson County has been classified as a Presidential-declared disaster area for flooding in 1993, 1998, or later, the County has received a Federal Mitigation Assistance Planning (FMA-P) Grant. The purpose of the grant was to assist Jackson County in developing and updating the following Flood Mitigation Plan.

Jackson County was identified as a top priority for funding by KDOC&H because of the County’s participation in the Community Capacity Building grant program. Once Jackson County’s flood

mitigation plan is adopted, the County will be eligible to apply for flood mitigation assistance project grants (FMA-PJ) through KDOC&H. The goal of the project grant program is to assist communities in implementing their mitigation plans and reducing flood risks by funding projects including:

- Acquisition/Relocation/Demolition;
- Elevation of existing structures;
- Minor physical flood mitigations; such as culvert replacement; and
- Dry flood proofing (water proofing) non-residential structures.

### **Program Goals**

The overall goal of FMA-P is to plan cost-effective measures, that once implemented, reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other National Flood Insurance Program (NFIP) insurable structures. The goals of FMA-P are to:

- Reduce the number of repetitively or substantially damaged structures and the associated claims on the National Flood Insurance Fund.
- Encourage long-term, comprehensive mitigation planning.
- Respond to the needs of communities participating in the NFIP to expand their mitigation activities beyond floodplain development review and permitting.
- Complement other Federal and State mitigation programs with similar, long-term mitigation goals.

<b>KANSAS WATER OFFICE INFORMATION</b>
--

Flooding is a recurring problem in Kansas. In the 20th Century, notable flooding occurred on the Kansas River in 1903, 1951 and 1993. Flooding of the Arkansas River (1965), the Marmaton River (1986, 1998) and the Walnut River (1998) are additional examples. Disastrous flash flooding occurred in the Kansas City metropolitan area in 1977 and 1998. Flood mitigation in the mid-21st century concentrated on structural prevention methods. A total of 24 large federal reservoirs have been constructed in Kansas by the Corps of Engineers and the Bureau of Reclamation. Additional federal funding for watershed dams has been provided by the Natural Resources Conservation Service. The primary purpose of these reservoirs is flood control. Federally funded levees also provide a measure of structural flood protection.

In 1976 the Kansas Legislature authorized appropriation of state funds for cost-share assistance in the construction of detention dams and/or grade stabilization structures by watershed districts. The State Conservation Commission has provided funding for watershed dams annually since 1978. There are presently 88 organized watershed districts that cover about 22 percent of the state's land area.

Approximately 60 of these districts have active general plans. Watershed works of improvement eligible for state cost-share assistance must be included in a state approved watershed general plan. Such plans have traditionally focused on structural flood control measures. Typically, the local sponsor is a watershed district, but other local entities such as drainage districts or cities can sponsor plans as well. The state also has statutes covering the development of levees and drainage districts that deal with structural measures for reducing flood vulnerability.

***Flood Hazard Mitigation***

The potential for future flood damages may be reduced significantly by preventing inappropriate development from occurring in flood prone areas. Local governments may accomplish this through their land use planning and zoning authority to protect the public health, safety and welfare.

Additional non-structural flood mitigation measures include forecast and warning systems, flood proofing and evacuation, and riparian and wetland protection or restoration. Incorporating nonstructural measures into watershed plans could further enhance the reduction of damages from floods while providing water quality, riparian and wetland protection and other benefits.

**Statutory Framework**

Since 1957, the State has developed extensive statutory authority for addressing flood problems, issues and concerns. Statutory authority for addressing flood management issues in the Kansas Water Plan is contained in the State Water Resource Planning Act (K.S.A. 82a-901 *et seq*). This Act establishes as a long-range goal “the reduction of damaging floods and of losses resulting from floods.” Policies for achieving this goal as stated in this Act are:

1. The utilization of non-structural methods, including floodplain regulation, and structural measures for the reduction of flood damage;
2. The design of proposed levees and dikes so as to reduce flood risks in agricultural areas to a chance of occurrence in anyone year of 10% or less;
3. The design of proposed levees and dikes so as to reduce flood risks in urban areas to a 1 % or less chance of occurrence in anyone year;
4. The design of proposed storage structures for the protection of agricultural areas so as to provide sufficient capacity to control the volume of a flood having a 4% or less chance of occurrence in anyone year;
5. The design of proposed storage structures for the protection of urban areas to provide sufficient capacity to control the volume of a flood having a 2% chance of occurrence in anyone year;
6. The provision of financial and technical assistance to public corporations concerned with management, conservation and development of water resources; and
7. The encouragement of local initiative in the planning, implementation, funding and operation of local water programs to the extent that the same are supportive of state water programs.



**Conditions that led to an updated Kansas Hazard Mitigation Strategy**

In the autumn of 1998, two federally declared flood disasters occurred in Kansas. A total of 26 Kansas counties were declared eligible for individual and/or public federal assistance. All counties in Kansas were declared for mitigation.

An updated Kansas Hazard Mitigation Strategy was mandated by federal law as a condition of Kansas receiving federal assistance for the two declared flood disasters in 1998. This updated Strategy was approved by the Federal Emergency Management Agency in 2001. The Kansas Hazard Mitigation Strategy was developed by the interagency Kansas Hazard Mitigation Team of which the Kansas Division of Emergency Management, Kansas Department of Agriculture, Division of Water Resources; Kansas Department of Commerce and Housing; the Kansas Water Office and others are members. The Strategy identifies several Implementation tasks related to flooding that are consistent with the 2010 Kansas Water Plan Objective. These tasks are keyed, in part, toward a FY 2005 update of the Kansas Water Plan Flood Management Section.

**Kansas Water Plan Objective**

The Kansas Water Plan 2010 Objectives provide a means to quantify the condition of water resources in the state through the assessment of each objective. The assessments will provide valuable information to planners and program managers to target funding and efforts to meet the 2010 objectives.

The objective is by 2010, reduce the vulnerability to damage from floods within identified priority communities or areas.

Assessment of this objective will first focus upon identification of priority areas or communities most vulnerable to flood damage. The Kansas Water Office will work with Kansas Department of Agriculture/Division of Water Resources and the State Hazard Mitigation Team to identify areas in need of additional flood protection.

**Implementation Activities**

Following the 1993 and 1998 Presidential disaster declarations, the Adjutant General's Department, Division of Emergency Management made hazard mitigation grants available to communities for projects such as relocation of residences out of flood prone areas.

Communities statewide were invited to apply for mitigation assistance following the flood disaster declarations of 1998. The Kansas Hazard Mitigation Team identified the following as priorities for such assistance: 1) acquisition of residential properties within identified floodplains; 2) protection of critical public facilities; and 3) minor structural projects to improve local drainage, including bridges and large box culverts.

***Flood Hazard Mitigation***

The Federal Emergency Management Agency has approved acquisition of 311 properties in 20 communities at a total federal cost of approximately \$11.3 million. Three wastewater treatment plant protection projects (Olathe, Fort Scott and Leavenworth) totaling \$3.4 million have also been approved as has \$1,127,237 for flood plain mapping by the Kansas Department of Agriculture, Division of Water Resources.

In 1998, a floodplain mapping component of the Floodplain Management Program of the Division of Water Resources was developed to implement a recommendation in the Kansas Water Plan. Funding for floodplain mapping has also been received through Corps of Engineers Planning Assistance to States funds and the Hazard Mitigation Grant Program of the Federal Emergency Management Agency which is administered through the Kansas Division of Emergency Management. Approximately 75 communities were contacted in 1999 regarding floodplain management and mapping needs.

The Division of Water Resources also coordinates the National Flood Insurance Program which makes flood insurance available to property owners provided that the local government adopts and enforces minimal floodplain regulations.

The State Conservation Commission provides cost-share assistance to watershed districts and other special purpose districts for the Implementation of structural and non-structural practices that reduce flood damages. Watershed planning assistance Is also available.

An updated Kansas Hazard Mitigation Strategy was approved by the Federal Management Agency in 2001. This updated Strategy was mandated by federal law as a condition of Kansas receiving federal assistance for two declared flood disasters in 1998.

The Kansas Hazard Mitigation Strategy was developed by the interagency Kansas Hazard Mitigation Team of which the Kansas Department of Agriculture. Division of Water Resources; Kansas Department of Commerce and Housing; the Kansas Water Office and others are members. The Strategy Identifies several implementation tasks related to flooding that are consistent with the 2010 Objective. These tasks are keyed. in part toward a FY 2005 update of the Kansas Water Plan Flood Management Section. Issues identified in the strategy will be considered, as appropriate, in the updating of this section.

**Criteria for Eligibility**

FEMA approval of Jackson County's flood mitigation plan is based on the following items that ensure that the plan will articulate a comprehensive strategy for implementing technically feasible flood mitigation activities for the area affected by the plan:

1. Description of the planning process and public involvement. For example: workshops, public meetings, or public hearings.
2. Description of the existing flood hazard(s) and identification of the flood risk(s) including:
  - a) Estimates of the number and types of structures at risk
  - b) List of repetitive loss properties
  - c) Extent of flood depth and damage potential

3. Applicant's floodplain management goals for the area covered by the plan.
4. Identification and evaluation of cost-effective and technically feasible mitigation actions considered.
5. Presentation of the strategy for reducing flood risks and ensuring continued compliance with the National Flood Insurance Program (NFIP); and procedures for ensuring implementation, reviewing progress, and recommending revisions to the plan.
6. Documentation of formal plan adoption (by resolution or ordinance) by the legal entity (City or County) and chief legal entity (Mayor or County Executive/Commission Chairman) submitting the plan.
  - This step should also be a part of the collaborative community development plan adoption if under the Community Capacity Building Grant program after KDOC&H has reviewed and approved the final draft.
  - Once the collaborative community development plan/flood mitigation plan is adopted, Jackson County should send KDOC&H the following:
    - a) Two (2) copies of the finalized, adopted collaborative community development plan/flood mitigation plan. One copy will be forwarded on to FEMA for final review and approval
    - b) Two (2) copies of proof of adoption of the collaborative community development plan/flood mitigation plan.

## HISTORICAL FLOODING

### Regional Overview

A statewide review of Kansas flood events is provided by the U.S. Geological Survey (USGS). The following information is taken from the USGS website (URL:<http://ks.water.usgs.gov/Kansas/flood/historic.html>) and provides a regional perspective to flooding events (Modified from Clement, R.W., 1991, Kansas floods and droughts, in Paulson, R.W., Chase, E.B., Roberts, R.S., and Moody, D.W., compilers, National water summary 1988-89 -- Hydrologic events and floods and droughts: U.S. Geological Survey Water-Supply Paper 2375, p. 287-294.).

