

CHAPTER 1

Mills County, Iowa includes 446.5 square miles of rich agricultural land, rolling Loess Hills, and river valley in the southwest part of the state. Its seven communities include Glenwood, the largest community and county seat, Emerson, Hastings, Henderson, Malvern, Pacific Junction, and Silver City, unincorporated town of Mineola, and a portion of Tabor.

While agriculture continues to dominate the economy, Mills County is increasingly influenced by growth from the Council Bluffs/Omaha metropolitan area. Reflecting this impact, the county's population grew by 10.2% during the 1990s from 13,202 to 14,547. Most of this growth took place in the northwestern part of the county, in the direction towards the metropolitan area. Mills County, then, faces a variety of important issues, related to its status as a rural county on the edge of urban growth.

The Loess Hills is a unique environmental feature that is found only along the western edge of Iowa and parts of China. The hills began forming approximately 18,000 years ago once glaciers began melting and northwesterly winds started blowing silt along the eastern bank of the Missouri River. The buildup of soil creates bluffs that are characterized by steep slopes overlooking the Missouri River Valley. The significance of the Loess Hills has been well documented. Today, the Loess Hills offers an attractive rural environment that encourages residential development. As development escalates, the Loess Hills become increasingly suburban threatening this unique ecology.

The special environment of the unique Loess Hills creates additional challenges and opportunities. This comprehensive plan is designed to help define the character of county growth, recommend policies to preserve vital environmental resources, commercial growth, and agricultural lands, and minimize conflicts caused by development in rural areas.

ARCHEOLOGICAL RESOURCES

A significant amount of archeological resources exist in the Loess Hills region and throughout Mills County. This area is considered to have more archeological sites than anywhere else in the Loess Hills from Plymouth County to Fremont County. These sites contain archeological resources, which have "ruins, artifacts, structural remains and other physical evidence..."

Some of these resources include earth lodges established by Nebraska Phase (or Glenwood Culture, 900-1300 AD) that concentrated development along Pony Creek, Keg Creek, and

smaller tributaries of the Missouri River. These resources are sensitive and are permanently lost when new development occurs.

EARLY HISTORY OF MILLS COUNTY

The earliest known settlers of Mills County were the Earth Lodge Indians who lived in earth covered dwellings in the slopes of the Loess Hills around 900 AD. Later, various tribes, including the Pottawattamie Indians, moved to the area before settlers pioneered to the west in the early 1800's. One of the first identified pioneers is Henry Allis, who was a missionary to the Pawnees. Other settlers, including Colonel Peter A. Sarpy, moved to Mills County as westward trading with the Indians escalated. In 1846, Mormons traveled west from Illinois and settled Rushville, which was later known as Coonsville and now Glenwood. Further settlement occurred as pioneers moved to the area primarily to obtain land. Under the Pre-emption Act of 1841, land could be purchased for a dollar and a quarter an acre after the farmer had cultivated it for one year. Mills County began to form following the general election of 1851 and was named in honor of Lieutenant Fredrick Mills, a young officer who was killed in the Mexican-American War. Mills County's population continued to grow as settlement continued. Under the Homestead Act of 1862, farmers owned the land after working it for five years. Later, under the Timber Culture Act of 1873, 160 acres could be claimed after trees were planted on one-fourth of the acreage. Today, the land is dominated by agriculture production, but in recent years, residential housing has been booming between Glenwood and the Omaha/Council Bluffs metropolitan area.

BASIC PRINCIPLES

This comprehensive plan for Mills County is based on the following basic principles:

- *The planning jurisdiction of Mills County contains unique environmental resources and features that should be recognized and preserved. These features include the Loess Hills, the scenic Missouri River and Nishnabotna River valleys, numerous creeks and streams, and prime agricultural lands.*
- *Planning efforts should recognize that agriculture and agricultural related industries and services will continue to be the primary economic priority for Mills County. Agriculture will continue to be the county's primary land use and economic activity. As such, planning policy should recognize the primacy of this sector and explore opportunities to strengthen it.*

- *Land use planning in Mills County should integrate the needs of development and the need for resource and open space conservation.* Development pressures within the county have grown as residents of the Omaha/Council Bluffs metropolitan area seek the county's uncrowded, scenic rural setting. However, unmanaged development erodes the very nature of the rural landscape that new residents seek. The county plan should promote development patterns that accommodate appropriate development while preserving the rural character of the land.
- *Development and land use in the planning jurisdiction should be related to the natural features and capacity of the land.* Topography, drainageways, vegetation, soil characteristics, the presence of wetlands, suitability for farming, and Loess Hills all influence the type of development that is most appropriate for a given area. Significant areas of the jurisdiction are located in the 100-year floodplain, generally less suitable for conventional single-family residential development and confined animal feeding operations. The Loess Hills, make up a significant amount of land in western Mills County. Land use policies should be sympathetic to special landforms and appropriate to the constraints posed by these factors.
- *Land use policy should encourage development settings unique from the metropolitan area.* The areas immediately surrounding Mills County's municipalities provide adequate land resources for conventional subdivision development. Land in the county's jurisdiction should provide a counterpoint to this form of development, creating unusual living environments that grow out of the opportunities presented by the land.

GOALS FOR MILLS COUNTY

The participants in the strategic planning process were asked to rank various elements of the county on a five (highest) to one (lowest) rating. Those items that received the highest ratings (4's and 5's) represent the county's major assets from the perspective of survey participants. Conversely, those items with most frequent low ratings represent major areas for improvement. Graph 1-1 shows the results of the county report card survey.

In the county report card process, a rating of 3.5 or over generally suggests a source of county strength. Those with rankings below 3.0 represent perceived weaknesses.

On the basis of responses to the County Report Card and open-ended questions on the survey, major community strengths include:

- Over all quality of life
- Diversity of people residing in Mills County
- Elementary education system
- Prospects for future growth
- Quality of Mills County's environment, Loess Hills on the West
- Secondary education systems
- Access to medical services
- Cultural and historical resources
- Regional parks and recreation areas
- Local leadership
- County government
- Effect of residential growth
- Harmony between residential and agriculture services
- Solid waste disposal
- Strength of local economy

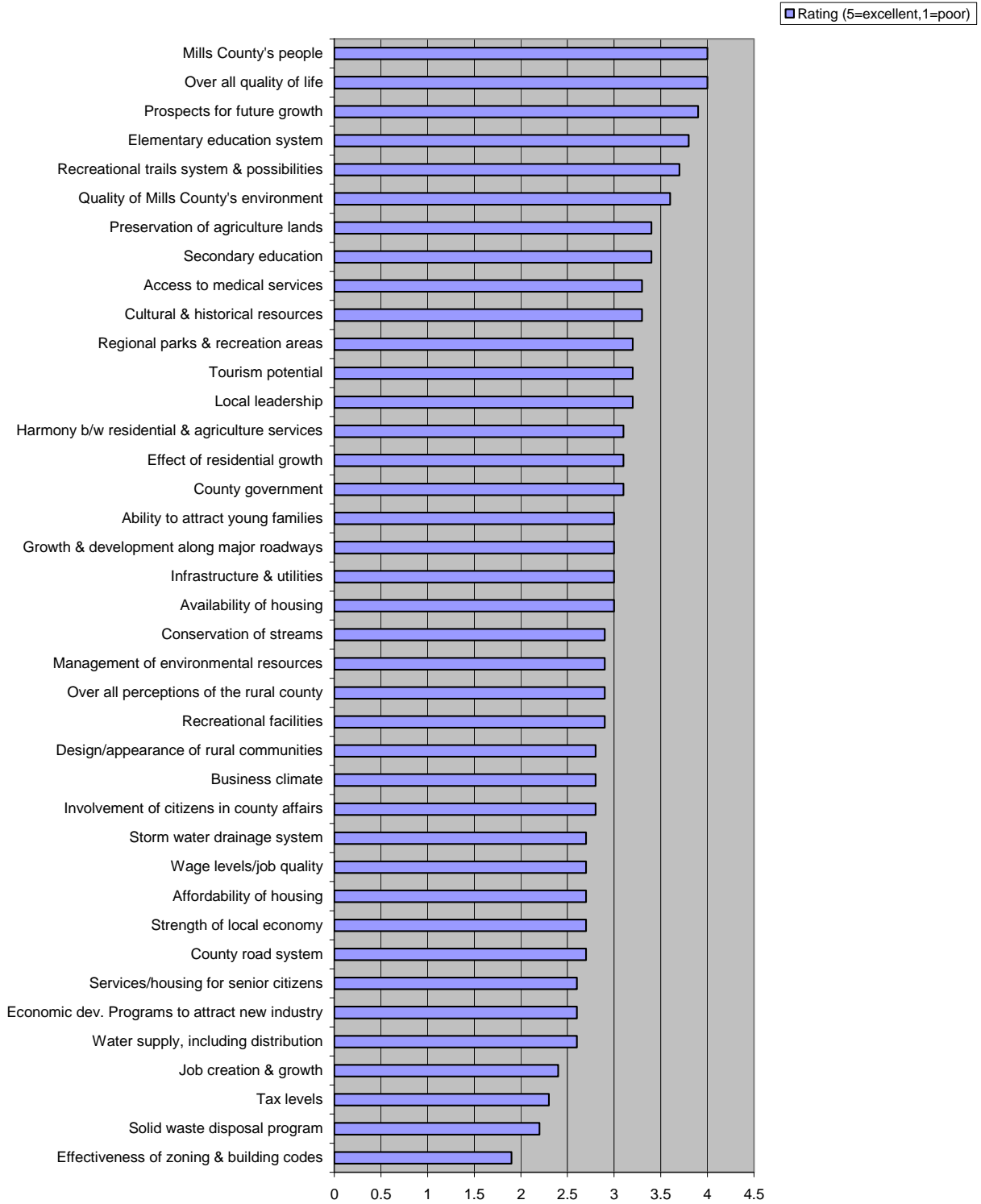
Significant community weaknesses include:

- Zoning and building code effectiveness
- Tax levels
- Local employment opportunities in small communities
- Lack of a rural water system

Current and Future Issues that need to be addressed:

- Industrial/commercial development along the I-29 corridor
- Continued preservation of agricultural land and the Loess Hills
- Impact of linear vs cluster residential developments
- Improvement districts for improving local roadways, water and systems
- Tourism potential
- Limitation on number of driveways along major roadways

County Report Card



Strategic Issues

Strategic planning process participants were organized into four groups that focused on four strategic focus areas, including:

- Economic Development
- Quality of Life
- Transportation and Infrastructure
- Growth and Land Use

Committees organized around these strategic focuses and identified the following priority strengths, weaknesses, issues, and visions for each:

Economic Development		
Strengths	<ul style="list-style-type: none"> -Location to Interstate 29 & 80 and Highway 34 -Area -Transportation Accessibility -River/Railroad/Airport -Reasonable taxes -Strong government -County Economic Development Organization -Commercial and Industrial 	<ul style="list-style-type: none"> -Proximity to metro area -Quality of work force -Housing Availability -West Mills County water supply -Schools and churches -Efforts toward Plattsmouth and Highway 34 Bridge Project
Weaknesses	<ul style="list-style-type: none"> -Rural water -Attracting quality industry -Infrastructure for commercial growth -Enhancing existing businesses -Better communication to prospective businesses and industries -Attracting more value-added industry 	<ul style="list-style-type: none"> -Lack of spec buildings/industrial park -Preparing for diversity in our work force -Increase industrial tax base -How do we make community "better", more enticing? How do we compete?
Issues	<ul style="list-style-type: none"> -Rural water (quality and supply) -Tax structure and tax base -Parallel frontage road on west side of I-29 connecting Hwy 34 to Hwy 370 -Creating a plan that is "county comprehensive" -Glenwood: urban sprawl on west side/ rural on east side -Attracting quality industry 	
Goals and Vision	<ul style="list-style-type: none"> -Develop a County Comprehensive Plan -Fund and build bridge projects -Develop Industrial Business Park with spec buildings -Pursue funding for rural water initiative -Improve telecommunications -Strengthening tax base -Attracting quality industries by targeting specific kinds of industry (niche) -Better promotion of Mills County... "tell our story" 	

Quality of Life

Strengths	<ul style="list-style-type: none"> -Diversity of people -Outdoor activity (hunting and fishing) -Team Sports -Community Parks in Glenwood, Silver City, -Emerson and Pacific Junction 	<ul style="list-style-type: none"> -Loess Hills -Public libraries -Taxes
Weaknesses	<ul style="list-style-type: none"> -Roads, bridges and highways -Promotion of Mills County -Transportation for seniors 	<ul style="list-style-type: none"> -Diversity of People -Water -Landfill
Issues	<ul style="list-style-type: none"> -Safety (fire, enforcement, drugs, jail and education center) -Parks and recreation (Pony Creek, Wabash Trace Nature Trail, Indian Creek Museum, community support and golf) -Schools (Multi-use, community support/gym use and financial support) -Transportation -Drug abuse -Job market -Airport 	
Goals and Vision	<ul style="list-style-type: none"> -Encourage housing development with new bridge -Attract industrial and retail businesses -Encourage at-home businesses -Develop shopping centers -Create entertainment opportunities -Develop zoning standards -Expand rural water -Improve public utilities -Improve jail -Improve county tourism 	

Transportation & Infrastructure

Strengths	<ul style="list-style-type: none"> -Highway 34 -Interstate 29 -Proposed Missouri River Bridge -Water quality -Watersheds 	<ul style="list-style-type: none"> -Secondary roads -Sanitation -Update subdivision regulations -911 Emergency services -Recycling program
Weaknesses	<ul style="list-style-type: none"> -Education -More community development -Funding bridges 	<ul style="list-style-type: none"> -Lack of hard surface roads -Old jail
Issues	<ul style="list-style-type: none"> -Better informed public -Landfill's future closure -Utility issues -Communication -Road conditions and surfacing -Rural water 	

Goals and Vision	-Funding -Age of county jail
	-Better public information -Improved rural water supply -Gain public input on the jail -Resolution of the solid waste dispute -Improved public participation

Growth and Land Use

Strengths	-Quality of privately owned land -Location -Supply of land -Infrastructure (access to I-29) -Diversity of land usage -Good potential for growth (building) -Loess Hills -Scenic byway	-School district -Agriculture primary use of land in county -Land value -Loess Hill Alliance -Established communities -Wabash Trace Nature Trail -Water shed programs
	Weaknesses	-Lack of zoning -Lack of building codes -Landfill -Lack of planned industrial areas -Unappealing businesses -Soil mining -Roads related to growth -Lack of mass transit
Issues	-Zoning - plan for use of space/restrictions, preserve quality of life while accommodating growth -Tax incentives -Use and protect agriculture land -Protect natural resources in county- Loess Hills, water and soil, tourism, scenic byway, Wabash Trace Nature Trail -Improved recycling programs -Growth management -Rural water -Green space -Expand number of parks -Aesthetics of community -Road maintenance	
Goals and Vision	-Develop a plan to accommodate anticipated growth of residents in the county, while protecting agriculture. -Develop responsible zoning and ordinances. -Create tax incentives to protect natural resources and land.	

METHODOLOGY

Issues such as environmental conservation and the balancing of residential development and agricultural use are particularly important in Mills County. Because of these policy choices, traditional planning methodologies (such as population projections and resulting calculation and allocation of urban land conversion needs) have limited application. Instead, this plan uses environmental analysis that are methods derived in part from the pioneering planning work of the landscape architect and environmental planner Ian McHarg. McHarg's methods overlay environmental constraints and opportunities to determine appropriate development policies for specific areas. These methods are reflected in the Mills County Land Use Plan.

The Mills County Plan is divided into the following sections:

- *Part 1: A Profile of Mills County.* This section presents information about Mills County, its people, and its pattern of development that will help develop the policies that are most appropriate for the county. It examines population changes and characteristics, economic factors, and development patterns.
- *Part 2: Development Trends.* This section reviews land use and development patterns and trends in the county planning jurisdiction, including an analysis of population and development.
- *Part 3: Environmental and Development Resources.* This section analyzes the environmental conditions that add value to the planning area and affect the course of future development. It also examines infrastructure resources including transportation and major utility systems.
- *Part 4: Mill's County Land Use Plan.* This section presents a land use concept, along with principles and recommendations guiding land use policy in the planning jurisdiction. The plan, built on the concept of Development Policy Districts, provides a guide for future public and private development decisions.
- *Part 5: Transportation, Infrastructure, and Public Facilities Plan.* This section presents specific improvements designed to support the concepts of the land use plan. These include public services, transportation, trails, and greenway corridors.

- *Part 6: Plan Implementation.* This section provides guidance and techniques for implementing key aspects of the county plan.

CHAPTER 2: A PROFILE OF MILLS COUNTY

This section presents information about the population of Mills County that will help develop the policies that are most appropriate for the county. It examines population changes and characteristics, economic factors, and development patterns.

MILLS COUNTY'S POPULATION: PAST, PRESENT, AND FUTURE

Table 1-1 describes the history of Mills County's population since 1900. Mills County achieved its peak population of 16,764 in 1900, with steady declines through 1970. This decline was typical of rural counties representing a gradual movement away from rural farmsteads to urban communities. However, during the 1970s and 1990s the population grew. The 2000 Census reports that Mills County has a population of 14,547, a growth of 1,345 or 10.2% from 1990.

Population within Mills County's municipalities grew by 406 people, or 5.2%, from 1990 to 2000.

Table 1-2 shows the population changes between 1990 and 2000 for the communities in Mills County. Glenwood, Malvern, Emerson, Silver City, and Hastings all grew during the 1990s. Glenwood experienced the greatest numerical population growth with 398 people, while Hastings experienced the largest proportionate growth. On the other hand, Pacific Junction and Henderson experienced population declines of 41 and 35 people respectively.

During the 1990s, Mills County's population grew more in unincorporated areas than in municipalities.

Table 1-3 shows the population changes of Mills County, its communities, and rural areas between 1990 and 2000. Population growth of the communities accounts for 30% of the county's population growth, with the unincorporated areas accounting for the remaining 70%. Rural residential development occurring in Oak Township in the northwest part of the county accounted for much of this rural growth. Development is concentrated in subdivisions and individual house construction along 221st St. and other linear roadways north of Glenwood.

Table 1-1: Population Change in Mills County, 1950 - 2000											
	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Population	16,764	15,811	15,422	15,866	15,064	14,064	13,050	11,832	13,406	13,202	14,547
% Ten-Year Change		-6.0	-2.5	2.8	-5.3	-6.6	-7.2	-9.3	13.3	-1.5	10.2
Median Age									30.6	34.9	38.9

Source: U.S. Census Bureau

During the 1990s, Mills County's rural population grew in the western half of the county and declined in its eastern half.

Table 1-4 illustrate population change in Mills County by township between 1990 and 2000. Only six of the thirteen townships were experiencing population growth in the 1990s, with all six of those townships located in the western half of the county.

Communities	1990	2000	Change	% Change
Emerson	476	480	4	0.8%
Glenwood	4960	5358	398	8.0%
Hastings	187	214	27	14.4%
Henderson	206	171	-35	-17.0%
Malvern	1210	1256	46	3.8%
Pacific Junction	548	507	-41	-7.5%
Silver City	252	259	7	2.8%
Tabor (within Mills County)	93	60	-33	-35.5%

Source: U.S. Census Bureau

	1990	2000	Change	% Change	% of County Growth
TOTAL County Population	13,202	14,547	1,345	10.2%	100%
TOTAL Community Population	7,839	8,245	406	5.2%	30.2%
TOTAL Rural Population	5,363	6,302	939	17.5%	69.8%

Source: U.S. Census Bureau

Township	1990	2000	Change	% Change
Anderson (Henderson)	564	507	-57	-10.1%
Center	624	544	-80	-12.8%
Deer Creek	215	202	-13	-6.0%
Glenwood (Glenwood)	5768	6473	705	12.2%
Indian Creek (Hastings&Emerson)	978	961	-17	-1.7%
Ingraham (Silver City)	483	499	16	3.3%
Lyons	242	217	-25	-10.3%
Oak	1276	2097	821	64.3%
Plattville (Pacific Junction)	824	787	-37	-4.5%
Rawles	432	457	25	5.8%
Saint Marys	162	174	12	7.4%
Silver Creek (Malvern)	1409	1435	26	1.8%
White Cloud	225	194	-31	-13.8%
TOTAL	13,202	14,547	1345	10.2%

Source: U.S. Census Bureau

Population statistics can also tell much about how a county is changing. Population change in a county is explained by two basic factors:

- *A comparison of births and deaths.* If more people are born in a county than die, the population of the county will tend to increase.
- *Migration patterns.* Some of a county's residents will choose to move out; other people may move into it. If more people come to the county than leave, its population will tend to increase.

In order to assess what happened to Mills County's population during the 1990s, the county's expected population based solely on changes in births and deaths is calculated and compared with the actual outcome of the 2000 census. These projections are based on the following assumptions.

- Use of a cohort-survival method to develop predictions. This method "ages" a five-year age range of people by computing how many of them will survive into the next five-year period. The cohort survival rates that were used were developed by the U.S. Bureau of the Census.
- Actual birth rates in Mills County appear to resemble the "low" series of birth rate projections for people of childbearing age published by the Bureau of Business Research.

Table 1-5 summarizes the results of this analysis. The predicted population of Mills County for 2000, based solely on natural population change, was 13,503. This projection method suggests a flat growth curve. The actual population in 2000 was 14,547, significantly higher than the forecast. This represents a substantial in-migration of population. However, an analysis of individual age cohorts presents a more revealing picture. This analysis suggests that:

- Younger individuals and households tend to move out of the county. Frequently, these groups move away for school or initially settle in urban areas.
- More established households are tending to move into the county, reflecting the popularity of the area as a place that combines rural character and lifestyle with convenience to the city.
- Mature and senior households tend to be stable.

Table 1-5: Predicted and Actual Population Change

	1990	2000	Change	% Change
Predicted Population (based on survival and birth rates)	13,202	13,503	301	2.30%
Actual Population	13,202	14,547	1345	10.2%
Predicted Male Population	6,545	6,696	151	2.3%
Actual Male Population	6,545	7,297	752	11.5%
Predicted Female Population	6,657	6,806	149	2.2%
Actual Female Population	6,657	7,250	593	8.9%

Source: U.S. Census Bureau

Table 1-6: Predicted and Actual Age Cohort Changes: All Residents, 1990 to 2000

Age Group	1990	2000	2000	(Actual) -	% Variance:
	Actual	Predicted	Actual	(Predicted)	actual/predicted
Under 5	837	730	923	193	26.4
5-9	1001	760	1112	352	46.3
10-14	1135	835	1145	310	37.1
15-19	976	998	1100	102	10.2
20-24	649	1128	629	-499	-44.2
25-29	889	968	779	-189	-19.5
30-34	1099	643	891	248	38.6
35-39	1146	880	1174	294	33.4
40-44	1071	1086	1249	163	15.0
45-49	755	1126	1182	56	5.0
50-54	661	1040	1117	77	7.4
55-59	567	719	770	51	7.1
60-64	604	609	640	31	5.1
65-69	502	497	498	1	0.2
70-74	466	493	454	-39	-7.9
75-79	385	369	358	-11	-3.0
Over 80	459	623	526	-97	-15.6
Total	13,202	13,503	14,547	1043	7.7

Source: U.S. Census Bureau

- The growth in mature, family-formation age households is echoed by greatly increasing numbers of children. This has significant implications for educational planning.

Table 1-6 compares the number of people in each age group that would be predicted by survival of cohorts with the number of people actually present in Mills County in 2000. The most significant observations in this table is the loss of population, or out-migration, of people in the 20 to 29 age cohorts, and gain of population, or in-migration, of people in the 30 to 44 age cohorts.

Table 1-7 displays population projections built upon the 1990 census numbers. An analysis of the outcomes of five levels of in-migration indicates that Mills County experienced an in-migration rate of about 8% during the 1990s.

Table 1-7: Predicted Population			
	1990	1995	2000
+2 Migration	13,202	13,501	13,774
+4 Migration	13,202	13,635	14,048
+6 Migration	13,202	13,768	14,325
+8 Migration	13,202	13,902	14,604
+10 Migration	13,202	14,036	14,887

Source: U.S. Census Bureau

POPULATION PROJECTIONS

Projecting the future size and makeup of Mills County’s population helps predict the future development character of the county. This in turn helps guide the county’s planning and policy decisions regarding future investments and growth. Forecasting future population for Mills County is complicated by the county’s dual nature of experiencing metropolitan area influenced population gains in the west and a more typical rural pattern of population loss in the east.

This section considers three alternative population methods for the next twenty years. These scenarios are:

Method One: Utilizing a migration scenario that focuses on population growth outside of Glenwood’s city jurisdiction.