“At least one Kansas stream has severe flooding during an average year. Although flooding generally is confined to an area of less than 2,500 square miles, several severe floods have affected much larger areas of the State. Flora (1948, p. 279) documented a severe flood in June 1844 that resulted from a large storm and affected most of the north-central and northeast parts of the State.

Numerous floods on Kansas streams have resulted from storms either entirely or partly outside the State. The floods of May 28-June 6, 1935, followed an intense storm in northeastern Colorado, northwestern Kansas, and southwestern Nebraska. Additional intense precipitation fell over the Smoky Hill and Solomon River Basins in western Kansas and the Big Blue River Basin in Nebraska and Kansas (Follansbee and Spiegel, 1937).

The flood of July 10-13, 1951, extended over about one-half of the State, including the north-central, northeastern, east-central, and southeastern parts, and along the

***Flood Hazard Mitigation***

Missouri and Osage Rivers in western Missouri (U.S. Geological Survey, 1952, p. 39-40). The flood was caused by storms that originated at the convergence of warm, moist, tropical air from the Gulf of Mexico and a frontal system that was centered in east-central Kansas. The resulting precipitation, which for the 4 days ranged from 6 to 17.5 inches, fell during three periods about 24 hours apart starting during the evening of July 9. Precipitation totals for May and June had been much greater than normal, and precipitation during the first 8 days of July had been light to moderate. Because the soil was saturated, virtually all precipitation that fell during July 10-13 was available for runoff.

Severe flooding occurred along the Arkansas River upstream from Great Bend during June 17-25, 1965, as a result of storms in the foothills and plains east of the Rocky Mountains in Colorado and New Mexico (Snipes and others, 1974, p. D4). Because the main storm did not affect Kansas, local flooding was minimal, but the Arkansas River overflowed from the western State line downstream to Great Bend.

In 1973, a series of severe floods occurred on streams throughout the central and east-central parts of the State during 3 weeks from late September to mid-October. Abundant precipitation preceded the floods of September 26-28 (water year 1973), when as much as 11 inches fell during the 4 days of September 25-28. Several locations reported precipitation in excess of 7 inches on September 26. The flooding was most severe in Rattlesnake and Cow Creeks in the south-central part of the State and in the Smoky Hill River, its tributaries, and tributaries of the Republican River in the north-central part.

Flooding was severe in the downstream reaches of the Verdigris River Basin during July 2-4, 1976, as a result of an intense storm over the southeastern part of the State. The storm produced 24-hour precipitation that totaled about 6-13 inches and 2-day precipitation of as much as 16 inches. Generally, precipitation ended during the late afternoon on July 3; however, runoff continued to cause flooding on July 4. The most severe flooding was confined to the main stem and tributaries of the Elk River and tributaries of the Fall and lower Verdigris Rivers.

Occasionally, intense local storms of short duration produce extremely large quantities of runoff. On the afternoon of June 14, 1981, a series of intense thunderstorms along the forward edge of a stalled cold front produced from 5 to 20 inches of precipitation in about 12 hours near Great Bend (Clement and Johnson, 1982). The storm affected about 300 square miles of tributaries to the Arkansas River upstream from Great Bend. A similar storm occurred in the Kansas City, Kansas-Missouri, metropolitan area on September 12-13, 1977 (Hauth and Carswell, 1978). As much as 11 inches of precipitation in 24 hours resulted in peak discharges having recurrence intervals greater than 100 years on most streams that flow through the metropolitan area.

In October of 1986 significant flooding occurred in the southeast part of the State during the first week in October. These floods are tabulated in "Summary of Floods

in the United States during 1970-89", U.S. Geological Survey Water-Supply Paper 2474.

During the spring and summer of 1993 widespread reoccurring rainstorms over the upper Mississippi and Missouri River Basins caused flash flooding and extensive regional flooding. In Kansas, the northeastern half of the State—including Jackson County—had the worst flooding; however, flood-control reservoirs in Kansas reduced the level of flooding significantly (Perry, 1994). Floods in Kansas during 1993 are documented in "Summary of Floods in the United States, January 1992 through September 1993" (Perry and Combs, 1998).

During the Halloween Floods of 1998, the worst of the flooding occurred in south-central Kansas. Flood discharges on the Walnut River at Winfield were the second highest in more than 100 years of record. Several smaller basins had peaks of record during the flood”.

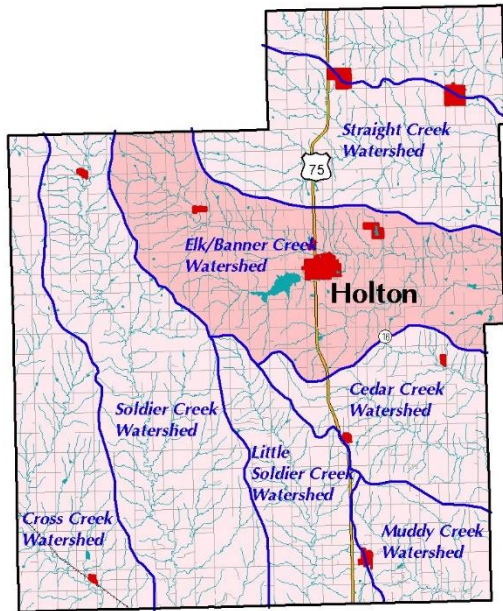
**Flood Hazard Mitigation****Table 6.1: Chronology of major and other memorable floods in Kansas, 1844-1999**

<i>Date</i>	<i>Area affected</i>	<i>Recurrence interval (years)</i>	<i>Remarks</i>
June 1844	Kansas and Marais des Cygnes River Basins	Unknown	Called the "Big Water" in Indian legend. Recurrence interval probably much greater than 100 years.
May-June 1903	Republican and Kansas River Basins	>50	Discharge greater than any flood since 1844.
May 28-June 6, 1935	Republican River Basin	25 to >50	Storms in northeastern Colorado, northwestern Kansas, and southwestern Nebraska. Lives lost, 10.
July 10-13, 1951	Solomon, Kansas, Marais des Cygnes, and Neosho River Basins	25 to >100	Storms affected most of eastern Kansas and were preceded by greater than normal rainfall. Lives lost, 15; damage, \$800 million.
June 1965	Arkansas, Little Arkansas, Solomon, Marais des Cygnes, and Big Blue River Basins	25 to >50	Storm on plains east of Rocky Mountains. Damage, \$16 million, mostly to cropland.
Sept.-Oct. 1973	Solomon, Smoky Hill, and Big Blue River Basins	>25 to >50	Caused by rainfall in north-central Kansas.
July 2-4, 1976	Verdigris River Basin	25 to >100	Intense storms near headwaters.
Sept. 12-13, 1977	Kansas City area	>100	Two severe storms on successive days. Lives lost, 25; damage, \$50 million.
June 15, 1981	Arkansas River tributaries at Great Bend	>100	Intense thunderstorms produced 5 to 20 inches of rainfall over 300 square miles. Damage, \$42 million.
June 9, 1984	Kansas City suburbs	>100	Most severe flooding in southwestern part of metropolitan area.
October 1986	Marmaton, Little Osage, Marais des Cygnes, Neosho River Basins	10- to >100-year	Southeast Kansas.
May-July 1993	Kansas and Neosho River Basins	25- to >100-year	Eastern two-thirds of State.
October-November 1998	Marais des Cygnes, Marmaton, Little Osage, Neosho, and Arkansas River Basins	10- to >100-year	Flash flooding in and near Wichita.

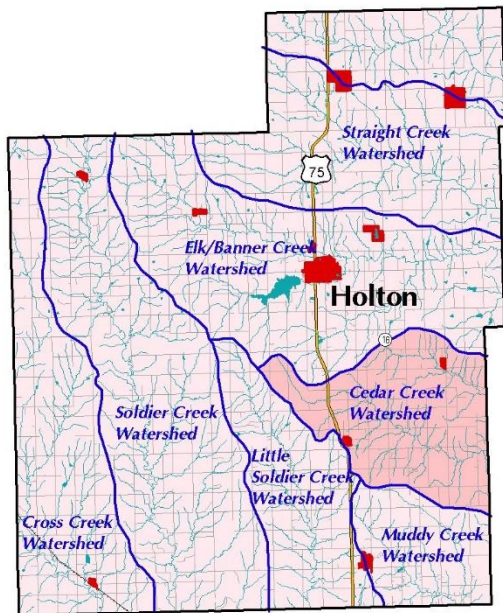
Jackson County, Kansas; U.S. Geological Survey

**WATERSHED AREAS OF JACKSON COUNTY**

Elk/Banner Creek Watershed

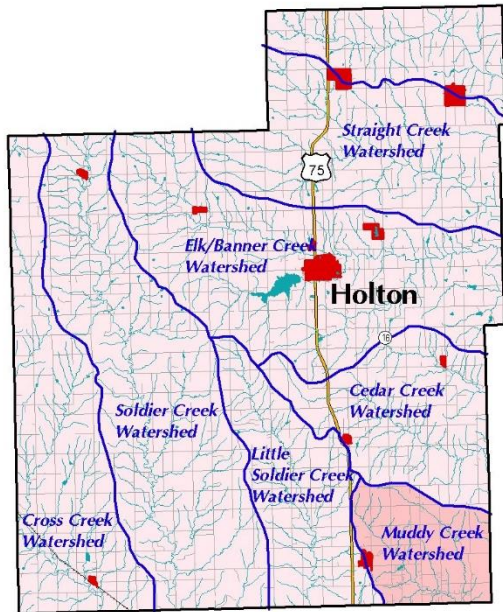


Cedar Creek Watershed

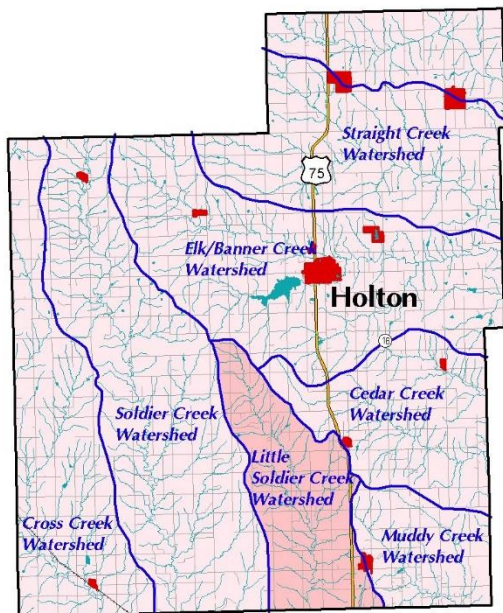


*Flood Hazard Mitigation*

Muddy Creek Watershed

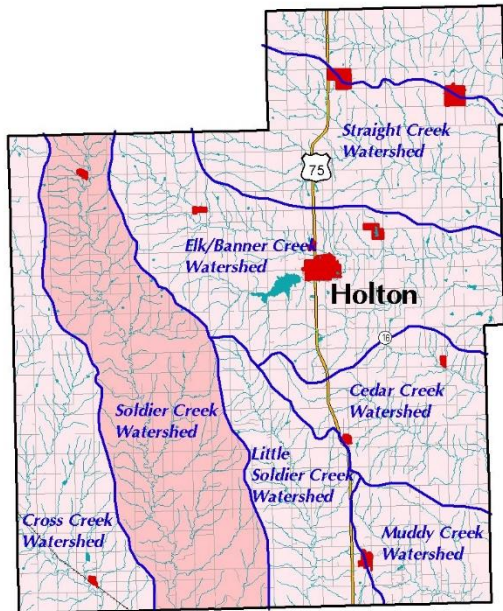


Little Soldier Creek Watershed

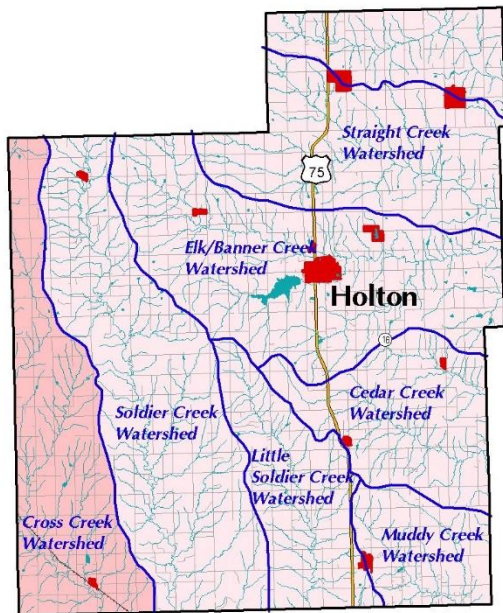




Soldier Creek Watershed

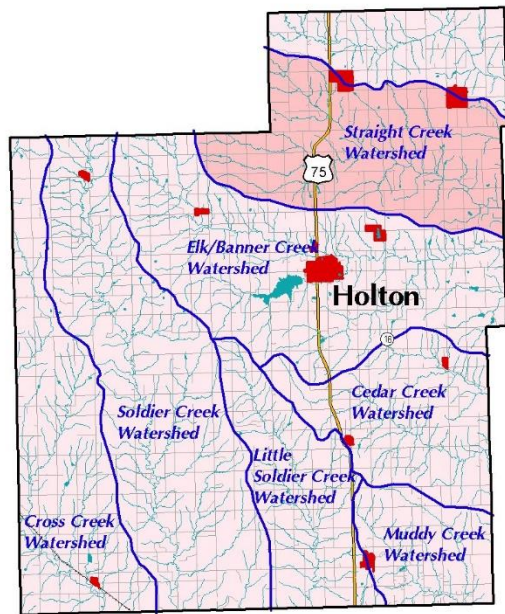


Cross Creek Watershed



Straight Creek Watershed

*Flood Hazard Mitigation*



**EXISTING PROBLEM AREAS**

By comparing and contrasting the historical flood event data sets, existing problem areas can be identified. Existing problem areas are those where flood risks are most prevalent. Risk prevalence is characterized by areas with repeated flood damage, or those whose proximity to Banner Creek Reservoir is a concern. Flood risks are identified as:

- Estimates of the number and types of structures at risk;
- List of repetitive loss properties; and
- Extent of flood depth and damage potential.

In unincorporated areas of Jackson County, there are no residences or commercial structures in the 100-year floodplains. The floodplain areas where there are residences are located within the corporate limits of area cities, such in the City of Holton east of U.S. 75 Highway. There are, however, structures in the Banner Creek Reservoir “Flood Breach Impact Overlay District” (FBD) that the county should coordinate with the City of Holton for implementing the reservoir disaster mitigation plan, as follows:

- 231 residences; and
- 14 commercial structures.

Given that the floodplains in unincorporated portions of Jackson County do not contain residences or commercial structures, there are no repetitive loss structures. The county will continually evaluate this issue, ensuring that if there are amendments to the floodplain maps, structures will be monitored to prevent losses, and guard against repetitive losses, if applicable. Based on research into the National Flood Insurance Program Repetitive Loss Communities List, unincorporated Jackson County does not have any repetitive loss properties at present. However, if such properties were to

be identified in the County, the County will mitigate such properties through actions such as requiring the developer to provide structure elevation, detention/retention ponds, or dry flood proofing.

The results of the flood risk analysis helps define those areas where potential for structural damage, property damage and loss of life are anticipated. Historical data has been collected for recent events. The County should continue to research historic events for a more complete survey of the damage caused by floods in order to more readily identify the flood hazards in the County. Sources for this historical data include, but are not limited to:

- personal interviews,
- local newspapers,
- insurance records, and
- County and city records.

Concerning estimates of flood depth and damage potential, the Plan offers the following. In 1997, the City of Holton and Jackson County Rural Water District No. 3 formed Public Wholesale Water Supply District No. 18 to construct and operate a new water treatment plant at the Banner Creek Reservoir. This new plant is the only structure that could be damaged in unincorporated Jackson County, and then only if the Banner Creek Reservoir dam were breached. Since there are no residences or commercial structures in the floodplain, no flood depth and damage estimate are given.

### **Historical Flooding – Jackson County**

A historical review of Jackson County Flood events is presented below (**Ref. Table 6.2**). The data suggest that flood events in Jackson County have resulted in repetitive damage. The Flood Damage Map for the 1967, 1977 and 1998 floods shows the areas where flood damage has occurred in the past. Several areas have had repeat damage in each flood.

### **PROFILING HAZARD EVENTS**

Jackson County lies in the Lower Republican Basin. The two major creeks in the County are the Soldier Creek in the Middle Kansas sub-basin, and the Elk Creek in the Delaware sub-basin. The County is mostly subject to local flash flooding, though at times local flooding has been a result of large regional floods:

- The local flooding in 1973 was part of a 50 year event in north-central parts of the state.
- The local flooding in 1977 was a 100 year event in northeast Kansas.
- The local flooding in 1993 was a 100 year event in north-central Kansas, which extended across the Mississippi River valley and caused the most damage in Iowa and Missouri.

The Flood Damage Map for the 1967, 1977 and 1998 floods shows the areas where flood damage has occurred in the past. Most of the damage has been to bridges and culverts. As such, the various stream crossings throughout the County are especially vulnerable during floods.

***Flood Hazard Mitigation***

<b>FLOOD DAMAGE MAP</b>
-------------------------

The most recent floods have taken place in 2001 and total damages were estimated at \$219,000. The majority of the damages consist of gravel washing from the roadways and some damages to culverts. One bridge was destroyed causing the road to be closed in 2001.

In the worst case scenario, the most damaging event for the County would be a breach of the Banner Creek Reservoir. That event could release as much as 102,400 cubic feet per second (cfs) downstream and affect a large area.

**Table 6.2: Jackson County Recent Historical Event Summary**

Year	Type of Disaster/ Extent of Relief Work	State Relief (\$)	FEMA/Federal relief (\$)	County Expense (\$)	Total (\$)
1967	Floods, tornadoes, storms Debris Clearance, Road and Bridge repair		133,642	(Estimated) 69,358	203,000
1973	Flooding Debris Clearance, Road and Bridge repair		112,929	0	112,929
1977	Flooding Debris Clearance, bridges and grading, culverts, engineering consultant.		487,000	(Estimated) 168,410	655,410
1982	Flooding Debris Clearance, Road and Bridge Repair	93,005	697,537	264,752	1,055,294
1984	Flooding Debris Clearance, Road and Bridge Repair	259,222	777,227	408,295	1,445,184
1993	Flooding Debris Clearance, Road and Bridge Repair	12,294	82,095	9,318	103,707
1998	Flooding Structure Replacement, Engineering, Construction Inspection and Staking	35,294	279,598	57,906	372,798
2001	Flooding Debris Clearance, Road and Bridge Repair: <i>Inspections of damage indicated gravel washing from roadways and culverts. One bridge was destroyed and the road closed.</i>	0	0	139,447	139,447

Jackson County Archives

**POTENTIALLY VULNERABLE ASSETS****Banner Creek Reservoir**

The Banner Creek Reservoir is one of the most potentially vulnerable assets in Jackson County. The 520 surface acre reservoir is owned and operated by Jackson County. The total land area of the reservoir is 1,574 acres. The reservoir is a multipurpose project designed to address flood prevention, municipal water, agricultural water, and recreational purposes. 862 acres make up the four recreation areas at the reservoir offering the following available activities: boating and skiing, picnicking, fishing, swimming and sand beach, camping, and hiking and biking trails.

***Flood Hazard Mitigation***

The dam is an earth fill structure approximately sixty-five feet high and 3,400 feet long located about one mile west of the City of Holton. The legal description of the location is the East ½ of Section 8, Township 7 South, Range 15 East. The total area draining into the reservoir is approximately 19 square miles. The Banner Creek Plan also includes maps showing the extent of area that would be covered in case of a spillway breach and in case of the reservoir breach. It also includes a list of residents and businesses that would be affected in case of a breach. The list is updated annually.

The reservoir provides water supply for the City of Holton and the areas served by Rural Water District No. 3. Holton and the rural water district each purchase 750,000 gallons of water per day from the reservoir. In 1997, the City of Holton and Jackson County Rural Water District No. 3 formed Public Wholesale Water Supply District No. 18 to construct and operate a new water treatment plant at the Banner Creek Reservoir. Construction of the plant was complete in 2002.

**Banner Creek Reservoir Emergency Action Plan**

Jackson County has developed an emergency action plan for Banner Creek Reservoir to protect the lives of the people and to reduce the possibility of property damage to the citizens residing along Banner Creek in the event of flooding caused by excessive runoff or by structure failure of the multipurpose site in Elk Creek Watershed. Various residences, farmsteads, mobile homes, commercial, manufacturing, and other types of buildings are located throughout the floodplain and potential impact area. In the event of an emergency condition associated with the structure, Jackson County has the primary responsibility to take emergency action.