Method Two: Utilizing a growth rate scenario for the rural portions of the county by taking the county’s existing growth rate between 1990 and 2000, which is 1.63%, and using that rate to project the 2020 population. In addition, creating alternative growth rate scenarios of 1%, 2%, 2.5%, and 3%.

Method Three: Utilizing an out-growth rate scenario for townships with growing population and a migration scenario for townships with stagnate or declining population.

METHOD ONE:

Method One projects the 2020 population of Mills County by projecting continuing positive in-migration for the county as a whole and Glenwood through 2020.

Mills County's recent steady growth and the stability of its various age groups suggests a continuation of current trends toward an increasing population. This method applies a range of migration rates to Mills County's population outside of Glenwood. Population projections for Glenwood, developed from its new comprehensive plan, are then added to produce the countywide forecast. Table 1-8 displays population forecasts excluding Glenwood, for six different rates of migration.

The base alternative uses the cohort survival method to forecast natural population change. This forecasts a 2010 population of 9,159 and a 2020 population of 9,223. Mid-range rates of +4% and +6% predict year 2020 populations for Mills County excluding Glenwood between 9,984 and 10,381.

Two high in-migration rates of 8% and 10% indicate a 2020 population excluding Glenwood between 10,790 and 11,211. Glenwood's comprehensive plan projects a 2020 city population of 6,491 (Table 1-9).

Table 1-10 reports total population projections for the entire county, which essentially is Table-8 and Table-9 combined.

For planning purposes in Mills County, the +8% migration scenario was utilized based on population trends and development activity between 1990 and 2000. The +8% migration scenario indicates a year 2010 population of 15,782 and a year 2020 population of 17,281.

It is important to recognize that population forecasts are mathematical estimates of behavior and cannot predict population with certainty. In addition, these projections assume that the county remains attractive to new population groups.

Table 1-8: Mills County Population Projections (excluding Glenwood), 2000-2020						
	2000	2005	2010	2015	2020	Change 2000-2020
No Net Migration	9,189	9,167	9,159	9,190	9,223	0.4%
+4% Migration	9,189	9,351	9,529	9,753	9,984	8.7%
+6% Migration	9,189	9,442	9,716	10,043	10,381	13.0%
+8% Migration	9,189	9,534	9,906	10,338	10,790	17.4%
+10% Migration	9,189	9,626	10,097	10,639	11,211	22.0%

Source: U.S. Census Bureau

Table 1-9: Population Projections, 2000-2020

	2000	2005	2010	2015	2020	Change 2000-2020
Glenwood	5,358	5,591	5,876	6,176	6,491	21.1%

Source: Glenwood Comprehensive Plan, 2001

Table 1-10: Mills County Rural Population Projections (including Glenwood)

	2000	2005	2010	2015	2020	Change 2000-2020
No Net Migration	14,547	14,758	15,035	15,366	15,714	8.0%
+4% Migration	14,547	14,942	15,405	15,929	16,475	13.3%
+6% Migration	14,547	15,033	15,592	16,219	16,872	16.0%
+8% Migration	14,547	15,125	15,782	16,514	17,281	18.8%
+10% Migration	14,547	15,217	15,973	16,815	17,702	21.7%

Source: U.S. Census Bureau

METHOD TWO

Method Two uses alternative growth rates for the rural portions of the county by continuing the county's annual growth rate between 1990 and 2000 in rural areas. In addition, this method considers alternative growth rate scenarios of 1%, 2%, 2.5%, and 3%.

This scenario projects future growth, based on Mills County's experience from 1990 to 2000. During the 1990s, Mills County's population grew at an annual rate of 1.63%. Table 1-11 applies this growth rate to the next twenty-years. At the 1.63% growth rate, this projection model forecasts a 2010 population in unincorporated area (Table 1-11) of 7,408 and a 2020 population of 8,708. Separate growth scenarios are projected for each of the county's seven municipalities (Table 1-12). Adding rural and municipal components together forecast the county's population at 16,442 in 2010 and 18,637 in 2020, a 20-year increase of about 28%.

Table 1-11: Growth Rate Scenarios (Rural Areas ONLY)

	2000	2005	2010	2015	2020	Change 2000-2020
+1.63%	6,302	6,833	7,408	8,032	8,708	38.2
+1.0%	6,302	6,623	6,961	7,316	7,690	22.0
+2.0%	6,302	6,958	7,682	8,482	9,364	48.6
+2.5%	6,302	7,130	8,067	9,127	10,327	63.9
+3.0%	6,302	7,306	8,469	9,818	11,382	80.6

Table 1-12: Growth Rate Scenarios (Each Community)

	2000	2005	2010	2015	2020	Growth Scenario
Emerson	480	504	530	557	586	1.0%
Glenwood	5358	5591	5876	6176	6491	1.0%
Hastings	214	229	277	269	325	1.36%
Henderson	171	171	171	171	171	No Growth
Malvern	1256	1320	1387	1458	1533	1.0%
Pacific Junction	507	507	507	507	507	No Growth
Silver City	259	272	286	301	316	1.0%
TOTAL	8245	8594	9034	9985	9929	

Table 1-13: Growth Rate Scenarios (County+Community Total)

	2000	2005	2010	2015	2020	Change 2000-2020
+1.63%	14,547	15,427	16,442	18,017	18,637	28.1%
+1.0%	14,547	15,217	15,995	17,301	17,619	21.1%
+2.0%	14,547	15,552	16,716	18,467	19,293	32.6%
+2.5%	14,547	15,724	17,101	19,112	20,256	39.2%
+3.0%	14,547	15,900	17,503	19,803	21,311	46.5%

METHOD THREE

Method Three forecasts Mills County's population for 2020 by utilizing a growth rate scenario for townships that are experiencing a growing population and a migration scenario for townships that are experiencing a stagnate and declining population. This method is sensitive to the individual growth characteristics of various parts of the county.

During the 1990s, seven of Mills County's townships experienced growth. Of these seven townships, Oak and Glenwood Townships experienced the most significant growth, with Oak Township experiencing a high annual growth rate of 5.1%. Glenwood Township experienced a population growth of 705 people, or a 1.16% annual growth rate each year. For planning purposes, the growth rate scenario is used for Oak and Glenwood Townships and a migration scenario is used for the remaining townships. Table 1-14 summarizes the future population of Oak and Glenwood Townships.

Forecasts for townships experiencing level or declining populations during the 1990s use a migration analysis. Migration rates for each township are based on performances during the 1990s.

Table 1-15 displays the results of this method.

The county population will continue to grow during the next twenty years, with strongest growth in the western area of the county. Major population growth will be concentrated in Glenwood and Oak Townships. On the other hand, population will continue to decline in the eastern portions of the county, particularly in Anderson, Deer Creek, and White Cloud Townships. This method projects a 2020 population of 18,229.

SELECTION OF FORECAST

The three methods display a reasonable level of agreement, generating 2020 population forecasts that range from 17,300 to 18,637. Method Three, establishing different projection methods based on the population behavior of individual townships, indicates a midpoint population of 18,229. This plan will utilize that more sensitive methodology for more detailed planning.

Table 1-14: Growth Rate Scenarios for Oak and Glenwood Townships						
	2000	2005	2010	2015	2020	% Change
Oak Township						
+3.0% Growth	2097	2431	2818	3267	3787	81%
+4.0% Growth	2097	2551	3104	3776	4594	119%
+5.0% Growth	2097	2676	3416	4359	5564	165%
Glenwood Township						
+0.5% Growth	6473	6637	6804	6976	7152	10%
+1.0% Growth	6473	6803	7150	7515	7898	22%
+2.0% Growth	6473	7147	7891	8712	9619	49%

Table 1-15: Population Projections, 2000-2020						
	2000	2005	2010	2015	2020	Growth Scenario
Anderson	507	469	436	411	389	-7% Migration
Center	544	544	545	548	550	0% Migration
Deer Creek	202	189	178	170	164	-4% Migration
Glenwood	6473	6803	7150	7515	7898	+1% Growth
Indian Creek	961	951	941	935	932	-2% Migration
Ingraham	499	511	522	535	548	+6% Growth
Lyons	217	206	196	185	171	-10% Migration
Oak	2097	2551	3104	3776	4594	+4% Growth
Plattville	787	759	733	708	681	-8% Migration
Rawles	457	459	460	462	465	+2% Growth
Saint Marys	174	175	177	181	184	+2% Growth
Silver Creek	1435	1431	1441	1465	1495	+4% Growth
White Cloud	194	183	175	167	158	-10% Migration
TOTAL	14,547	15,231	16,058	17,058	18,229	

ECONOMIC FACTORS

This section examines key facts about Mills County's people. It will examine such issues as age composition, employment, and income distribution.

Income Distribution

Table 1-16 describes the income distribution of people who live in Mills County. These incomes are compared to those of Iowa and the nation.

Mills County has a median income of \$42,428, in comparison to \$39,469, for the State of Iowa, based on US Census for the year 2000. About 40% of the county's households earn over \$50,000, compared with about 37% for the state. About 27% of the county's households earn less than \$25,000, compared to about 29% for the state.

Employment

About 28.6% of the county's total employment is in educational, health, and social services. Retail trade accounts for an additional 10.3% of total employment.

Table 1-16: 2000 Income Distribution by %								
	Under \$10,000	\$10,000 -14,999	\$15,000 -24,999	\$25,000 -34,999	\$35,000 -49,999	\$50,000 -74,999	Over \$75,000	Median HH Income
Mills County	6.8	5.5	14.6	14.4	18.3	23.2	17.3	\$42,428
State of Iowa	8.2	6.7	14.4	14.7	19.0	21.0	16.1	\$39,469
USA	9.5	6.3	12.8	12.8	16.5	19.5	22.5	\$41,994

Source: U.S. Census Bureau

Table 1-17: Mills County Employment, 2000

Industry	2000	% of Work Force
Agriculture, Forestry, Fishing, Hunting, Mining	367	5.0%
Construction	605	8.2%
Manufacturing	648	8.8%
Wholesale Trade	239	3.2%
Retail Trade	757	10.3%
Transportation, Warehousing, Utilities	459	6.2%
Information	135	1.8%
Finance, Insurance, Real Estate	509	6.9%
Professional, Scientific, Management, Administrative, and Waste Management Services	371	5.5%
Educational, Health and Social Services, Arts, Entertainment, Recreation, Accommodation & Food Services	2108	28.6%
Other Services	425	5.8%
Public Administration	411	5.6%
Total Employed	7373	100.0%

Source: U.S. Census Bureau

CONCLUSIONS

This selected review of demographic and economic features in Mills County leads to the following conclusions:

- Mills County attracted significant population during the 1990s, with growth most strongly focused in the northwest part of the county.
- The county was particularly attractive to adult households with members in their 30's and 40's. This indicates an ability to attract a share of a metropolitan population seeking a rural or small-town lifestyle.
- The county is likely to experience significant and continuing population growth during the next 20 years if current trends continue. The county's 2020 population is projected at 18,229, an increase of about 3,700 people. The majority of this growth will occur in Oak and Glenwood Townships.
- The largest employment sectors in Mills County are educational, health, and social services.
- Income ranges in the county are significantly above statewide averages.

CHAPTER 3: DEVELOPMENT TRENDS

This section examines population and land use characteristics in Mills County.

LAND USE

Existing Land Use displays the distribution of existing land uses in the Mills County planning jurisdiction. Information was collected by field inspection and aerial photography during 2001.

Agricultural and Open Land

Agriculture remains the dominant land use in Mills County. Most areas are cultivated, but some small areas are used for pasture. Corn and soybeans are the main crops. In recent years, agricultural land has seen an increase in vineyards and wineries in Mills County. Vineyard acreage is expected to increase to keep up with the demand from the wineries. Undeveloped areas include the Loess Hills with steep bluffs, slopes, and upland ridges. Wetlands and forested areas are located along the rivers and streams. The Loess Hills is a unique geological resource found only along the Missouri River and in areas of China, providing scenic qualities and tourism potential.

Residential Uses

Residential development makes up the second most prevalent land use in the county planning jurisdiction. Residential development has generally been concentrated within the planning jurisdictions of municipalities and along road corridors. The highest level of large lot residential has occurred in the northwest part of the county, between Glenwood and the county line, focusing along 221st St. and county roads. This pattern of decentralized residential growth presents significant planning issues. As the number of farmsteads decrease and the trend of rural residential development increases, the character and use of the rural landscape changes. This raises special challenges in environmentally sensitive areas, such as the Loess Hills. Changing commuting patterns and service demands of rural residents will necessitate a new look at rural infrastructure needs. Finally, metropolitan area residents seeking rural home sites are often unaware of the industrial character of general agriculture. This creates inevitable conflicts and can limit the ability for farmers to carry out their work.

Commercial Uses

Commercial land uses comprise a small portion of the Mills County planning area. Existing commercial land uses can be found along Interstate 29 and Highway 34, near the Cities of Glenwood, Pacific Junction, and Malvern with new major commercial development occurring along I-29 north and south of the Glenwood interchange. Major commercial uses consist of implement dealers, auto-related service and retail, and restaurant/entertainment. The future development of a new Missouri River crossing on the Highway 34 alignment will increase commercial development along the I-29 corridor.

Industrial Uses

Most industrial uses in Mills County are located along the north side of Highway 370 and east of Interstate 29. The Bunge facility, just north of Highway 370, is in this area and is the county's largest industrial installation. Other industrial land uses are clustered around the City of Pacific Junction. Exceptions include the quarry operations along 195th Street (County Road L31), various grain storage operations located throughout the county, and gas pipelines. Industrial uses are not allowed in the Loess Hills.

Civic Uses

Mills County offers numerous civic and recreational opportunities. One of the most significant public recreation amenities in the county planning jurisdiction is Wabash Trace Nature Trail. The Wabash Trace Nature Trail is made of crushed limestone and follows the abandoned Wabash Railroad line that extends 63-miles from Council Bluff to Blanchard, Iowa. The trail passes through three communities in Mills County, including Malvern, Silver City, and the unincorporated area of Mineola. These communities have areas for users to access the trail. The trail is owned by the Natural Heritage Foundation and covers 250 acres of land in Mills County.

The Loess Hills National Scenic Byway in Mills County follows 221st Street, north of Highway 34 and Highway 275, south of Highway 34. The meandering path of 221st Street lends itself well to natural view sheds of the Hills, creating a desirable place to live and fueling demand for more residential development.

The Indian Creek Museum is located in the eastern half of the county near Emerson, near the intersection of Jamison Road and 380th Street. The museum has an 8000 square foot building;

half is dedicated to a museum and the other half can be rented for special events. Indian Creek Historical Society is a managing partner of the museum.

There are six state parks and seven county parks located in Mills County:

State Parks

- *Folsom Wildlife Area* is located in the northwest part of the county along the westside of 195th Street (L31). The Department of Natural Resources manages the 100-acre area that offers hunting of waterfowl.
- *Foothills Park* is located directly south of Highway 34 on Levi Road. The park is 45 acres and offers picnicking, hiking, and restrooms. The area is well known as a place for bird watching.
- *Keg Lake* is located in the southwest part of the county along the eastside of 195th Street (L31). The Department of Natural Resources manages the 104-acre area that offers hunting of waterfowl.
- *Nottleman Island* is a wildlife refuge located southwest of Pacific Junction in the Missouri River floodplain. The area covers 1200 acres and offers hunting.
- *PJ Wildlife Area* is located in the west-central part of the county. The area covers 34 acres and offers hunting.
- *Willow Slough* is located in the northeast part to the county along the West Nishnabotna River and east of 370th Street (County Road M16). The Department of Natural Resources manages the area. The area is 597 acres consisting of 1/3 marsh and 2/3 prairie. Timber, waterfowl, pheasant, rabbits, squirrels, and deer flourish in this area, as well.

Two rest areas along Interstate 29 north of the Interstate 29/Highway 34 interchange serve northbound and southbound travelers. Each rest area is about 5 acres and offers restrooms and open space.

County Parks

- *Indian Creek Greenbelt Area* is an 11-acre site located at the edge of Emerson along Indian Creek. The area serves as a greenbelt to Indian Creek and as an outdoor classroom to students.
- **Mile Hill Lake/Scenic Overlook** is located directly south of Highway 34 and west of Glenwood. The park has 47 acres of wildlife area, which offers fishing, hunting, interpretative signs, and an observation area overlooking a 10-acre pond. A boat launch and dock are also available.
- *Pony Creek Park* is located in the northwest part of the county, two miles north of Highway 34 on Deacon Road. The 53-acre park offers camping, hiking, picnicking, and fishing next to an 82-acre pond. It also offers electricity, drinking water, and restrooms.
- *Ray Thomas Wildlife Refuge*, a 90-acre site located in the northeast part of the county along the eastside of 350th Street (County Road L66).
- *West Oak Forest*, 308-acre site located in the northwest part of the county along the eastside of 195th Street (County Road L31). West Oak Forest is a unique natural area that is incased in the Loess Hills, and offers hiking and drinking water.

Other Park Land

- *Folsom Point* is located in the northwest part of the county along the eastside of Bunge Road. The Nature Conservancy of Iowa owns and manages the 281-acre Loess Hill Prairie.
- Lake George is a 12-acre site located south of Highway 34 at the intersection of Jamison Road (County Road H34) and 380th Street. The area offers fishing, restrooms, & shelters.

Outdoor recreation opportunities include fishing, picnicking, and hunting throughout the County. Farm pond fishing is limited, but the Missouri River provides good opportunities for catching catfish, northern pike, carp, walleye, and sauger. The wildlife hunted during the regular hunting season includes deer, rabbits, squirrels, bobwhite quail, ring-necked pheasant, water fowl, and wild turkey.

Other civic uses include small cemeteries and churches throughout the county.

Water Surfaces and Water-Related Uses

The Missouri River and West Nishnabotna River are the principal water resources in Mills County. These river corridors and their tributaries are lined with natural vegetation and timber, providing shelter for wildlife. Other streams, including Silver Creek, Keg Creek, Waubonsie Creek, Pony Creek, Mud Creek, Indian Creek, Farm Creek, Spring Valley Creek, Deer Creek, and Little Creek provide riparian habitat and support diverse vegetation.

DEVELOPMENT TRENDS AND RESIDENTIAL USES

The conversion of land from agricultural to residential land use is one of the leading land use policy questions that confront the rural Mills County planning area. The majority of residential development has been in the form of large lot acreages. Between 1995 and 1999, the median lot size for residential development was 1.9 acres. In 2000, Mills County contained 2,355 dwelling units, consisting of several different types residential environments, including subdivision dwellings, agriculture dwellings, non-agriculture dwellings, mobile homes, and seasonal units.

Subdivision Improvements

The majority of rural development, to date, has occurred in subdivisions and lot splits. As rural development becomes more common, county involvement in public improvements and service improvements to support development is likely to be expected. Public improvements fall into three categories: water systems, sewer systems, and road access.

In the rural areas of the county, rural water is provided by private wells, and sewage disposal is managed by private septic systems. Private developers construct infrastructure improvements and dedicate those improvements to the county. The county then assumes the maintenance of the roads. Recent development has not provided public road networks. New development should provide infrastructure improvements, such as public road network, that allows future expansion and connectivity.

Table 1-18: Occupied Housing by Township, excluding communities

<u>Township</u>	<u>1990</u>	<u>2000</u>	<u>Change</u>	<u>% Change</u>
Anderson	211	203	-8	-3.8%
Center	145	199	54	37.2%
Deer Creek	80	77	-3	-3.8%
Glenwood	2032	2269	237	11.7%
Indian Creek	385	386	1	0.3%
Ingraham	197	205	8	4.1%
Lyons	89	88	-1	-1.1%
Oak	457	729	288	59.5%
Plattville	285	309	24	8.4%
Rawles	125	164	39	31.2%
Saint Marys	57	67	10	17.5%
Silver Creek	507	548	41	8.1%
White Cloud	73	80	7	9.6%
TOTAL	4643	5324	681	14.7%

Source: U.S. Census Bureau

Table 1-19: Occupied Housing by City

<u>City</u>	<u>1990</u>	<u>2000</u>	<u>Change</u>	<u>% Change</u>
Emerson (Indian Creek Township)	203	195	-8	-3.9%
Glenwood (Glenwood)	1792	1863	71	4.0%
Hastings (Indian Creek)	78	85	7	9.0%
Henderson (Anderson)	89	74	-15	-16.9%
Malvern (Silver Creek)	466	474	8	1.7%
Pacific Junction (Plattview)	201	196	-5	-2.5%
Silver City (Ingraham)	112	110	-2	-1.8%
TOTAL COMMUNITY	2941	2997	56	1.9%
TOTAL COUNTY	4643	5324	681	14.7%

Source: U.S. Census Bureau

Development Activity and Trends

Building activity in Mills County between 1995 and 1999 consisted of 324 units for non-farm residences. Of the permits issued, 302 were for new structures and 22 were for mobile homes. The majority of rural developments (194 residences) exist in 49 platted subdivisions. The remaining 130 residences were built as individual lot splits, creating estate lots.

Most of this development occurred in Oak and Glenwood Townships. The City of Glenwood accounted for 56% of Glenwood Township's population growth. Oak Township, without any incorporated communities, grew by 821 people or 64%, with most growth occurring in large lot development.

During the 1990s, Ingraham, Saint Marys, and Rawles Townships also experienced at least modest population growth.

LAND USE ISSUES

This analysis of land use and development patterns suggests the following major conclusions and issues:

- Subdivision activity within the planning jurisdiction has been primarily located north of the City of Glenwood. Nearly all of the rural development outside of the Glenwood planning jurisdiction has been the result of subdivisions, lot splits, or conversion of farmsteads to residences.
- The I-29 corridor is beginning to experience unplanned commercial growth north and south of the US 34 interchange. The planned construction of a new Missouri River Crossing is likely to accelerate commercial growth in this area.
- Industrial development, once focused along railroad corridors in towns, has decentralized into the county. The Bunge facility, which enjoys both rail and highway access, may anchor a new north county industrial district.
- Mills County's recreational facilities, including state and county parks, provide important recreational opportunities and preserve unique ecology, including wetlands, timber, and wildlife. Past urbanization of rural areas emphasizes the importance of sustaining and improving these public open spaces.
- The conversion of the Wabash Railroad right-of-way to the Wabash Trace Nature Trail represents a major transition in land use and opportunity. The recreation and tourism potential creates exciting new opportunities for the county.
- Unique environmental resources exist that should be protected from adverse effects, caused by inappropriate development. A primary example of such a resource is the Loess Hills.
- Rural residential development and expanding agricultural uses create potential conflicts. The Land Use Plan should seek methods to minimize land use conflicts.

CHAPTER 4: ENVIRONMENTAL & DEVELOPMENTAL RESOURCES

A basic principle of this land use plan for the Mills County planning jurisdiction is the need to establish a balance between environmental values and reasonable development demands. A corollary to this principle is matching development policy to environmental attributes, placing a value on conserving the region's most important natural resources and assets. This section identifies these vital assets. Overlaying these resource maps establishes specific development policy districts that will ultimately guide land use decisions and project design.

MILLS COUNTY PLANNING JURISDICTION: A GEOGRAPHIC OVERVIEW

Mills County is in a part of Iowa covered by deep loess, generally sloping to the southwest and west. The landscape is characterized mainly by flood plains and terraces along rivers, steep bluffs, and valley slopes and ridges in the uplands. Elevation ranges from about 1,350 feet above sea level on the steep hills northwest of Glenwood to 950 feet in an area in the southwestern corner of the county along the Missouri River.

Surface water of the county is in the Missouri River watershed. Silver Creek runs southward and discharges into the West Nishnabotna River, which flows south-westerly into the Missouri River. Keg Creek and Waubonsie Creek collect water from the uplands in the western areas of the county. Surface water is also collected by Indian Creek, Farm Creek, Mud Creek, Mule Creek, Pony Creek, Little Creek, and Waubonsie Creek.

ENVIRONMENTAL CONSIDERATIONS

PRIME FARMLAND

Prime farmland, is the land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to economically produce a sustained high yield of crops when it is treated and managed using acceptable farming methods. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment. The land has a favorable growing season and temperature. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. Slopes in these areas range from 0 to 6 percent.

Prime Farmland identifies these important agricultural resources. These areas can be found throughout the county, but are most densely located outside the floodplain and hydric soil areas associated with the rivers and streams. About 145,000 acres, or about 50 percent of the county's total acreage, meets the requirements for prime farmland. Crops are grown on approximately 140,000 acres, and account for an estimated two-thirds of the local agricultural income each year.