**Table 6.3: Banner Creek Reservoir Hazard Areas**

Area	Distance from dam
County Road P	1,400 feet below
U.S. Highway 75	4,000 feet below
Q Road (Old Highway 75)	6,500 feet below
222 <sup>nd</sup> Road (Spring Road)	9,500 feet below
Kansas Highway 16	12,000 feet below

Source: Emergency Action Plan Banner Creek Reservoir

Flood mitigation procedures should be carefully examined and implemented in the Flood Breach Impact Overlay District (FBD). The district is designed to permit the beneficial use of lands that are considered to be in the path of potential flood waters arising from the catastrophic breach of a watershed, flood control, or recreation lake. In addition, the district is intended to protect the public health and safety by permitting surface runoff in such areas in the event of a catastrophic breach with a minimum of structural damage or personal property loss.

The Banner Creek Reservoir was constructed with an emergency spillway for flood events. It is a rolled earth fill dam with a maximum height of 62.6 feet, a crest length of 3138 feet and contains approximately 842,000 cubic yards of fill. The hazard class is (c). The drainage area is 19.0 square miles. The reservoir has capacity for 535 acre-feet of sediment storage, 7562 acre-feet of beneficial use recreation, agricultural, industrial and municipal water storage, 5759 acre-feet of detention storage and 9120 acre-feet of surcharge storage. Peak discharges for the Banner Creek 100 year event under

natural conditions and the emergency spillway hydrograph are calculated at 9,570cfs and 2,350cfs, respectively. Potential impacts to the downstream areas are difficult to calculate accurately since the spillway outflow is considerably smaller than the discharge associated with the 100 year event.

The surface area, when filled to the crest of the riser, El. 1078.3 is 535 acres. The effective fetch of the pool is 0.72 mile. The upstream slope is protected from wave action by rock riprap extending from 8.2 feet above the normal pool elevation to 9.3 feet below.

Elk Creek Watershed is currently classified as a hazard class (c) structure (see attachment). This is the highest level of hazard classification for a structure designed by the Natural Resources Conservation Service. These structures are designed for areas that have or will have housing or infrastructure constructed in the beach area below the dam. Additional construction in the area below Elk Creek Watershed, Banner Creek Reservoir Dam, will not change the current hazard classification of this dam.

Because this is a high hazard structure, it is imperative that the sponsors carry out annual operation and maintenance inspections and complete the formal inspection by a qualified engineer once every three years as per Kansas State law. Deficiencies noted through the annual or formal inspections must be promptly addressed by the sponsors. In addition, sponsors are required to have an emergency action plan prepared and in place for each class “c” structure. This plan is to prescribe the procedures to be followed in the event of an emergency caused by an unusually large flood even or malfunction of the dam.

In the event of an emergency condition associated with the structure, Jackson County has the primary responsibility to take emergency action. The County Commission has designated The Emergency Management Agency to work with affected individuals, groups and agencies in carrying out the intent of the Emergency Action Plan. The Emergency Action Plan will be reviewed annually by the County Emergency Management Agency to update personnel and contact information. The updated plan will be maintained by the agency and that office will be responsible for distribution of updated plans to appropriate individuals, groups and agencies that would be directly affected by a malfunction creating an emergency at the site.

Some conditions that could provide a threat to the dam include:

- Flood pools higher than previously attained;
- Unexpected drop in pool level;
- Pool near maximum and rising;
- Excessive rainfall;
- Large discharge through spillway;
- Earthquake; and
- Erosion, landslide, seepage, settlement and/or cracks.

If an individual observes one or more of the conditions outlined above they must initiate the notification process to disseminate the warning. The warning may be released by sirens, law enforcement sirens on vehicles in concert with public address system, public address systems, television/radios messages, telephone or individual door-to-door communication. When

***Flood Hazard Mitigation***

observations are made and it is determined that a problem or hazardous condition is developing rapidly, immediate action will be taken to initiate notification of concerned individuals/agencies.

Banner Creek Reservoir Dam is sponsored by Jackson County, Rural Water District No. 3, City of Holton and Delaware Watershed Joint District No. 10. Benefits are municipal, industrial and agricultural water supply, flood prevention and recreation.

**ESTIMATING POTENTIAL LOSSES**

Flood damages in Jackson County have, in the past, ranged from \$103,000 to \$1,377,500. As such they are likely to remain in that range. However, in case of damage to the Banner Creek Reservoir, damage is likely to be in the millions of dollars.

Potential Flooding Losses from Damage to the Banner Creek Reservoir is generally estimated as:

- Reservoir: \$1,000,000
- County Road P : \$175,000
- U.S. Highway 75: \$1,200,000
- Q Road (Old Highway 75): \$400,000
- 222<sup>nd</sup> Road (Spring Road): \$425,000
- Kansas Highway 16: \$500,000

**ANALYZING DEVELOPMENT TRENDS**

The Jackson County Comprehensive Plan details the area development trends (**Ref. Chapter 2**). The residential and non-residential development trends are presented on the Comprehensive Plan maps.

**FLOOD HAZARD MITIGATION GOALS, OBJECTIVES AND STRATEGIES OF JACKSON COUNTY**

During the Public Focus Session, one of the top-ranked issues was identified as, "suitability of land use based on environmental factors." During the same public meeting, another issue was, "environmentally friendly development." In response to these issues, the County adopted goals and objectives as follows:

*Focus Session Issue: Infrastructure, waste disposal, public safety, youth.*

**Goal:** Provide adequate services that will ensure a quality lifestyle.

**Objective:** Encourage the planning of infrastructure that will incorporate environmental awareness and contain growth within manageable service areas.

**Strategy:** Adopt the County Flood Hazard and Mitigation Plan at city and tribal levels.

**Strategy:** Adopt the revised County Flood Plain regulations.

**Objective:** Adopt stream buffer standards to reduce run-off and promote flood mitigation.

**Strategy:** Designate environmentally sensitive watersheds in Jackson County.

**Strategy:** Adopt the *stream buffer standards* to apply in the watersheds.



**Strategy:** Implement the buffer standards through the new LESA system and new site plan review procedures.

**Objective:** Request an update of the FEMA FIRM map.

*Focus Session Issue: Marketing economic development, planning, availability of land, environmentally friendly development.*

**Goal:** Promote aggressive economic development by planning and marketing.

**Objective:** Advocate for businesses and development that will practice and encourage positive environmental actions and awareness.

**Strategy:** Adopt new site plan review procedures to ensure that flood mitigation measures are implemented.

**Strategy:** Utilize the LESA system to review plans for flood mitigation compliance, both in terms of land suitability and site improvement standards.

**Objective:** Update the Banner Creek Reservoir Flood Hazard Plan.

**Strategy:** Appoint a Banner Creek Reservoir Flood Hazard Plan Committee to meet during 2003 and report a plan update to the Planning Commission.

**Strategy:** Revise land uses outside the reservoir land to ensure compatibility with flood mitigation goals.

#### ALTERNATIVE RELIEF MEASURES

##### Potential Procedures To Mitigate The Effects Of Flooding

- A. Flood Hazard Identification  
Use historical data, FIRM maps, and other sources to create an inventory of the areas and structures that would receive the greatest damage (based on public safety and cost) during a given flood event. This inventory will be used as a tool to choose which flood mitigation procedures, based on the benefit-cost ratios, provide the greatest flood protection for the given investment in implementing the procedure.
- B. Stream Channel Maintenance  
Routinely remove man-made and natural debris from public and private portions of the stream channel to reduce impeded flow in the channel. (Responsible Parties – City and County Public Works Departments)
- C. Evaluation and Possible Mitigation of Existing Stream Bed Structures
  - 1. Evaluate the hydraulic properties and overall condition of the structures (i.e. bridges, RCB's, etc.) that are located in the area stream channel that could potentially increase flood levels.
  - 2. Provide possible alternatives for increasing hydraulic capacity (i.e. repair, stream bed modifications, etc.)
  - 3. Perform Benefit-Cost analysis to determine whether alternatives are cost-effective.
- D. Flood-Proofing Existing Habitable Structures
  - 1. Raising the structure above the 100-year flood level.
  - 2. Stabilize the 100-year flood level by reducing runoff rates from developing areas.

***Flood Hazard Mitigation***

3. Provide floodwater storage during periods of rainfall while releasing at rates consistent with flood level stabilization.
  4. Provide structural features designed to shield structures from flood damage.
- E. **Property Buyout Program—If Grant Funding Becomes Available**  
Purchase of properties (commercial and residential) located in the flood plain by the governing authority that is offered to the authority by the owner in order to reduce property damage caused by flooding.
- F. **Zoning & Permitting**  
Local Authorities (City and County) regulate the location of proposed development using zoning and permitting ordinances, as well as, storm water management plans, to ensure that new construction and development does not contribute increased flood levels.
- G. **Storm Water Management**  
Prepare new and updated storm water plans and policies to meet local and regional needs: conserve water and environmental quality; reduce flooding; and provide recreational opportunities.
- H. **National Flood Insurance Program**  
The primary purpose of the National Flood Insurance Program (NFIP) is to encourage local and government units to adopt and implement sound flood management policies. The primary documents provided by FEMA for this purpose are the Flood Insurance Studies and Flood Insurance Rate Maps (FIRM) to help reduce flood damage in the 100 year flood plain.
1. If it has not been done yet, the county in conjunction with the Kansas Division of Water Resources should request a Letter of Map Revision (LOMR) based on the construction of the Banner Reservoir, or any other construction activities that would have an effect on the flood plan. This request, if successful, will result in revised FIRM that better reflects the limits of the 100 year flood plain.
- I. **Kansas State Water Plan**  
Monitor and participate in the Kansas Water Plan Process.
- J. **“Watch Dog” Group**  
Possibly organize a group of qualified volunteers to monitor the projects of other government agencies that may have an impact on the flood plain in the county.

<b>IDENTIFICATION, ANALYSIS AND IMPLEMENTATION OF FLOOD MITIGATION MEASURES</b>
---

The community’s hazard reduction goals will be implemented primarily through the new Land Evaluation and Site Assessment (LESA) program. Specific attention will be given to those mitigation activities that address existing and new buildings and infrastructure

Loss reduction activities the county has identified in its planning process include: the following policies for reviewing new developments:

- Apply LESA review to score the adequacy of drainage improvements;
- Incorporate the flood mitigation plan criteria into its new site plan review procedures; and
- Utilize the new stream buffer requirements to assure environmentally compatible development along riparian areas.