VEGETATION

Vegetation displays the location of major stands of trees and brushy areas within Mills County. The largest tracts of forestland are on the bluffs along the Missouri River. Other wooded tracts occur as irregularly shaped areas and narrow bands along streams and rivers, as strips in upland drainage ways, and as narrow areas on steep banks along streams. The two main forest cover types are oak-hickory and bottomland hardwoods.

STEEP SLOPES

Slopes in excess of 9%, which are predominately located along the Missouri River and in of the Loess Hill formations. These slopes are considered very susceptible to erosion. Land-altering activities should generally be avoided or developed with consideration to drainage and topography.

Slopes in excess of 14% are predominately located in the Loess Hills formations in the west part of the county. These slopes are considered very susceptible to erosion; here land-altering activities should be avoided.

Slopes in excess of 18% are predominately located in the Loess Hill formations. These slopes are considered very susceptible to erosion and are typically too steep for any development.

HYDRIC SOILS

Hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Hydric soils along with hydrophytic vegetation and wetland hydrology are used to define wetlands. Hydric soils are

most intensely located along the Nishnabotna River and at various locations along the Missouri River. Other locations containing hydric soils are scattered throughout the county.

FLOODPLAINS

These are areas that will be inundated with water during the 100-year frequency storm event. Contemporary floodplain regulations require elevation of finished floor levels one foot above the 100-year flood level. Most of the land along the Missouri River corridor, Nishnabotna River corridor, Keg Creek, Indian Creek, and Silver Creek corridors are designated as 100-year floodplain.

URBAN SUITABILITY

Urban suitability displays those areas that have severe limitations, including shallow excavation, dwellings with basements, and commercial buildings, based on soil properties, site features, and observed performance of the soils.

Shallow excavations are trenches or holes dug to a maximum depth of eight or nine feet for basements, graves, utility lines, open ditches, and other purposes. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The depth to a seasonal high water table and the susceptibility of the soil to flooding affects the time of the year that excavations can be made. Soil texture and depth to the water table also affect the resistance of the excavation walls or banks to sloughing or caving. A severe limitation indicates soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs are required. Special feasibility studies may be required where the soil limitations are severe.

Dwellings with basements are structures built on shallow foundations on undisturbed soil. A high water table, flooding, shrinking and swelling, expandable clays, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction.

Small commercial buildings are those buildings that are less than three stories without basements. The foundation is assumed to be spread footings of reinforced concrete at a depth of two feet or at the depth of maximum frost penetration, whichever is deeper. A severe limitation indicates soil properties or site features are so unfavorable or so difficult to overcome that special design,

significant increases in construction costs, and possibly increased maintenance would be required. Special feasibility studies may be required where the soil limitations are severe.

Urban Suitability limits construction throughout the county, but most intensely surrounding the Loess Hills and along Silver Creek, West Nishnabotna River, and Missouri River bottom. Nearly level to strongly sloping lands dominate the county. Land most suitable for urban development is found in stream terraces in the central portion of the county, but outside the floodplains and hydric soils associated with the West Nishnabotna River. An important consideration is to associate agricultural development, such as animal confinement operations, with urban development when considering severe limitations.

INFRASTRUCTURE CONSIDERATIONS

RURAL WATER SYSTEMS

Mills County is currently not served by a countywide rural water system. Current rural water service areas include:

- West of Glenwood along Hilman Road and forking to Hawley Road, 220th Street north to Goode Road and East to 221st Street, south to 225th Street.
- South of Glenwood along 221st St. South to Pacific Junction. North on 195th Street to Hanna Avenue, west to 190th Street, south to Hammond Avenue, north to the Interstate 29 rest area.
- West of Pacific Junction along Jesup Avenue for approximately one mile to 190th Street, North to Hammond Avenue.
- South of Pacific Junction on 195th Street to south of Kelting Avenue.
- East of Glenwood along 245th Street to Marian Avenue. Service continues north along Marian Avenue to the church.
- North of Glenwood between 221st Street and 230th Street and South of Barrus Road serves the Lake Ohana Subdivisions.
- 2 ½ miles North of Glenwood along 221st Street serves the Woodfield Subdivision.

- City of Hastings has a new public water system.

Rural water is discussed in Chapter 6.

RURAL SEWER SYSTEMS

Mills County is not served by countywide rural sewer system. Some areas surrounding Glenwood do receive some sewer service from the city. The most significant sewer extension extends south of Glenwood along Kane Avenue to Pacific Junction. This line continues north of Pacific Junction along 195th Street (L31) to Highway 34, where it intercepts Interstate 29 and continues north to the rest stations along the interstate.

City of Silver City has installed a new sewer system.

CHAPTER 5: LAND USE PLAN

Mills County is likely to experience continued development during the next 20 years. The attractions of scenic land and a rural lifestyle appeals to a segment of metropolitan area residents, and has generated substantial housing demand. The projections presented earlier in this plan suggest a countywide population increase of 3,696 between 2000 and 2020. The Glenwood Comprehensive Plan indicates that about 1,133 of the additional people (or about 30%) will take place within the City of Glenwood. Of the remaining projected population growth:

- About 184 will be within other municipalities in the county, based on growth experienced during the 1990s.
- The balance, or 2,379 people, will be in the rural county outside of municipal boundaries.

Virtually all of these new residents outside of Glenwood will be owner-occupants. Assuming an average of 2.7 people per household, the six smaller county towns will account for a demand of about 68 units, while the balance of the county will generate a demand for about 881 new units. The following table displays the number of acres that will convert from agricultural to residential land use to accommodate this demand.

Most development will occur using well and septic systems, making densities in the one acre per unit range inadvisable. However, the density, design, and distribution of development will have a significant effect on the character of the county.

This section establishes a Land Use Plan for Mills County, based on the principles outlined in the introduction to this plan. The Land Use Plan utilizes the analysis set forth in previous sections to define land use concepts and categories for the county jurisdiction.

THE MILLS COUNTY LAND USE PLAN: MAJOR CONCEPTS

Agriculture will remain the primary land use within Mills County throughout the life of this plan. However, growth and change in and around the metropolitan areas and the development of more intensive agricultural practices can radically change the character of rural Mills County. Without a structure of basic concepts, growth will occur in an unmanaged way, adversely affecting the character of the rural landscape and compromising those values and features that

are attractive to both present and future residents. The basic land use challenge posed for the county jurisdiction involves accommodation of current development pressures while maintaining and preserving the rural character of the land. The basic concepts presented in this section establish the guiding principles that can provide this needed and desirable balance.

The basic principles and concepts designed to meet the challenge of growth and preservation of rural character in the county include:

- MAINTENANCE OF RURAL CHARACTER
- VALUE OF RESOURCE CONSERVATION
- GRADIENT OF DEVELOPMENT
- SPECIAL RESIDENTIAL ENVIRONMENTS
- CONSERVATION DEVELOPMENT
- REGIONAL RECREATION
- BALANCING DEVELOPMENT AND PRESERVATION IN THE LOESS HILLS

MAINTENANCE OF RURAL CHARACTER

The area of the County outside of community jurisdictions should maintain itself as a relief to conventional suburban development and should maintain the character of the rural landscape. In this way, it acts as a greenbelt.

The comprehensive plan for Glenwood anticipates urban residential development to a projected urban growth limit defined by probable development demand and provides a guide for the efficient extension of transportation, infrastructure, and open space systems to serve this broader area. This concept of development within the Glenwood jurisdiction provides abundant land for expansion of conventional urban subdivisions. Development in rural Mills County should provide a counterpoint to conventional urban development, using the special landforms to provide an alternative to prevalent urban development patterns. Ideally, Mills County should offer a choice of quality community settings and efficient and attractive rural residential environments.

VALUE OF RESOURCE CONSERVATION

Development areas in the County jurisdiction should be defined on the basis of their suitability for development and the presence or absence of major natural resources and features. Those areas that possess the greatest environmental sensitivity or most important assets should be preserved.

The county jurisdiction includes important environmental assets, identified in Part Two of this plan. These include steep slopes, floodways, wetlands, river corridors, wildlife management areas, and Loess Hills. The conservation of these important features can make the county jurisdiction special and distinguish development in the area from conventional development.

The concept of balancing environmental conservation and development calls for establishing policies that preserve the rural landscape, while permitting owners and developers the same yield on property that they would experience with conventional development.

Standards for development in the County should:

- Restrict the amount of development taking place within available 100-year floodplain areas.
- Require special use permits with restricted construction practices for developments in areas identified environmentally sensitive.
- Preserve existing forested areas and tree canopies to the maximum degree possible.
- Protect all unique geographic or geologic formations, such as the Loess Hills.
- Minimizing impact on designated wetlands and other essential ecosystems. As a first priority, development should avoid causing any impact on wetland areas. If this is impossible, development should minimize impact. As a last resort, wetland impact may be mitigated by reconstruction of new wetlands.

GRADIENT OF DEVELOPMENT

Developable areas between the agricultural floodplains associated with the Missouri and West Nishnabotna River and the urban development of the community jurisdictions should be viewed as a gradient of development, combining the attributes of reasonable residential growth with preservation of rural character.

Land development and intensive agriculture conflict with one another, but both are accommodated in Mills County. Urban development is likely to remain concentrated north of Highway 34 and west of 287th Street and the Wabash Trace Nature Trail, and in and around the county's seven towns. Land use policy should minimize conflicts that can obstruct the ability of both residents and farmers to use land in their preferred ways. Within areas that experience enough development to make residential use dominant, intensive animal production or Confined Animal Feeding Operations (CAFO) uses should be avoided. On the other hand, residential encroachments should be avoided in primary agricultural eastern parts of the county. Here, agriculture in all its variety should be maintained as the primary use. This gradation of development and agriculture is logical in Mills County. However, current Iowa State law prevents counties from regulating agricultural uses. The county should work with other governmental subdivisions to develop new legislation that intelligently regulates land use in rural areas. This legislation is intended to accommodate all needs, and reserve the right of agricultural uses to continue free of conflicts with encroaching residential development.

SPECIAL RESIDENTIAL ENVIRONMENTS

Residential development in the county jurisdiction should provide residential environments that conventional growth within metropolitan jurisdictions does not or cannot accommodate, but which have unique value.

Conventional suburban subdivision growth provides relatively homogeneous, undifferentiated environments. Residents seeking alternatives often gravitate to rural areas. Mills County offers three residential environments that are not ordinarily found in the urban or metropolitan areas:

- Rural development, providing the sense of living within rural areas and open country.
- Opportunity for traditional and non-traditional agricultural activities as a second source of income or as a hobby.
- Small towns. The towns Malvern, Pacific Junction, Emerson, Silver City, Hastings, Henderson, and the unincorporated community of Mineola provide a special quality of community life that is becoming increasingly popular when convenient to employment centers. While not located within the county's jurisdiction, the traditional civic quality of these towns provides unique living situations in the rural county.

Residential development policy should emphasize the expansion of these proven residential assets, while not providing more of the same type of development that is more appropriately found within municipal jurisdictions.

CONSERVATION DEVELOPMENT

In rural development areas, land use policy should encourage or require the development of conservation subdivisions, preserving major open space assets as common or open ground while providing developers with the same development yield and overall density as would be permitted with conventional development.

Conventional, large lot subdivisions are often designed in the same way as conventional subdivisions, only with larger lots. In many cases, these designs compromise or degrade the very sense of low density and rural character that cause people to move to the edges of cities. In areas where preservation of rural character is a major value, the concept of conservation subdivisions is more appropriate. This priority is particularly important in Mills County, where the unique Loess Hills are also the area of highest demand for low-density residential development.

The Conservation Development method is especially applicable to these vulnerable areas. In conservation subdivisions, the density yield of a parcel of ground remains neutral. However, environmental assets are pooled together as open spaces or preserves, in exchange for somewhat smaller lots, clustered in the built-up part of the development. The open space may be owned in common by property owners, or may be maintained in private ownership. Conservation designs, skillfully executed, are more successful at preserving such features as vistas, waterways, and agricultural lands, than conventional parceling. As a result, this technique preserves environmental features, thereby furthering the public interest, while at the same time creating more appealing development. Land development ordinances should prohibit the further platting of land designated as common open space within conservation subdivisions.

The concept of conservation development encourages developers to preserve areas of environmental or scenic significance in exchange for allowing greater development density in other parts of the project or by lessening the minimum lot size of the parcel if the overall percentage of open space or agricultural land stays constant. Minimum lot size standards should be observed for construction of private septic system and wells. However, constructing

common water and wastewater systems in place of private systems will allow an even greater development density.

Within certain projects, areas of unique significance may exist whose preservation should be required through project design. These may include small natural areas such as wetlands, prairie remnants, sensitive soils, or individual trees. The county should amend the subdivision regulations to establish a mechanism requiring the preservation of these limited areas. Additional mechanisms should be implemented for areas with steep slopes that are difficult to develop or adversely impacts the surrounding area, particularly in the Loess Hills.

REGIONAL RECREATION

The county plan should provide opportunities for popular forms of recreation, including camping, multi-use open space, water recreation, bicycling, and trail activities.

Regional recreation is a fundamental concept in the county plan. Components of the recreational program include:

- The existing State Parks, County Parks, Wildlife Management Areas, and State Recreation Areas located throughout the county.
- The Wabash Trace Nature Trail and future trails.
- Establishing greenway corridors surrounding major waterways including Missouri River, West Nishnabotna River, Silver Creek, Indian Creek, and Keg Creek. The greenway corridor should provide public recreational opportunities while minimizing the level of impact on the surrounding ecology.

BALANCING DEVELOPMENT AND PRESERVATION IN THE LOESS HILLS

The Loess Hills is a unique environmental feature that is found only along the western edge of Iowa and in parts of China. The hills began forming approximately 18,000 years ago once glaciers began melting and northwesterly winds started blowing silt along the eastern bank of the Missouri River. The buildup of soil creates bluffs that are characterized by steep slopes overlooking the Missouri River Valley.

Today, the Loess Hills offers an attractive rural environment that encourages residential development. As development escalates, the Loess Hills becomes increasingly suburban, threatening this unique ecology.

Future development in the Loess Hills should respect the existing soil conditions, slope, and rural character. Strategies for balancing development and preservation of the land, include:

- Creating flexible zoning regulations that utilizes creative designs, such as conservation development techniques, and prohibits uses that dramatically affect the ecology of the Loess Hills.
- Acquiring land for preservation.
- Establishing conservation easements.
- Creating cooperative partnerships with landowners.
- Protecting conservation areas from adjacent site impacts.

MILLS COUNTY FUTURE LAND USE PLAN: BASE ZONING DISTRICTS

Base zoning districts will guide development within the planning jurisdiction of Mills County. The following descriptions identify the base zoning districts:

Agriculture District (AG)

The AG District promotes agricultural uses, including crop and animal production. Much of this area is beyond the probable demand for residential development within the foreseeable future. However, encroaching residential uses, even if scattered, create potential conflicts with intensive agriculture. In Agriculture Districts, a wide range of agriculture activity is encouraged. Opportunities for other uses will exist, but the emphasis will be on agricultural uses, whereby land use conflicts will be minimized.

Agriculture Residential District (AR)

The AR District recognizes residential development in and around the Loess Hills region where slopes are low to moderate and there is significant demand for residential development. Land

within this district is likely to continue being subdivided or otherwise used for low-density rural residential development. The County should encourage conservation subdivision development and Low Impact Development and community water/wastewater systems when feasible.

Loess Hills Conservation Development District (LH)

The LH District recognizes the importance of the fragile and unique landform of the Loess Hills and the demand for residential development within that landform. The concept of conservation development encourages preservation of areas that are environmentally sensitive or have scenic significance in exchange for allowing greater development density in other parts of the project or by lessening the minimum lot size of the parcel if the overall percentage of open space or agricultural land stays constant. A minimum of 3 acres per unit is allowed in this district. Planned Unit Development (PUD) sites can be smaller (a minimum of 10,000 square feet), but must include public water and wastewater supply along with conservation development concepts such as low impact development.

Convenience Commercial District (C-1)

The C-1 District is intended for commercial facilities that serve the needs of markets ranging from a rural community to the overall region. Permitted commercial and office uses are generally compatible with nearby residential areas, with development standards designed to minimize the effects of traffic and operation characteristics. C-1 districts are appropriate at major intersections or at the periphery of a rural community.

Highway Oriented Commercial District (C-2)

The C-2 District includes major road corridors in rural areas that attract high quality commercial and industrial development. The district should allow commercial uses and limited industrial uses.

Industrial District (I)

The I District is intended to accommodate a wide variety of industrial uses, some of which may have significant external effects. These uses may have operating characteristics that create conflicts with lower-intensity surrounding land uses. The district provides the reservation of land for these activities and includes buffering requirements to reduce incompatibility. The I District applies to areas that provide logical locations for major industry, based on transportation and locational assets.

Village District (V)

The V District is intended to provide for residential and commercial development in existing, long-standing rural unincorporated villages. These areas generally include single-family detached and attached dwellings on relatively large lots, sometimes with supporting community facilities and urban services, including water and sanitary sewer. The V District is appropriate to areas in the county within identifiable communities, such as Mineola and Strahan. The use of the V District for development using private infrastructure should be discouraged, although it is not prohibited.

Urban Reserve District (UR)

The UR District represents the sphere of influence and area of growth for communities. Residential development is attracted to areas surrounding communities because of their adjacency to services. Yet this development using wells and septic systems can block the eventual extension of urban services and can discourage orderly community growth. New development may be permitted subject to agreements to future annexation to the city and to connect to city services when extended.

Open Space District (OS)

The OS District maintains open uses in areas that provide major environmental resources or should not receive conventional development. These areas include wetlands, lakes, rivers, and other distinctive environmental features. These natural resource areas, while recognized by the County Comprehensive Plan, are not appropriately described by traditional base zoning districts. Flood prone areas may be included within the OS District.

Grading Permit Overlay District (GP Overlay)

The GP Overlay District identifies the unique land formation of the Loess Hills and establishes regulations to control development that adversely affects the integrity of the region. This district also establishes a County Grading Permit requirement throughout Mills County. It proposes standard environmental management measures for controlling erosion and dust, maintaining drainage patterns and groundwater quality, establishing buffers, encouraging community infrastructure systems, and restoring the landscape.

Planned Unit Development District (PUD Overlay)

The PUD Overlay District is intended to provide flexibility in the design of planned projects; to permit innovation in project design that incorporates open space and other amenities; and to insure compatibility of developments with the surrounding urban environment.

GREENWAY CORRIDORS

Greenway corridors are designed to protect major drainageways, and other important environmental features. Vegetation, forests, hydric soils, and soil limitations make these corridors relatively unsuitable for development. These open space corridors also offer significant recreational values.

Mills County's five major environment corridors follow the Missouri River, Indian Creek, Keg Creek, Silver Creek, and West Nishnabotna River. Because these areas offer unique opportunities for recreation development that serves local needs and provides services to travelers should be developed.

- **Existing Wabash Trace Nature Trail**

The Wabash Trace Nature Trail is a rails-to-trails project that runs from Council Bluffs, Iowa to Blanchard, Iowa. The trail is owned by the Iowa Natural Heritage Foundation and travels from the northwest to southeast parts of the County, through Mineola, Silver City, and Malvern. The trail, one of America's finest facilities, offers unparalleled recreational opportunities to residents of Southwest Iowa and Omaha-Council Bluffs metropolitan area. Its ability to attract visitors has created business opportunities in trail communities. To date, these have focused on services to trail users. However, rural trails in other settings have also encouraged development of other types of special businesses.

- **Missouri River Trail**

A new north-south trail following the Missouri River would offer excellent recreational opportunities for bicyclists and hikers and produce additional business development opportunities in the county. The existing berm that the Corp of Engineers manages could accommodate the trail. The area surrounding the berm offers excellent views of the Missouri River and the bluff edge of the Loess Hills. Future recreational opportunities, such

as camping, canoeing, and fishing area, should be developed for trail users including camping, canoeing, and designated fishing areas.

The development of this trail is supported by the Missouri River Corridor Project. In addition, Iowa Legislation (Code 463) identifies the Missouri River as a valuable asset to the state, county, and its cities. It charges the Missouri River Preservation Authority with comprehensive planning responsibilities for the area adjacent to the Missouri River. The Missouri River Preservation Authority has the power to acquire, preserve and restore the land while allowing the development of multipurpose recreational uses, including but not limited to a bicycle path.

The county should encourage the state to support the Missouri River Preservation Authority.

- **Extension of the Indian Creek Greenbelt**

An extension of the existing Indian Creek Complex between Old Highway 34 and Northern Burlington Railroad would provide additional greenspace between the existing greenbelt and Indian Creek Complex.

- **Proposed Keg Creek Trail**

A proposed trail along the Keg Creek levee provides access from the proposed Missouri River Trail to Glenwood. This trail should connect into the Glenwood's park and trail system and continue north along Keg Creek. As the trail approaches Barrus Road (County Road H12), it should deviate from the creek to intersect the Wabash Trace Nature Trail in Mineola.

- **Proposed Highway 34 Trail**

The Iowa Department of Transportation's statewide trails plan proposes a new trail along Highway 34 from Wabash Trace Nature Trail to Red Oak. This trail should follow the highway and provide linkages to downtown Hastings and Emerson Park.

- **Proposed Canoe Landings along West Nishnabotna River**

Creating canoe landings will provide improved access to the West Nishnabotna River. Canoe landings should be developed along paved roads. Ideal locations include:

- Brothers Avenue near Henderson.
- Highway 34 near Hastings.
- 315th to 330th Street (County Road L68), south of Malvern.

- **Proposed Boat Launch along the Missouri River**

A new boat launch along the Missouri River near the proposed Plattsmouth Bridge would provide new recreation opportunities to the people of Mills County and the surrounding area.

Parks and Open Spaces

Parks and open facilities include recreation facilities through easements or by state/county/non-profit acquisitions. They may include linked corridors defined in conservation developments. Potential sites include St. Mary's Island, Folsom Lake, West Oak Forrest, Pony Creek Park, Haney Slough, Keg Lake, Nottleman Island, Willow Slough, and Ray Thomas Wildlife Refuge.

The parks and open space plan proposes a new regional park site south of Highway 34 between Hastings and West Nishnabotna River. The park should offer several recreational activities including canoeing, fishing, camping, hiking, and bicycling. Creating waterfront access along the West Nishnabotna would increase opportunities for fishing and canoeing. Developing a new trail south of the park to the Wabash Trace Trail would provide parking and camping opportunities for bicyclists and hikers.

CHAPTER 6: TRANSPORTATION, INFRASTRUCTURE, AND PUBLIC FACILITIES

This section addresses community service systems necessary to support the concepts and directions of the Land Use Plan.

STREET CLASSIFICATION

Principal roads are classified as follows:

Major Arterials include Interstates, State and Federal Highways:

- Interstate 29 extends north-south through the western portion of the county.
- US Highway 34 extends west of Highway 59 to Interstate 29 through the center of the county. It travels by the Cities of Emerson, Hastings, and Glenwood and connects to Interstate 29.
- US Highway 59, extends north-south through the eastern portion of the county, by the City of Emerson.

Minor Arterials. These roads generally follow section lines and are paved to rural standards with gravel shoulders.

- 221st Street extends north-south through the western portion of the county. It enters Mills County from Pottawattamie County and travels to the City of Glenwood. US Highway 275 extends from Highway 34 south to Tabor.
- State Highway 370, located in northwest portion of the county, connects to Interstate 29, then becomes Bunge Road before connecting to 221st Street.
- County Road L63, or 310th Street, extends north-south through the south-central portion of the county.

Collectors. These county roads are generally found on section lines and are gravel. These roads primarily provide agricultural access. However, they also provide access to rural residential developments that are within Glenwood's two-mile jurisdiction.

Minimum Maintenance. These roads generally follow section lines, although some leave the grid or use half-section line routes near the Loess Hills. Minimum maintenance roads are unpaved roads and provide local agricultural access. The level of operation is dependent upon weather conditions.

TRANSPORTATION PLAN

Transportation Plan displays the proposed transportation plan for the county, based on both regional needs and the future requirements of development proposed in the Land Use Plan. The county receives approximately \$4.2 million annually for the maintenance and upgrades for transportation related improvements. Elements of the Transportation Plan include:

Expressways and Major Arterials

- *Interstate*

US Interstate 29 is the major north-south route through Mills County, providing the major access north to the Omaha/Council Bluffs metropolitan area and south to Kansas City. Mills County has three major accesses along the interstate, with interchanges at Highway 370, Highway 34, and 221st Street South.

- *US Highways.*

- US Highway 34 is the major east-west arterial through Mills County, providing major access to Interstate 29 and the communities of Mills County. The highway is a divided four-lane road from Interstate 29 to approximately two miles east of Glenwood, at which point it becomes a two-lane road to Montgomery County.