**Table 6.4: Implementation of Mitigation Measures**

<b>Project</b>	<b>Responsible Party</b>	<b>Funding Source</b>	<b>Timeline/Priority</b>
Apply LESA review	Zoning Administrator and Planning Commission	County	Plan Update Period 2003
Incorporate the flood mitigation plan criteria into its new site plan review procedures	County Commission	County	Plan Update Implementation and Follow up—Zoning Ordinance Update
Adopt new stream buffer requirements	Zoning Administrator Planning Commission County Commission	County	Plan Update Implementation and Follow up — Zoning Ordinance Update
Apply for Mitigation Funding to acquire flood prone properties	County Commission	FEMA	Plan Implementation—if grant funds are available
Update the Banner Creek Reservoir Emergency Evacuation Plan and study the dam breach area.	County Commission and Banner Creek Reservoir Management staff.	FEMA	Plan Implementation: on-going
Investigate funding sources for equipment, such as emergency warning sirens.	County Commission	Various	On-going

**Multi-jurisdictional Mitigation Strategy**

The County should invite administrators and mayors of the area cities and the Prairie Band Potawatomi Nation to the public hearing for the annual update of the Comprehensive Plan so that flood hazard mitigation plans can be updated with the input of area cities and the tribe.

***Flood Hazard Mitigation***

<p><b>MONITORING, EVALUATING, AND UPDATING THE MITIGATION PLAN</b></p>
--

**Capital Improvements Program**

The County will adopt a simple Capital Improvements Program (CIP) process as a means of monitoring and updating projects to address the flood hazard mitigation plan year-to-year.

**The Capital Improvements Process**

In order to address flood problems, Jackson County Commission will adopt a capital improvements program and integrate flood mitigation goals in a formalized process of needs assessment and financial programming.

A "Flood Hazard Mitigation Capital Facilities Committee" –a group of key County department heads—is recommended as a start to the CIP process. The “Capital Facilities Committee” will be led by the County Commission and include the Zoning Administrator, County Road and Bridge staff, Soil Conservation and County Extension staff, Delaware Watershed No. 10 staff and Banner Creek Reservoir Director. The committee would be responsible for establishing an inventory of bridges and other drainage way improvements and then budget for long-term bridge replacements. The committee would provide a preliminary ranking of each bridge project relative to the funding cycles: near-term (1-5 years) and long-term. The approach mirrors the general budgeting process; except that the time frame is longer term.

Administrative and Fiscal Review – the County Commission will provide budgetary review in the capital facilities program process. Two key responsibilities will be to check the program for consistency with both legal requirements and previous years’ plans, and to make a preliminary check for financial integrity.

County Commission Adoption - finally, after rankings and reports from the Capital Facilities Committee, the County Commission will adopt the flood hazard mitigation CIP.

It should be kept in mind that this process is not linear as suggested here, but cumulative and circular. At the end of each budget cycle, the process begins again, building upon the work of the previous year.

**Plan and Zoning Regulations Updates**

The Jackson County Commission and Planning Commission will review and amend its flood hazard mitigation plan and zoning regulations as necessary as a means of monitoring and updating the flood hazard mitigation plan. Updates to implement the LESA system, for example, could be adopted that are relevant to the flood hazard mitigation plan, as will be amendments to the FIRM map by the Army Corps of Engineers.

<b>IMPLEMENTATION OF THE FLOOD MITIGATION PLAN THROUGH EXISTING PROGRAMS</b>
--

Mitigation recommendations will be integrated into:

- job descriptions,
- comprehensive plan,
- capital improvement plans,
- zoning regulations,
- building codes,
- site plan reviews,
- subdivision regulations, and
- permitting.

**Job Descriptions**

The County will include flood mitigation training in the job description of the zoning administrator.

**Comprehensive Plan**

Implement the goals, objectives and policies of the Jackson County Comprehensive Plan and include a review of flood mitigation measures in the annual plan update.

**Development Permitting**

Jackson County will update its current development permitting process to ensure rural non-agricultural building permit review process expressly incorporates floodplain review criteria, as a condition of permit approval.

**Site Plan Review**

The new Site Plan Review procedures will expressly incorporate floodplain review criteria, to be implemented as a condition of site plan approval.

**Subdivision Regulations**

The Jackson County Commission should amend its subdivision regulations to implement the LESA system as a means of implementing the flood hazard plan recommendations.

<b>CONTINUED PUBLIC INVOLVEMENT</b>
-------------------------------------

Jackson County should invite the “Contact Protocol” personnel listed below to the annual public hearing for updates to the Comprehensive Plan convened by the Planning Commission. During the hearing, the needs for flood hazard mitigation should be discussed and identified.

**Contact Protocol in Flood Emergency**

The following agencies will receive general notification of flood hazard emergencies, but the list it is not necessarily limited to:

- Jackson County Emergency Management Department;
- Jackson County Sheriff Department;

***Flood Hazard Mitigation***

- Holton Police Department;
- Other Municipal Police Departments;
- Jackson County Director of Planning and Land Management;
- Banner Creek Reservoir Management;
- Kansas State Highway Patrol, Division Number Troop B;
- Kansas Division of Emergency Management; and
- Division of Water Resources, Kansas State Board of Agriculture.

In addition, all residents in areas within the city limits of Holton located south of 2<sup>nd</sup> Street, south of U.S. 75 Highway and east of the Holton east city limit boundary will be notified. The emergency action plan contains a list of all residents in this area.

It is the responsibility of local authorities to plan, prepare and provide for their constituents in the event of an emergency or disaster. When the situation is of sufficient magnitude to warrant assistance, local plans must be implemented to effect a coordinated response. All persons within the evacuated areas are to assemble at the Jackson County 4-H building or other designated building where shelter and a congregate meal site will be established. The evacuation procedures to be used are fully described in the Jackson County Emergency Operations Plan, Annex F-Protective Actions. Reception Center Operations procedures are also detailed in the Jackson County Emergency Operations Plan, Annex G-Mass Care. Emergency response actions will include flood fighting, evacuation and response traffic control, maintenance of vital services and public information.

## CHAPTER SEVEN – PROPOSED IMPLEMENTATION

### PLAN EVALUATION/MONITORING

Jackson County will conduct an annual review of the Comprehensive Plan, as required by state statute. Goals, objectives, and strategies of the Plan will be presented for updates of the plan evaluation and monitoring strategies as it relates to:

- Responsible Entity;
- Resources to be Used; and
- Timeline for Completion.

Strategies that have been set for the antecedent year will be reviewed for completion and, upon finding the responsible entity lacking, will be reassigned; and resources will be similarly reevaluated. New timelines will be set as appropriate. Strategies that have been accomplished will be designated for rewards to the responsible entity in the form of public recognition and/or similar appropriate monitoring and evaluation.

The results of the plan evaluation and monitoring will be reported at the annual plan update public hearing and new strategies will be assigned.

### GRANDFATHER CLAUSE

The County should “grandfather” existing legal lots of record on file as of the date of zoning ordinance amendments to implement the Plan. As a result, if a 3-acre lot (or legally described and recorded parcel of land) is in existence as of the regulation amendment, it could be built on, even though the new requirement in the rural area—zoned agriculture—would be for a 20-acre minimum lot size. The County should also allow owners of smaller, legal lots of record to seek variances from the minimum lot size, with strict standards for granting variances enforced. Finally, allow owners of contiguous parcels and legal lots of record 40-acres or larger to make sell-offs for home sites (for example for children of the owners) of 3-acre parcels or larger; provided that the remaining contiguous parcels or lots shall be required to meet average densities of no less than one unit per 20 acres in ag-zoning districts.

### CONFINED FEEDING OPERATIONS

By establishing and enforcing standards and properly managing animal waste, valuable water resources can be protected. Preventing contamination is the key to protecting water quality in Jackson County. The Kansas Separation Rule, 65-171d, provides regulation for confinement animal feeding operations. The following information, outlining the Kansas Separation Rule, K.S.A. 65-171d, was taken from the Kansas Department of Health and Environment website.

The process for reviewing confined feeding operation applications is summarized below.

**Purpose:** For the purpose of preventing surface and subsurface water pollution and soil pollution detrimental to public health or to the plant, animal and aquatic life of the state, and to protect beneficial

*Proposed Implementation*

uses of the waters of the state and to require the treatment of sewage predicated upon technologically based effluent limitations, the secretary of health and environment shall make such rules and regulations, including registration of potential sources of pollution, as may in the secretary's judgment be necessary to:

(1) Protect the soil and waters of the state from pollution resulting from underground storage reservoirs of hydrocarbons and liquid petroleum gas; (2) control the disposal, discharge or escape of sewage as defined in K.S.A. 65-164 and amendments thereto, by or from municipalities, corporations, companies, institutions, state agencies, federal agencies or individuals and any plants, works or facilities owned or operated, or both, by them; and (3) establish water quality standards for the waters of the state to protect their beneficial uses.

**Definitions:**

1. **Pollution-** (A) Such contamination or other alteration of the physical, chemical or biological properties of any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to public health, safety or welfare, or to the plant, animal or aquatic life of the state or to other designated beneficial uses; or (B) such discharge as will or is likely to exceed state effluent standards predicated upon technologically based effluent limitations.
2. **Confined feeding facility-**Any lot, pen, pool or pond: (A) Which is used for the confined feeding of animals or fowl for food, fur or pleasure purposes; (B) which is not normally used for raising crops; and (C) in which no vegetation intended for animal food is growing.
3. **Animal unit-**A unit of measurement calculated by adding the following numbers: The number of beef cattle weighing more than 700 pounds multiplied by 1.0; plus the number of cattle weighing less than 700 pounds multiplied by 0.5; plus the number of mature dairy cattle multiplied by 1.4; plus the number of swine weighing more than 55 pounds multiplied by 0.4; plus the number of swine weighing 55 pounds or less multiplied by 0.1; plus the number of sheep or lambs multiplied by 0.1; plus the number of horses multiplied by 2.0; plus the number of turkeys multiplied by 0.018; plus the number of laying hens or broilers, if the facility has continuous overflow watering, multiplied by 0.01; plus the number of laying hens or broilers, if the facility has a liquid manure system, multiplied by 0.033; plus the number of ducks multiplied by 0.2. However, each head of cattle will be counted as one full animal unit for the purpose of determining the need for a federal permit. "Animal unit" also includes the number of swine weighing 55 pounds or less multiplied by 0.1 for the purpose of determining applicable requirements for new construction of a confined feeding facility for which a permit or registration has not been issued before January 1, 1998, and for which an application for a permit or registration and plans have not been filed with the secretary of health and environment before January 1, 1998, or for the purpose of determining applicable requirements for expansion of such facility. However, each head of swine weighing 55 pounds or less shall be counted as 0.0 animal unit for the purpose of determining the need for a federal permit.



4. **Animal unit capacity-** The maximum number of animal units which a confined feeding facility is designed to accommodate at any one time.