Currently, two plans are under consideration for the improvement of Highway 34. One plan recommends extending Highway 34 over the Missouri River to connect with Bellevue, Nebraska. The other plan is improving the highway to a four-lane road to Red Oak in Montgomery County. These substantial projects will have important transportation and economic development benefits to the county and its communities.

- 221st Street is a two-lane, north-south minor arterial in western Mills County, following the base of the bluffs south from Council Bluffs. The route combines with US Highway 34

for four miles, continuing south to Tabor via US Highway 275. Recently, the roadway was resurfaced and widened by four feet. This segment north of Glenwood continues to experience increasing traffic volumes, and is likely to need improvement within ten years.

- US 59 is a two-lane, north-south major arterial along the eastern edge of Mills County. This highway provides access to many western Iowa's county seats. This roadway is in good condition and needs regular maintenance.

- *State Highways*

- Highway 370 is a two-lane minor arterial that crosses the Missouri River from Bellevue, Nebraska, then intersects with Interstate 29 and continues northeast to Pottawattamie County via Bunge Road. Highway 370 is in good condition. Recent improvements include reconstruction of the Bellevue Bridge over the Missouri River. The future of this crossing remains undecided, with the possibility of two additional crossings on the Highway 34 alignment near Plattsmouth.

- 221st Street South is two-lane and is classified as a major collector. This road was previously designated as Highway 978 before its realignment. 221st Street South is a direct route from Glenwood to Interstate 29. The roadway is in fair condition.

- 284th Street is a two-lane major collector that begins from Silver City and extends south to Highway 34. Highway 34 is the major east-west route across the county. 284th Street is in fair condition. Significant improvements need to be made to the railroad overpass.

- 315th Street is a two-lane spur connecting Malvern to Highway 34. 315th Street is in good condition. Improvements need to be made to the bridge.

State roadways are managed and maintained by the Iowa Department of Transportation (DOT). Several of the state highways and bridges are in deficient condition and need improvement. The county should lobby state legislation and DOT for financing the improvements of these roadways.

Pavement Upgrades and Reconstructions

The following priorities affect roads in Mills County during the next twenty years:

- Improve several county roads. These roadways are in fair condition and need rehabilitation. These roadways include:
 - 195th Street, from Highway 370 to Highway 34.
 - 195th Street, from Paddock Avenue to Mills/Pottawattamie County border.
 - 230th Street, from City of Glenwood to Barrus Road.
 - 250th Street and Gaston Avenue, from 245th Street to 284th Street.
 - Brothers Avenue, from 350th Street to 370th Street.
 - 370th Street, from Brothers Avenue to Mills/Pottawattamie County border.
 - 360th Street, from Hastings to Paddock Avenue
 - Lambert Avenue
 - 315th Street to 310th Street or L63, south of Malvern

- Extension of Highway 34 to Highway 75 in Nebraska. The expansion will require the construction of a new bridge. The alignment of the new bridge will follow the north side of the Platte River in Nebraska. This provides a direct expressway connection to US 75, also scheduled for expressway upgrading from Omaha to Nebraska City

- Probable replacement of the Plattsmouth Bridge.

Paving of Unpaved Roads

No new roads are anticipated within the planning period. The county is adequately served by its existing street infrastructure.

Maintenance of Existing Roads and Bridges

The County should continue its ongoing program of maintaining existing roads and bridges.

TRAIL CORRIDORS

The Mills County Land Use Plan anticipates significant trail corridor use by both Mills County residents and tourists. The existing Wabash Trace Nature Trail is the most significant existing recreation opportunity in the county. All of the communities along the Wabash Trace Nature Trail have locations for trail users to stop and enjoy refreshments and food. It will be important for the county to also create linkages with this major recreational resource, providing increased accessibility and exposure to other recreation opportunities within the county. In addition to

the Wabash Trace Nature Trail, the Mills County Comprehensive Plan proposes several potential corridors, including the Missouri River Trail, Keg Creek Trail, Highway 34 Trail, and West Nishnabotna Canoe Trail.

INFRASTRUCTURE

Maintaining the existing infrastructure and providing opportunities for growth, where appropriate, is an important concern for Mills County. By efficiently planning for maintenance and strategically locating maintenance equipment and personnel, the county can ensure that maintenance and construction occur in a timely and cost effective way.

Storm drainage is handled by surface drainage throughout the county jurisdiction.

Most of the county's subdivisions utilize wells for their water supplies.

The specific infrastructure recommendations follow:

Wastewater

The operation of septic systems in larger rural subdivisions should be monitored. Within subdivisions with a gross density of more than one unit per two acres, community wastewater systems meeting contemporary treatment standards should generally be installed. In addition, the county should encourage replacement of septic systems in larger subdivisions with community systems when feasible. This is particularly important where residential densities are too high to accommodate replacement septic systems. Candidates for replacement include those areas designated for conventional subdivision development in the Land Use Plan.

In new development, the county should encourage the use of environmentally sensitive methods of wastewater treatment and disposal. The conservation concept, maintaining common open space, provides greater opportunities for development of these systems. Techniques such as spray irrigation or land treatment should be incorporated into new projects, and may represent cooperative efforts among several developments. With these methods, wastewater is aerated in deep lagoons and applied to the land surface at rates consistent with the absorption capacity of the soil.

Other techniques that should be incorporated into new development include:

- *Wastewater Reclamation and Reuse.* This represents a refinement of the land treatment option. Treatment is achieved in deep aerated cells with a residence time of 14 to 40 days. Wastes are macerated or pulped before introduction to the lowest level of the first cell. After further settlement and treatment, the water can then be applied to cropland and open space.
- *Constructed Wetlands.* Artificial wetlands are gaining growing acceptance for treatment of wastewater. Generally, this technique supplements rather than replaces septic treatment. The wetlands provide further treatment for septic effluent before that effluent is conducted to drainage fields.
- *Alternative Sewer Systems.* These systems include septic tank effluent drains, which are small diameter lines that conduct liquid effluent from septic tanks, which settle out solids. This tandem system reduces the cost of sewer lines and, by reducing solids from the waste stream, permits smaller, less expensive treatment plants.

Water Systems

- New subdivisions developed at higher residential densities should utilize common water systems. The design of these systems should complement the conservation subdivision concept proposed in the Development Concept.
- The Iowa Rural Water Association, along with various sponsors, developed a Regional Water Framework Study that evaluated the existing condition of water systems throughout the southwest region of the state, including Mills County. The plan proposes future locations of rural water mains and reservoirs.
- The existing water treatment plant will suffice for the planning period, unless significant development occurs or state regulations increase.
- Expanded water services to rural areas of the county should be utilized when possible.

PUBLIC FACILITIES

Public facilities include public buildings and community services that are necessary to support development in the jurisdiction.

Parks and Recreation

Parks and recreation concepts have been discussed within the land use plan. In addition to municipal parks within constituent towns, the jurisdiction's main regional recreational facility is the Wabash Trace Nature Trail. In addition, the county includes several privately owned recreational facilities and campgrounds.

Major park, open space, and recreation recommendations include:

- Incorporating parkland and open spaces by using the conservation subdivision concepts. The preservation of a substantial part of a subdivided parcel in common or open space will provide adequate reservations of open space for recreational purposes.
- If subdivision design do not use conservation subdivision techniques, alternative methods are necessary to preserve rural character through purchase of open space. These subdivisions should make a payment into a Special Open Space Acquisition Fund, based on a ratio of open space to platted residential land.
- Developing a detailed implementation plan for the Loess Hills, Missouri River Trail, Keg Creek Trail, Wabash Trace Nature Trail, and West Nishnabotna River corridors. This concept envisions a system of public lands, lands held by nonprofit organizations and land trusts, and private lands, united in maintaining the integrity of this unusual environment. The implementation plan and its execution should be developed in cooperation with Glenwood, Hastings, Henderson, Malvern, Mineola, Pacific Junction, and Silver City, whose jurisdictions incorporate significant parts of these corridors. It must also include adjacent property owners and the Department of Natural Resources to develop a cooperative concept for management and to define appropriate levels and locations for public use and access.
- The completion of regional parks, trail linkages, and river and trail access sites, identified earlier in this plan.

Public Facilities Inventory

Courthouse
418 Sharp Street
Glenwood, IA

The Mills County Courthouse was originally constructed in 1959 and is located in the center of downtown Glenwood.

The three story structure is constructed of precast concrete. Each floor has approximately 5,684 square feet for a total of 17,052 square feet.

Description

Several of the county's services are based from the courthouse, including district and magistrate court, clerk of court, auditor, treasurer, recorder, board of supervisors, emergency management, safety coordinator, city and county communications center, assessor, and county attorney.

Evaluation

Overall, the courthouse is in good condition. The interior of the building was recently refurbished and roof replaced. There is no elevator.

Office and storage space is limited.

Emergency management, and safety coordination need support staff to manage their programs and services.

Recommendations

Prepare a space needs assessment for county services.

Install a new elevator

Evaluate the need to hire support staff for managing county programs and services.

Public Facilities Inventory

Sheriff Department
23 N. Vine Street
Glenwood, IA

Mills County Sheriff's Department building was built in 1915. Major renovations were completed in 1979. The facility is two stories with administrative offices, 13-bed jail cell, and curbside parking. The structure is a brick construction.

Description

The department has twelve patrol vehicles, including nine marked and three unmarked. Three vehicles are replaced each year.

In 2001, the sheriff's department employed thirty-two staff members, including eleven full-time officers, ten reserve officers, three secretaries, and seven jailers.

Evaluation

Overall, the facility is in good condition but some serious issues will need to be addressed. These include:

- The area for maintaining vehicles is too small.
- The prison cells are too small and do not classify prisoners.
- The building has some security issues that need addressing.
- The existing building does not meet ADA requirements.

Recommendations

Identify a location for constructing a new sheriff's department in Glenwood to meet the county's growing needs. The new facility should include:

- A larger jail
- Multi-purpose room
- Training facilities
- 911 services
- Emergency Management Center
- Larger conferencing room
- Heated bay area

Construction or renovation of the facility will need to be ADA compliant.

Evaluate the need to hire additional officers.

Public Facilities Inventory

County Engineer
403 Railroad Ave
Glenwood, IA

Description

The new County Engineer's building was built in 2005. It consists of 5000 square feet on the main level with a full unfinished basement for Storage. It also has a meeting room/ training area which can seat approximately 65 people which is utilized by many public agencies.

Evaluation

There is ample room for the Engineering staff and the foremen. It is conveniently located next to the Glenwood shop.

Recommendations

The gravel parking lot needs to be hard surfaced. Landscaping needs to be completed.

County Yards

Glenwood Yard

401 Railroad Ave
Glenwood, IA

The Secondary Roads yard in Glenwood was constructed in 1956 with concrete block. The structure is one story tall and measures 105x45 feet (4,725 square feet). The building has a mechanic's shop, foreman's office, and four bays. A grader shed and truck shed are located on this site. It measures 50x120 feet with a total square footage of 6000 ft. The adjacent yard covers 338,375 square feet. Five tanks, a salt shed and road repair materials are in the yard, as well.

Evaluation

The maintenance shop is in fair to good condition. There's adequate space for equipment and maintenance.

Recommendations

Construct additional bays.

Construct a new building to store small trucks.

Malvern Yard

61319 315th Street
Malvern, IA

Description

A grader shed made of concrete block and a metal roof was built in the 1950's. It is located on the county fairgrounds. Two graders are stored in the building.

Evaluation

The building is in good condition and requires little maintenance.

Recommendations

Consider relocating the grader shed.

Emerson Yard

40693 Jamison Road
Emerson, IA

Description

A grader shed constructed of wood framing and a metal roof was built in 1984. The building has 2,500 square feet for storage of two graders. The adjacent yard covers 40,710 square feet.

Evaluation

The building is in good condition and requires little maintenance.

Recommendations

Develop an addition to the building.

Public Facilities Inventory

Conservation Shop Description

The structure was built in 1970 and constructed of metal. The building functions as a base for staff operations and for maintaining vehicles.

Evaluation

The building is in good condition. However, the roof needs replacing and the floor needs better drainage.

The bay area is small. At least one additional bay is needed.

The department needs more staff for improving county right-of-way management and coordinating secondary road improvements.

Recommendations

Continue routine maintenance.

Replace or repair the roof.

Evaluate the need for additional staff.

Public Facilities Inventory

Water Wells & Treatment Plant

21482 221st Street South

Description

The water treatment plant is operated by the City of Glenwood and located approximately 2.5 miles south of Glenwood along 221st Street South.