**Separation Requirements:**

1. Any new construction or new expansion of a confined feeding facility, other than a confined feeding facility for swine, shall meet or exceed the following requirements in separation distances from any habitable structure in existence when the application for a permit is submitted:
  - a) 1,320 feet for facilities with an animal unit capacity of 300 to 999; and
  - b) 4,000 feet for facilities with an animal unit capacity of 1,000 or more.
2. A confined feeding facility for swine shall meet or exceed the following requirements in separation distances from any habitable structure or city, county, state or federal park in existence when the application for a permit is submitted:
  - a) 1,320 feet for facilities with an animal unit capacity of 300 to 999;
  - b) 4,000 feet for facilities with an animal unit capacity of 1,000 to 3,724;
  - c) 4,000 feet for expansion of existing facilities to an animal unit capacity of 3,725 or more if such expansion is within the perimeter from which separation distances are determined pursuant to subsection (k) for the existing facility; and
  - d) 5,000 feet for: (i) Construction of new facilities with an animal unit capacity of 3,725 or more; or (ii) expansion of existing facilities to an animal unit capacity of 3,725 or more if such expansion extends outside the perimeter from which separation distances are determined pursuant to subsection (k) for the existing facility.
3. Any construction of new confined feeding facilities for swine shall meet or exceed the following requirements in separation distances from any wildlife refuge:
  - a) 10,000 feet for facilities with an animal unit capacity of 1,000 to 3,724; and
  - b) 16,000 feet for facilities with an animal unit capacity of 3,725 or more.

**Exemptions:**

1. The separation distance requirements of subsections (1) and (2) shall not apply if the applicant for a permit obtains a written agreement from all owners of habitable structures which are within the separation distance stating such owners are aware of the construction or expansion and have no objections to such construction or expansion. The written agreement shall be filed in the register of deeds office of the county in which the habitable structure is located.
2. A. The secretary may reduce the separation distance requirements of subsection (1) if:

*Proposed Implementation*

- (i) No substantial objection from owners of habitable structures within the separation distance is received in response to public notice; or
    - (ii) the board of county commissioners of the county where the confined feeding facility is located submits a written request seeking a reduction of separation distances.
  - B. The secretary may reduce the separation distance requirements of subsection (2)(A) or (B) if:
    - (i) No substantial objection from owners of habitable structures within the separation distance is received in response to notice given in accordance with subsection (1);
    - (ii) the board of county commissioners of the county where the confined feeding facility is located submits a written request seeking a reduction of separation distances; or (iii) the secretary determines that technology exists that meets or exceeds the effect of the required separation distance and the facility will be using such technology.
  - C. The secretary may reduce the separation distance requirements of subsection (2)(C) or (D) if:
    - (i) No substantial objection from owners of habitable structures within the separation distance is received in response to notice given in accordance with subsection (1); or
    - (ii) The secretary determines that technology exists that meets or exceeds the effect of the required separation distance and the facility will be using such technology.
- 3. A. The separation distances required pursuant to subsection (1) shall not apply to:
  - (1) Confined feeding facilities which were permitted or certified by the secretary on July 1, 1994;
  - (2) Confined feeding facilities which existed on July 1, 1994, and registered with the secretary before July 1, 1996; or
  - (3) Expansion of a confined feeding facility, including any expansion for which an application was pending on July 1, 1994, if:
    - (i) In the case of a facility with an animal unit capacity of 1,000 or more prior to July 1, 1994, the expansion is located at a distance not less than the distance between the facility and the nearest habitable structure prior to the expansion; or
    - (ii) in the case of a facility with an animal unit capacity of less than 1,000 prior to July 1, 1994, the expansion is located at a distance not less than the distance between the facility and the nearest habitable structure prior to the expansion and the animal unit capacity of the facility after expansion does not exceed 2,000.

- B. The separation distances required pursuant to subsections (2)(A) and (B) shall not apply to:
- (1) Confined feeding facilities for swine which were permitted or certified by the secretary on July 1, 1994;
  - (2) Confined feeding facilities for swine which existed on July 1, 1994, and registered with the secretary before July 1, 1996; or
  - (3) Expansion of a confined feeding facility which existed on July 1, 1994, if:
    - (i) In the case of a facility with an animal unit capacity of 1,000 or more prior to July 1, 1994, the expansion is located at a distance not less than the distance between the facility and the nearest habitable structure prior to the expansion; or
    - (ii) in the case of a facility with an animal unit capacity of less than 1,000 prior to July 1, 1994, the expansion is located at a distance not less than the distance between the facility and the nearest habitable structure prior to the expansion and the animal unit capacity of the facility after expansion does not exceed 2,000.
4. The separation distances required pursuant to subsections (2)(C) and (D) and (3) shall not apply to the following, as determined in accordance with subsections (a), (e) and (f) of K.S.A. 2000 Supp. 65-1,178 and amendments thereto:
- (1) Expansion of an existing confined feeding facility for swine if an application for such expansion has been received by the department before March 1, 1998; and
  - (2) Construction of a new confined feeding facility for swine if an application for such facility has been received by the department before March 1, 1998.
5. The separation distances required by this section for confined feeding facilities for swine shall be determined from the exterior perimeter of any buildings utilized for housing swine, any lots containing swine, any swine waste retention lagoons or ponds or other manure or wastewater storage structures and any additional areas designated by the applicant for future expansion. Such separation distances shall not apply to offices, dwellings and feed production facilities of a confined feeding facility for swine.

The applicant shall give the notice required by subsections (2) B and C by certified mail, return receipt requested, to all owners of habitable structures within the separation distance. The applicant shall submit to the department evidence, satisfactory to the department, that such notice has been given.

6. All plans and specifications submitted to the department for new construction or new expansion of confined feeding facilities may be, but are not required to be, prepared by a professional engineer or a consultant, as approved by the department. Before approval by the department, any consultant preparing such plans and specifications shall submit to the department evidence, satisfactory to the department, of adequate general commercial liability insurance coverage.

*Proposed Implementation*

<b>STREAM BUFFER REQUIREMENTS</b>
-----------------------------------

Headwater streams are often severely degraded by urbanization. As a consequence, many communities have adopted stream buffer requirements as part of an overall watershed protection strategy. Stream buffers are an integral element of any local stream protection program. By adopting some of these rather simple performance criteria, communities can make their stream buffers more than just a line on a map. Better design and planning also ensure that communities realize the full environmental and social benefits of stream buffers. Recommendations in this section are from the APA, PAS Memo of August 2000.

The ability of a particular buffer to actually realize its many benefits depends to a large extent on how well the buffer is planned or designed. In general, a minimum base width of at least 100 feet is recommended to provide adequate stream protection. In most regions of the country, this requirement translates to a buffer that is perhaps three to five mature trees wide on each side of the channel

The policies and standards for providing stream buffers along local streams in Jackson County under a countywide protection program—including performance criteria—are summarized below.

**Three-zone Buffer System**

Effective stream buffers divide the total buffer width into three zones:

- Streamside;
- Middle core; and
- Outer zone.

Each zone performs a different function and has a different width, vegetative target and management scheme.

The **streamside zone** protects the physical and ecological integrity of the stream ecosystem. The vegetative target is mature riparian forest that can provide shade, leaf litter, woody debris, and erosion protection to the stream. The minimum width is 25 feet from each stream bank—about the distance of one or two mature trees from their streambank. Land use is highly restricted, limited to stormwater channels, footpaths, and a few utility or roadway crossings.

The **middle core zone** extends from the outward boundary of the streamside zone and varies in width depending on stream order, the extent of the 100-year floodplain, any adjacent steep slopes, and protected wetland areas. Its functions are to protect key stream components and provide further distance between upland development and the stream. The vegetative target for this zone is also mature forest, but some clearing may be allowed for stormwater management, access and recreational uses. A wider range of activities and uses are allowed within this zone, such as bike paths and stormwater best management practices (BMPs). The minimum width of the middle core is about 50 feet, but it is often expanded based on stream order, slope, or the presence of critical habitats (see Buffer Expansion and Contraction).

The **outer zone** is the buffer's buffer, an additional 25-foot setback from the outward edge of the middle core zone to the nearest permanent structure. In many instances, this zone is within a residential backyard. The vegetative target for the outer zone is usually turf or lawn, although the property owner is within a residential backyard. The vegetative target for the outer zone is usually turf or lawn, although the property owner is encouraged to plant trees and shrubs. Few uses are restricted in this zone. Gardening, compost piles, yard wastes, and other common residential activities are promoted within the zone. The only major restrictions are no septic systems and no new permanent structures.

### **Buffer Crossings**

Two major goals of a stream buffer network are:

- To maintain an unbroken corridor of riparian forest; and
- The upstream and downstream passage of fish in the stream channel.

Some provision must be made for linear forms of development that must cross the stream or the buffer, such as roads, bridges, fairways, underground utilities, enclosed storm drains or outfall channels. Suggested performance criteria could include:

- Crossing width: define a minimum width for maintenance access.
- Crossing angle: direct right angles are preferred, because they require less buffer clearing than oblique crossing angles.
- Crossing frequency: allow only one road crossing within each subdivision, and permit no more than one fairway crossing for every 1,000 feet of buffer.
- Crossing elevation: have all direct outfall channels (the places where effluent is discharged into receiving waters) discharge at the invert elevation, or the lowest point of the stream channel.

<b>SITE PLAN REVIEW</b>
-------------------------

Jackson County zoning regulations shall require site plan review in the following Land Use Tiers:

- Suburban tiers;
- U.S. 75 Highway tiers; and
- Long-term Development tiers.

Any change in land use or rezoning—other than single-family and two-family dwellings—must be reviewed by the Zoning Administrator and approved by the Planning Commission before building permits can be issued in these tiers. A rezoning that requires a Planned District designation requires two stages of review: preliminary and final. The preliminary plan is a detailed depiction of the entire project and its relationship to adjoining property.

***Proposed Implementation***

Upon approval of the preliminary plans, the final plans may be prepared and submitted to the Planning Commission for approval. Simultaneous submittal of preliminary and final plans can be allowed at the discretion of the County.

The following review standards are appropriate when considering a site plan application.

**Intent:** Because Jackson County strives to promote growth in the Urban Service Tiers and Suburban Density Tiers, and compatible rural growth in rural environments, a Site Plan Review procedure is established. The County recognizes that land development can create potential for traffic congestion, overcrowding, adverse visual environmental impacts, and related health and safety problems.

The Site Plan Review regulates the development of structures and sites in a manner, which considers the following concerns:

- A. The balancing of landowners' rights to use their land, with the corresponding rights of abutting and neighboring landowners to live without undue disturbances (e.g., noise, smoke, fumes, dust, odor, glare, stormwater runoff, etc.);
- B. The convenience and safety of vehicular and pedestrian movement within the site, and in relation to adjacent areas or roads;
- C. The adequacy of waste disposal methods and protection from pollution of surface or groundwater;
- D. The protection of historic and natural environmental features on the site under review, and in adjacent areas; and
- E. The stability of the rural environment--particularly established farmland--by promoting compatible development.

**Applicability:** The Zoning Administrator shall require that any change in land use or rezoning—other than single-family and two-family dwellings—must be subject to Site Plan Review in accordance with these regulations. Site Plan Review also applies to redevelopment in the following circumstances: if the redevelopment enlarges the size of the original structure by more than 50 percent in the case of a renovation or alteration. Developments shall be encouraged to implement the objectives of the Future Land Use Plan to foster compatibility among land uses in Jackson County. Site Plan Reviews shall be performed by the Zoning Administrator and the Jackson County Planning Commission.

The Jackson County Planning Commission shall perform the review at the next regularly scheduled meeting of the Planning Commission that meets the established deadlines and shall adjourn and reconvene as is determined necessary. The applicant may appeal a site plan review determination to the Board of Zoning Appeals for approval in the event that an applicant alleges that there is an error in any order, requirement, decision or determination

made by the Planning Commission in the enforcement of Site Plan Review. The request for review by the Board shall be accompanied by a complete description of the error(s) alleged.

**Authority:** Building permits shall not be issued for any use of land or proposed construction where Site Plan Review is applicable, unless Site Plan Review approval has been granted.

**Submission Requirements:** The Site Plan shall include the following data, details, and supporting plans which are found relevant to the proposal. The number of pages submitted will depend on the proposal's size and complexity. The applicant shall make notations explaining the reasons for any omissions.

Site Plans shall be prepared by a registered professional architect, land planner or landscape architect, or at the discretion of the County, the applicant or his/her agent. The plan shall be presented at a readable scale. Items required for submission include:

- A. Name of the project, address, boundaries, date, north arrow and scale of the plan.
- B. Name and address of the owner of record, developer, and seal of the professional engineer, architect, landscape architect or professional surveyor.
- C. Name and address of all owners of record of abutting parcels.
- D. All existing lot lines, easements, and rights-of-way. Include area in acres or square feet, abutting land uses and structures.
- E. The location and use of all existing and proposed structures within the development. Include all dimensions of height and floor area, and show all exterior entrances and all anticipated future additions and alterations. For developments in the indicate design details to make new construction compatible with existing structures.
- F. The location of all present and proposed public and private ways, parking areas, driveways, sidewalks, ramps, curbs and fences. Location, type, and screening details for all waste disposal containers shall also be shown.
- G. The Zoning Administrator may require location, height, intensity, of all external and lighting fixtures. The direction of illumination and methods to eliminate glare onto adjoining properties must also be shown.
- H. The location, height, size, materials, and design of all proposed signage.
- I. The Zoning Administrator may require a landscape plan showing all existing open space, trees, forest cover and water sources, and all proposed changes to these features including size and type of plant material. Water sources will include ponds, lakes, brooks, streams, wetlands, floodplains, and drainage retention areas.

***Proposed Implementation***

- J. The location of all present and proposed utility systems including:
  - (1) sewerage system;
  - (2) water supply system;
  - (3) telephone, cable and electrical systems; and
  - (4) storm drainage system including existing and proposed drain lines, culverts, catch basins, headwalls, end walls, hydrants, manholes, and drainage swells.
- K. Plans to prevent the pollution of surface or groundwater, erosion of soil both during and after construction, excessive run-off, significantly altering the water table, and flooding of other properties, as applicable.
- L. Existing and proposed topography shown at not more than two-foot contour intervals. All elevations shall refer to the United States Geodetic Survey (USGS) datum. If any portion of the parcel is within the 100-year floodplain, the area shall be shown, with base flood elevations; and the developer shall present plans for meeting Federal Emergency Management Agency (FEMA) requirements.
- M. Zoning district boundaries adjacent to the site's perimeter shall be drawn and identified on the plan.
- N. Traffic flow patterns within the site, entrances and exits, loading and unloading areas, curb cuts on the site and within 100 feet of the site. The County Engineer may require a detailed traffic study for mixed use and multi-tenant developments, or for developments in heavy traffic areas to include:
  - (1) The projected number of motor vehicle trips to enter or leave the site, estimated for daily and peak hour traffic levels;
  - (2) The projected traffic flow pattern including vehicular movements at all major intersections likely to be affected by the proposed use of the site; and
  - (3) The impact of this traffic upon existing abutting public and private ways in relation to existing road capacity. Existing and proposed daily and peak hour traffic levels, as well as road capacity levels, shall also be given.
- O. For new construction or alterations to any existing structure, a table containing the following information must be included:
  - (1) Area of structure to be used for a particular use, such as retail operation, office, storage, etc.;
  - (2) Maximum number of employees;
  - (3) Maximum seating capacity, where applicable;
  - (4) Number of parking spaces existing and required for the intended use; and



- (5) A landscaping plan for implementing the buffering and open space requirements of the plan.

**Standard of Review:** The recommendations of the Zoning Administrator shall be based on the following standards:

- A. The extent to which the proposal conforms to the previous sections of these Zoning Regulations.
- B. The extent to which the development would be compatible with the surrounding area and minimize any adverse impact on neighboring farmlands through appropriate buffers.
- C. The extent to which the proposal conforms to the provisions of the County's Subdivision Regulations and Comprehensive Plan.
- D. The extent to which the proposal conforms to customary engineering standards used in the County.
- E. The extent to which the location of streets and driveways are located so as to enhance safety and minimize any adverse traffic impact on the surrounding area.

**Development Standards, "LESA":** The Site Plan shall demonstrate the extent to which the public and private improvements have been proposed to achieve the following objectives:

- A. Conserve prime farmland and other natural resources and amenities available on the site through the Land Evaluation (LESA) assessment;
- B. Ensure that coordination with the site development objectives of the County plan are considered, including dedication of easements and rights-of-way, through the Site Assessment (LESA) evaluation.
- C. Meet other guidelines and standards of Site Plan Review and Planned Development zoning, if applicable, including dedication of rights-of-way of the thoroughfare plan.

<b>“P-D” PLANNED DEVELOPMENT DISTRICT</b>
---

1. Purpose: The purpose of the Planned Development District (“P-D”) is to encourage innovation in residential, commercial and industrial development by greater variety in type, design, and layout of buildings; to encourage a more efficient use of land reflecting changes in the technology of land development; to encourage the expansion of urban areas incorporating the best features of modern design while conserving the value of land; and to provide a procedure which relates the type, design, and layout of development to the particular

*Proposed Implementation*

site and the particular demand at the time of development in a manner consistent with the preservation of property values within established neighborhoods.

Although the specific conditions within the “P-D” District shall be predetermined, the location of a proposed district must be carefully reviewed to assure that these conditions can be met. As such, each application for “P-D” zoning shall include a development plan in accordance with the provisions and conditions that follow.

2. Use of the “P-D” District: With the exception of standard single-family and two-family residential subdivisions, zoning proposals which are intended to be subdivided into multiple lots should seek the “P-D” zoning district classification. Planned developments are groupings of structures or sites that are planned as an integrated unit or cluster on property under unified control at the time of zoning. The sale, subdivision or other partition of the site after zoning approval does not exempt the project or portions thereof from complying with the development standards and other conditions that were committed to at the time of the rezoning.
3. Permitted Uses: All uses may be permitted in the Planned Development District subject to Plan approval; however, each use included in a particular “P-D” must be specified on the Plan.
4. Use Regulations:
  - A. The proposed development shall provide adequate access in such a way that the traffic generated by the development will not cause an unreasonably hazardous condition or inconvenience in the area.
  - B. Structures and traffic shall be arranged so that all principal structures are accessible to emergency vehicles.
  - C. Parking shall be provided in a manner that reduces to a minimum its adverse physical impact in the area. Screening parking areas with landscaping or walls, breaking parking areas into smaller units by introducing landscaped areas or other physical separators, are suggested approaches. The parking areas should be appropriately spaced to serve those units they represent.
  - D. The availability of services and location of public utilities shall have the approval of each agency involved. Evidence to this effect shall be presented with the Preliminary Development Plans.

- E. A Planned Unit Development shall be consistent with the general standards for use of land, and the use, type, bulk, design, and location of buildings, the density or intensity of use, open space, public facilities and the development by geographic division of the site as set out in these regulations.
- F. In the case of residential Planned Development, the Planning Commission may permit in each unit or phase deviations from the number of dwelling units per acre established for the entire planned development, provided such deviation shall be adjusted for in other sections of the development so that the number of dwelling units per acre authorized for the entire planned development is not affected.
- G. A minimum of 30% of the net area of that part of a Planned Unit Development reserved for residential development shall be provided for open space as defined by these regulations. At least one-half of this open space or 20% of the net area devoted to residential development shall be provided for common open space for the leisure and recreational use of all “P-D” residents and owned and maintained in common by them, generally through a homeowner's association. The common open space shall be developed for appropriate recreational facilities, and a minimum of 50% of the proposed recreational facilities shall be constructed prior to the development of one-half of the project, and all recreational facilities shall be constructed by the time the project is 75% developed.
- H. The “P-D” shall include such provisions for the ownership and maintenance of the common open spaces as are reasonably necessary to insure its continuity, care, conservation and maintenance, and to insure that remedial measures will be available to the Governing Body if the common open space is permitted to deteriorate, or is not maintained in a condition consistent with the best interests of the planned development or of the entire community.
- I. Any modifications of the zoning or other regulations that would otherwise be applicable to the site may be permitted, providing the design of the Planned Development and the amenities incorporated in it are not inconsistent with the interest of the public generally.
- J. Sidewalks shall be built to City specifications along all public and private streets; however, an alternative pedestrian and sidewalk plan may be developed which provides pedestrian access between each use in the Planned Unit Development.
- K. All signs must conform to the Sign Ordinance.