The wells are located just north of the treatment plant.

The three wells tap into the groundwater of the Missouri River bottomland. Each well has a 1,000 gallon per minute pumping activity.

The treatment plant was originally constructed in 1956 and an addition was constructed in 1973. It has a capacity to treat 4.3 million gallons per day.

The Glenwood water system also serves Pacific Junction and areas along the east side of Interstate 29 from Pacific Junction to the rest areas north of Highway 34 and along the west side of Interstate 29 to Highway 34. It also serves the Lake Ohana Subdivisions and Woodfield Subdivision north of Glenwood.

Evaluation

The wells are operational and in good condition.

The water plant's capacity is currently adequate, but major growth or service extensions will require an increase in capacity.

If state regulations lower the allowed maximum containment levels (mcl), then the water treatment plant will have to accommodate such changes.

The facility currently operates for 8 to 9 hours per day.

Recommendations

Continue routine maintenance of the wells and treatment plant.

Examine alternatives to providing additional capacity to the water system (wells and the treatment plant).

Improve rural water opportunities by following recommendations outlined in the Southwest Iowa Regional Water Framework Study prepared by the Iowa Rural Water Association. Possible recommendations to follow, include:

- Constructing a water tower north of Glenwood along Barrus Road.
- Constructing a water tower south of Glenwood along Pease Road.
- Constructing water mains from proposed towers to rural areas.

Public Facilities Inventory

<p>County Cemeteries</p> <p>Description</p>	<p>There are approximately 30 cemeteries throughout Mills County, but only two are publicly owned. They are located in Glenwood and Hastings.</p>
<p>Evaluation</p>	<p>The conditions of the cemeteries vary. Some of them receive adequate maintenance, while others receive zero maintenance.</p>
<p>Glenwood Cemetery</p> <p>1105 N. Locust Street</p> <p>Description</p>	<p>The Glenwood Cemetery covers approximately 45 acres of public burial space and 3 acres of privately owned space. The City of Glenwood maintains the property.</p>
<p>Evaluation</p>	<p>The Glenwood Cemetery is in good condition.</p>
<p>Recommendations</p>	<p>Continue routine maintenance.</p>
<p>Hastings Cemetery</p> <p>60444 360th Street</p>	<p>The Hastings Cemetery is approximately 3 acres. The Hastings Cemetery Association manages the maintenance of the site.</p>
<p>Evaluation</p>	<p>The Hastings Cemetery is generally in good condition. Some of the headstones are deteriorating or sinking.</p> <p>The number of burial plots should be sufficient during the planning period unless significant population growth occurs.</p>
<p>Recommendations</p>	<p>Continue routine maintenance.</p> <p>Improve deteriorating headstones.</p> <p>Identify opportunities for future expansion.</p> <p>Continue to improve the landscaping of the site with trees.</p>

Public Facilities Inventory

Sanitary Sewer System

60506 Kesterson Road

Description

Sanitary sewer service in the county is limited. The City of Glenwood extends its services along 221st St. South to its wastewater treatment plant, which is located approximately two miles southwest of the city. Wastewater is then treated by rotating biological contractors (RBC). Treated wastewater is then transported to the Missouri River by a force main.

The Glenwood sanitary sewer system also serves Pacific Junction to Highway 34 along 190th Street and Woodfield Subdivision along 221st Street.

Evaluation

The system is adequate and working in good condition. Segments within the Glenwood jurisdiction need to be replaced.

Recommendations

Continue routine maintenance of the sanitary sewer system.

Consider extensions along Interstate 29 from 221st Street South to just north of Highway 34 to serve commercial and industrial development programmed for the area around the interchange.

Public Facilities Inventory

<p>Solid Waste 59722 290th Street</p> <p>Description</p>	<p>Solid waste is collected and delivered to the Loess Hills Landfill located south of Highway 34 and 2 miles west of Malvern. This facility is privately owned and operated by Iowa Waste System, Inc.</p> <p>The landfill serves all of Mills County. It accepts solid waste from Pottawattamie County and communities in Missouri and Nebraska.</p>
<p>Evaluation</p>	<p>Recent litigation between Mills and Fremont Counties and the Loess Hills landfill requires the landfill to reserve funds for both its closing and post closing expenses.</p> <p>The landfill is anticipated to be at capacity within twenty years.</p>
<p>Recommendations</p>	<p>Strive to maintain state and federal regulations.</p> <p>Require the landfill to set aside funds for closing the landfill.</p>
<p>Recycling Services</p> <p>Description</p>	<p>Mills County has recycling services in most of its communities. The county recycling program collects paper and plastics.</p> <p>The cities and county share the cost of recycling. The distribution of cost between the county and the communities vary.</p> <ul style="list-style-type: none"> • Silver City pays 48% of their cost. • Glenwood pays 42% of their total cost. • Malvern pays 40% of their total cost. • Emerson pays 35% of their total cost. • Henderson pays 67% of their total cost. • Pacific Junction pays 53% of their total cost. • Hastings pays 54% of their total cost. <p>Tires are recycled through a program with Council Bluffs.</p>
<p>Evaluation</p>	<p>The recycling programs are working well.</p> <p>Illegal dumping is not a significant issue.</p>
<p>Recommendations</p>	<p>Continue to maintain the recycling program.</p> <p>Initiate a spring cleanup program for disposing bulk items.</p>

Parks Inventory

Pony Creek Park

56235 Deacon Road

Description

Pony Creek Park is located in the northwest part of the county at the southwest corner of Gaston Avenue and 210th Street. The 53-acre park offers camping, hiking, picnicking and fishing next to 82-acre pond. It also offers electricity, drinking water and restrooms.

Evaluation

The park is in good condition. The campground has recently added playground equipment. The water quality is poor and needs a new water well system.

Recommendations

- Continue routine maintenance.
- Construct a new boat access.
- Construct a new water well system.
- Update campground.

West Oak Forest

4-miles north of Pacific Junction on 195th Street

Description

West Oak Forest is located in the northwest part of the county along the eastside of County Road L31. West Oak Forest is incased in the Loess Hills and covers 308 acres.

Evaluation

The park is in good condition. It is an excellent area for hiking.

Recommendations

- Continue routine maintenance.
- Seal-coat or pave the road and parking area.

**Ray Thomas
Wildlife Refuge**

35080 Fry Avenue

Ray Thomas Wild Refuge is located in the northeast part of the county along the eastside of 350th Street and covers 90-acres.

Description

Evaluation

The refuge is in excellent condition.

Recommendations

Continue routine maintenance.

Parks Inventory

Lake George

380th Street

The 11-acre area in and around Lake George offers, fishing, and shelter.

Description

Evaluation

The lake is in good condition.

Recommendations

Provide for handicapped accessibility.
Continue routine maintenance.
Link the Lake George area to a trail system.

**Indian Creek
Greenbelt**

Description

The Indian Creek Greenbelt is located near the south edge of Emerson on 410th Street. The 12-acre area is used by students as an outdoor classroom. Several wildlife plantings surround the region.

Evaluation

The greenbelt is a quality greenspace.

The plants within the area have no identification.

Access to the creek is not available.

Recommendations

Continue routine maintenance.

Place interpretative panels that describe the plantings at the site.

Provide access to the creek by constructing a path. This construction could potentially lead to a trail along the waterfront.

Restore prairie plantings.

Parks Inventory

<p>Mile Hill Lake/ Scenic Overlook</p> <p>Description</p>	<p>Mile Hill Lake/ Scenic Overlook is located directly south of Highway 34 and two miles west of Glenwood. The park is 47 acres of wildlife that offers fishing, hunting, interpretative signs, and an observation area overlooking a 10-acre pond. A boat launch and dock are also available.</p>
<p>Evaluation</p>	<p>The park is in good condition and offers a scenic landscape.</p> <p>The site has gravel parking and roads. The park lacks signage from Highway 34 and Interstate 29.</p>
<p>Recommendations</p>	<p>Continue routine maintenance.</p> <p>Preserve view shed along roadway.</p> <p>Seal-coat the road and parking area.</p> <p>Construct directional signage, along Highway 34 and Interstate 29.</p>
<p>Loess Hills Scenic Byway</p> <p>Description</p>	<p>The Loess Hills Scenic Byway is a north to south route through Mills County along 221st Street and a portion of Highway 34. The Scenic Byway includes two excursion routes, Pony Creek Loop and Waubonsie Loop. The Pony Creek Loop is a 9-mile gravel road located north of Highway 34 and passes through Pony Creek Park. The Waubonsie Loop is a 14-mile paved and gravel road located south of Hwy 34.</p>
<p>Evaluation</p>	<p>The scenic byway is considered one of the finest in the nation.</p>
<p>Recommendations</p>	<p>Market the Loess Hills Scenic Byway.</p> <p>Determine methods for preserving the scenic landscape from being developed.</p>

CHAPTER 7: IMPLEMENTATION

This section addresses steps necessary to implement key provisions of the Mills County Comprehensive Development Plan.

INTERLOCAL COOPERATION

The Mills County Comprehensive Plan is designed to provide land use policies that preserve the rural character of the county's landscape while providing opportunities for diversified agricultural pursuits. However, growing communities with annexation programs mean that municipal planning jurisdictions are likely to change over time. These jurisdictional boundaries may come into conflict with each other and with the policies established in this plan. The County should act as a facilitator to establish inter-local partnerships to guide development in rural areas in the county and at the fringes of extra-territorial jurisdictions. Therefore, the County should promote inter-local cooperation among its municipalities that:

- Establishes consistent policies regarding development of rural areas, without restricting the ability of municipalities to exercise local zoning control within their jurisdictions.
- Establishes an ongoing system of consultation and cooperation among the county's various planning jurisdictions.

LAND USE REGULATION

Updated land use regulation is a key area of plan implementation. In recognition of this, Mills County has adopted subdivision and zoning ordinances. These ordinances should be reviewed and updated on a regular basis.

Permitted densities that are consistent with the Zoning regulations for Mills County include:

- A minimum of 2 acres per unit is allowed in the AR District. These areas are contiguous to existing small lot subdivisions within city jurisdictions. Variations of lot densities will be considered based on the use of conservation and low impact development techniques as well as public water/wastewater systems.
- A minimum of 3 acres per unit is allowed in the LH District. This area establishes special use permits and performance standards for land-disturbing activities. Resource extraction uses are prohibited as well.

- Planned Unit Development (PUD) sites can be smaller (down to 10,000 square feet in lot size) and must include public water/wastewater systems along with conservation development such as low impact development.
- A minimum of 40 acres per unit is allowed in the AG District with a maximum of 3 residences per unit.

In order to implement Land Development Regulations, the County will also:

- Create a new County Planning Commission Board for reviewing proposed development plans within the County jurisdiction.
- Develop special regulations for conservation subdivisions.
- Modify subdivision standards to encourage innovative methods of water and wastewater treatment.

TRANSPORTATION PLAN IMPLEMENTATION

Major capital expenditures are anticipated with proposed transportation improvements. Funding sources for construction include:

- General obligation bond proceeds.
- Federal funds (TEA-21 or successor programs) for financing improvements on the major highway system.

Trail development has generally been funded by private organizations, local bond proceeds, TEA-21 Enhancements, and county or Department of Natural Resources contributions. Trail projects associated with major transportation corridors should be considered as part of the overall improvement budget.

PARKS AND OPEN SPACE

The county should implement the park and open space recommendations of the plan by:

- Initiate creating of a Mills County Park study committee, charged with a development plan for a new public regional park located south of Highway 34 and along the east-side of West Nishnabotna River. The committee should include major stakeholders including the county, adjacent communities, and private owners. The committee should identify potential recreation uses including fishing, camping, and canoe access.
- Creating a Keg Creek Trail study committee, charged with developing a management plan for this important natural resource. The committee should include the county; private property owners; Glenwood, whose planning jurisdictions include some parts of the corridor; and the unincorporated area of Mineola. The objective of this plan should be the creation of a diverse network of ownerships, united toward protecting private property rights while maximizing conservation and public use of the creek corridor. Economic development efforts, such as creating attractions and linkages to promote tourism within Mills County should also be a priority of the committee.
- Start a Missouri River Trail committee, charged with working with the Missouri River Preservation and Land Use Authority, Corps of Engineers, Iowa Department of Transportation, and Department of Natural Resources to open recreational access to the Missouri River. Secure funding for a new regional trail along the Missouri River. Components of the plan should include a trailhead, river access, boat ramp, camping, parking, and other recreational opportunities.