*Proposed Implementation*

- L. Approval of the Final Development Plan may be conditioned by the Planning Commission to minimize any negative impact on the community.
- 5. Application for Rezoning: A petition to change to a “P-D” Planned District shall be filed with the County, along with the filing fee as set forth by separate ordinance. A Preliminary Development Plan shall be attached and shall include the elements set forth in these regulations. The public hearing and public notice requirements shall be the same as for any rezoning as provided by these regulations.
- 6. Preliminary Development Plan Approval Procedure:
  - A. Action by Planning Commission: After a Preliminary Development Plan per the requirements of this article is filed with the County and has been reviewed by staff and the and found to contain all of the required information as set out within these regulations, the Planning Commission shall, hold a public hearing on said development after giving public notice. Said public hearing may be adjourned from time to time and, within a reasonable period of time after the conclusion of said public hearing, the Planning Commission shall prepare and transmit to the Governing Body and the applicant a report with respect to the extent which the Preliminary Development Plan complies with these regulations, together with its recommendations in respect to the action to be taken on the Preliminary Development Plan. The Planning Commission may recommend disapproval, approval, or approval with amendments, conditions, or restrictions.
  - B. Action by Governing Body: The Governing Body shall either approve, disapprove, or approve with amendments, conditions or restrictions the Preliminary Development Plan and authorize the submitting of the Final Development Plan. If the Governing Body disagrees with the Planning Commission’s initial recommendation, the application shall be returned to the Planning Commission with written comments for reconsideration.
  - C. Substantial or significant changes in the Preliminary Development Plan shall only be made after rehearing and reapproval as required for the initial approval of the Preliminary Development Plan.
  - D. For unplatted tracts or tracts being replatted, the approval of the Preliminary Development Plan shall be considered as the approval of a preliminary plat. To complete the platting process, the applicant need only submit a final plat. Said final plat shall be in accordance with the subdivision regulations and may be submitted with

or incorporated with the Final Development Plan. The Planning Commission may review the Final Development Plan and the final plat concurrently.

7. Preliminary Development Plan: Copies of the Preliminary Development Plan shall be prepared and submitted in accordance with the County's Application and Review Schedule at a scale dimension of not more than 1"=100'. In addition to all data required for Preliminary Plats per the Jackson County Subdivision Regulations, plans shall include:
  - A. Proposed land use patterns within the development;
  - B. Phases of final development;
  - C. Proposed schedule of construction;
  - D. General landscape information including landscaping easements, dedicated open space, pedestrian circulation, buffering and fencing, and general design concepts;
  - E. Conceptual exterior building elevations including materials and color palettes to be used;
  - F. A description of any limitations to be placed on the range of permitted uses, the hours of operation, the structure and landscape materials to be used and other similar development requirements and/or restrictions in the form of the conditions of the Planned Development zoning; and
  - G. A description of any deviations from any other provision of these regulations and the reason for such.
8. Final Development Plan Approval Procedure.
  - A. After approval of a Preliminary Development Plan by the Governing Body, the landowner shall file with the Register of Deeds a statement that such a plan has been filed with the Governing Body and has been approved and that such Planned Development is applicable to certain specified legally-described land and that copies of said plan are on file with the County. Such statement recorded with the Register of Deeds shall also specify the nature of the plan, the proposed density or intensity of land uses and other pertinent information sufficient to notify any prospective purchasers or users of land of the existence of such a plan. The recorded statement shall specify that the Preliminary Development Plan shall become binding upon all successors and assigns unless amended in conformance with this act.

*Proposed Implementation*

- B. Prior to the issuance of any building permit or zoning certificate for construction on or use of the property the applicant shall submit an application for final approval. The final application may include the entire Planned Development or may be for a phase thereof as set forth in the approval of the Preliminary Development Plan. The application shall include copies of such drawings, specifications, covenants, easements, conditions and form of performance bond as set forth in the approval of the Preliminary Development Plan and in accordance with the conditions established in the zoning regulations for Planned Development.
- C. The Planning Commission shall approve the Final Development Plan if such plan meets the requirements of this article and is in substantial compliance with the approved Preliminary Development Plan. Final Development Plans shall be deemed to be in substantial compliance with the approved Preliminary Development Plan provided any modification to the plan does not:
  - (1) Vary the proposed gross residential density or intensity of use by more than five percent (5%) or involve a reduction in the area set aside for common open space, nor the substantial relocation of such area, nor;
  - (2) Substantially change the design of plan so as to significantly alter, as determined by the Planning Commission:
    - (a) Pedestrian or vehicular traffic flow.
    - (b) The juxtaposition of different land uses.
    - (c) The relation of open space to residential development.
    - (d) The proposed phasing of construction.
    - (e) The exterior appearance of buildings and/or structures.
- D. In the event that the Final Development Plan submitted contains substantial changes from the approved Preliminary Development Plan, the applicant shall submit a revised Preliminary Development Plan for approval per the Preliminary Development Plan Approval Procedure requirements. This resubmittal shall require a new public hearing in the same manner prescribed in this article for original Preliminary Development Plan approval.

9. Final Development Plan: Following Preliminary Development Plan approval and platting, if necessary, copies of the Final Development Plan shall be submitted in accordance with the County's Application and Review Schedule and shall include the following information:
  - A. All residential development other than multi-family residential shall include the following:
    - (1) All requirements of the Preliminary Development Plan (updated to show final sizes, dimensions and arrangement);
    - (2) Contour lines showing finished grading only;
    - (3) A landscaping plan per Article 8, Landscaping and Buffering, in addition to any additional requirements of the Preliminary Development Plan approval; and
    - (4) The location, height, size, materials and design of all proposed signage; and
    - (5) Conceptual exterior building elevations including materials and color palettes to be used.
  - B. All non-residential or multi-family development shall include all information required per the Section 4, Submission Requirements of Article 11, Site Plan Review with the exception of any approved deviation. Approval of each phase of the Final Development Plan shall also constitute site plan approval for that phase.
10. Amendments: A Planned Development District ordinance or an approved preliminary or Final Development Plan may be amended in the same manner prescribed in this article for approval of a preliminary or Final Development Plan. Application for amendment may be made by the homeowner's association or 51% of the owners of property within the "PUD".
11. Building Permits: On final approval by the Planning Commission, the owner shall provide copies of the approved Final Development Plan to the County. Building permits shall be issued only in accordance with the approved Final Development Plan.

*Proposed Implementation*

<b>LAND EVALUATION AND SITE ASSESSMENT (LESA) SYSTEM</b>
--

**Background.** The Land Evaluation and Site Assessment (LESA) System was designed by the U.S. Soil Conservation Service in 1981 as a mean to make objective ratings of the agricultural suitability of land against demands for other uses. The system was first used by the Federal government to take into account the adverse impacts of Federal programs and projects on adjacent farmland. Today, the system is utilized across the country from the woods of Vermont to one of the most productive regions in the world, the central valley of California. Closer to home, the LESA system is used in Illinois and Kansas.

**Purpose and Intent.** The LESA System has been designed to provide a rational process for assisting local officials in making farmland conversion decisions through the local zoning process. The Jackson County Zoning Administrator will use the system when reporting to local hearing bodies and elected officials concerning petitions to allow the conversion of farmland to non-agricultural uses (rezonings or conditional use permits). The system contains two (2) separate but related reports as follows:

- Land Evaluation - an evaluation of soil properties and their relative desirability for agricultural use; and
- Site Assessment - an assessment of other factors relating to the site that should be considered before farmland is converted to other uses. These factors include the County's ability to provide not only infrastructure improvements and maintenance such as road, but also the ability to absorb the additional costs associated with increased police and fire protection along with the impacts placed a school district bus program.

**Evaluation System.** The completed evaluation forms should be submitted with the application. The County staff will then review and check the applicant's data for completeness and accuracy. The system has been designed to provide an assessment of each factor that relates either to the land or the site. The percentage of each factor should be considered when making recommendations regarding each land use application:

- Maintenance of land for agricultural use, or
- Conversion of land to other uses.

The following analysis should be used when evaluating land for rezoning from agriculture to other non-AG related uses. Percentage values consistently above 50 percent indicate that the site is a prime location for agricultural retention. Percentage values consistently less than 50 percent indicate that the site is suitable for non-agricultural related uses.



**Factors to Be Considered.** The factors to be considered and the points assigned to each factor are listed below:

### **Land Evaluation**

The land evaluation section of the system is designed to provide an average site value based on soil compatibility for farming:

- Grouping all soils in Jackson County by using a prime farmland designation; and
- Referencing the Prime Farmland Map when conducting Site Plan Review.

### **Site Assessment**

Agricultural economic viability of a site cannot be measured in isolation from existing and impending land use needs of Jackson County. The Site Assessment process provides a system for identifying important factors other than soils that affect the economic viability of a site for agricultural uses.

This section describes each Site Assessment factor to be considered when a change to another land use is proposed in an area zoned AG, Agriculture, under the provisions of the Jackson County Zoning Order. The Site Assessment factors are grouped into the following three major areas of consideration:

- Location and Land Use Considerations;
- Public Policy Considerations; and
- Public Service and Community Facility Considerations.

Based on current land use data, land use regulations, site inspection and other pertinent information, a point value is determined by analyzing each site assessment factor and selecting a number value that best reflects the quality of the property in question.

### **Agricultural Buffer Zones**

Tom Daniels and Deborah Bowers, authors of Holding Our Ground, Protecting America's Farms and Farmland (1997), describe two types of agricultural buffer ordinances. One type refers to the siting of non-farm dwellings on building lots subdivided off a farm. The second type regulates the quantity of development allowed by non-farm agricultural zoning. A blend of these two approaches is recommended for an agricultural buffer zone in Jackson County.

A buffer of land required between nonagricultural buildings or lots and property with an agricultural zoning designation will help minimize potential incompatibilities among land uses. A limited range of uses can be allowed for buffer areas, including open space, recreational uses, or cemeteries. Site review of the landscaping plans of buffered areas should include consideration of potential crop reduction due to shade created from planted vegetation.

Deeds for new homes built within 300 feet of an agricultural use in the agricultural district should contain restriction clauses or disclosure agreements acknowledging adjacent agricultural uses. An example of an agricultural disclaimer is as follows:

*Proposed Implementation*

*All lands within the Agricultural Zone are located in an area where land is used for commercial agricultural production. Owners, residents, and other users of this property or neighboring property may be subjected to inconvenience, discomfort, and the possibility of injury to property and health arising from normal and accepted agricultural practices and operations, including but not limited to noise, odors, dust, the operation of machinery of any kind, including aircraft, the storage and disposal of manure, the application of fertilizers, soil amendments, herbicides, and pesticides.*

Disclaimers and disclosure agreements raise the buyer's awareness of the potential neighboring land uses. They may lessen the ability of a non-farm neighbor to win a nuisance suit against a farmer who employs normal farming practices.

## **APPENDIX A – GLOSSARY OF ACRONYMS**

AASHTO	American Association of State Highway Transportation Officials
CIP	Capital Improvement Program
CDBG	Community Development Block Grant
ESP	Employment Scholarship Program
ITE	Institute of Traffic Engineers
KDOT	Kansas Department of Transportation
MARC	Mid-America Regional Council
MSA	Metropolitan Statistical Area
NID	Neighborhood Improvement District
NRPA	National Recreation and Parks Association
TDO	Transportation Development District
TIF	Tax Increment Finance

*(This Page Left Blank Intentionally)*