



# THOMAS COUNTY, NEBRASKA COMPREHENSIVE PLAN

2019-2029



AUGUST, 2019

PREPARED BY:

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# THOMAS COUNTY, NEBRASKA COMPREHENSIVE PLAN 2019-2029.

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**SECTION 1:**  
**THE THOMAS COUNTY**  
**PLANNING PROCESS.**



## THE THOMAS COUNTY PLANNING PROCESS.

### THE COMPREHENSIVE PLAN

This **Comprehensive Plan** was prepared as an update to the existing **Thomas County Plan**, completed in 2002. This updated **Plan** will serve as a guide to direct future growth and development opportunities in **Thomas County, Nebraska** during the 10-year planning period, 2019 to 2029.

The focus of this **Comprehensive Plan** is to assess the effectiveness of balancing the preservation and protection of agricultural production lands for agricultural uses, with the appropriate locating of development for non-farm dwellings and rural subdivisions.

The implementation of this **Comprehensive Plan** should be guided by “*Goals & Policies*,” as determined by the evaluation and analysis of “*Population, Income, & Economic Profile*,” “*Land Use Profile & Plan*,” “*Public Facilities & Transportation*” and an “*Energy Element*.” The intent of this **Comprehensive Plan** is also to serve as a foundation and guide for the implementation of **Zoning and Subdivision Regulations**, as needed, to achieve the specific **Goals and Policies** identified in the **Plan**.

This **Comprehensive Plan** is intended to provide policy guidance to enable the residents and elected officials of the County to make decisions based upon the consensus of opinion by the **Thomas County Planning Commission**. Plan implementation methods should include incentives to stimulate private action consistent with the **Plan** and the use of Local, State and Federal programs for County-wide economic development activities.

The **Comprehensive Plan** was prepared under the direction of the **Thomas County Planning Commission** and Planning Consultants, **Hanna:Keelan Associates, P.C.**, of Lincoln, Nebraska.

**PLANNING PERIOD**

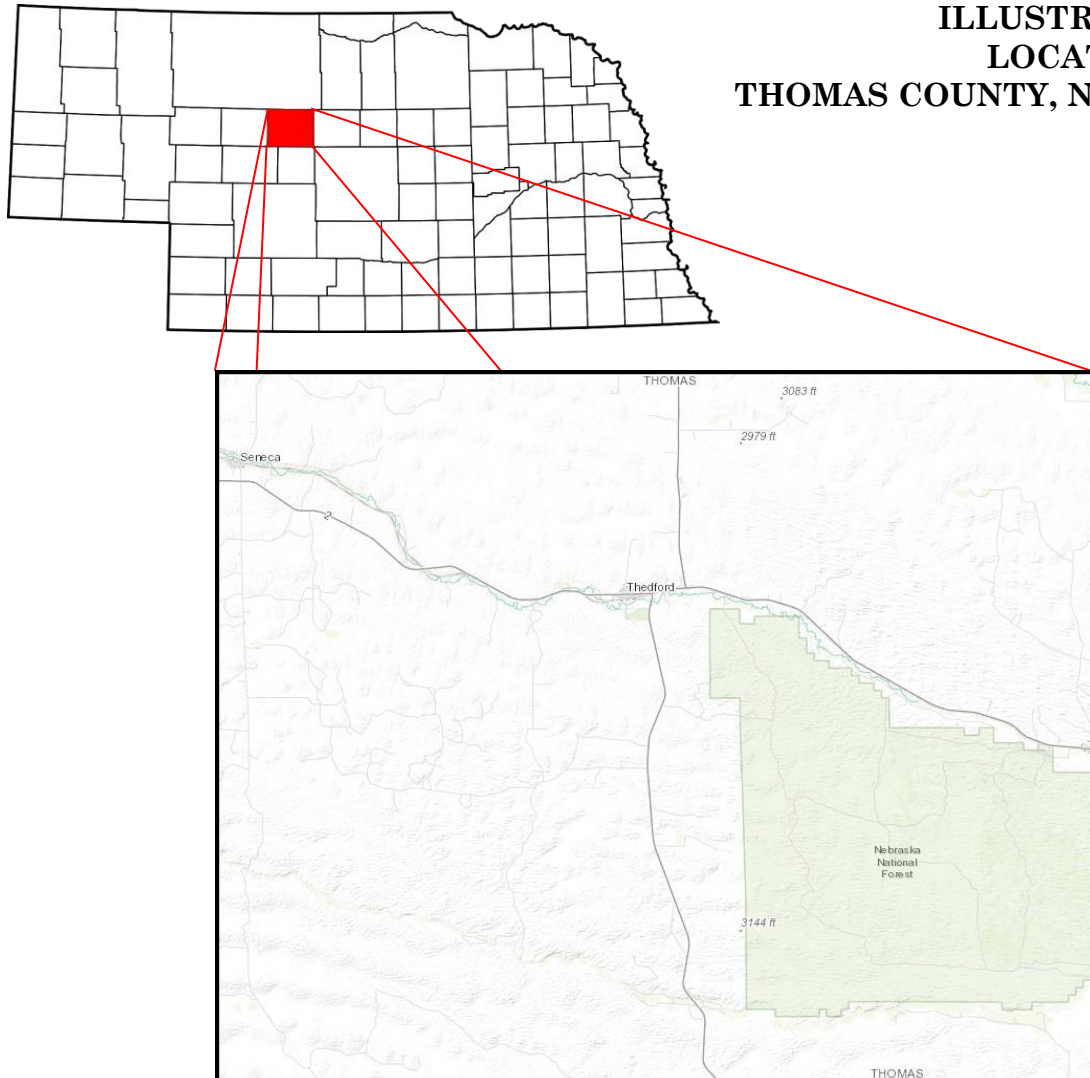
The planning time period for achieving the goals, programs and economic development activities identified in this **Comprehensive Plan** for Thomas County, Nebraska, is 10 years (2019-2029).

**AUTHORITY TO PLAN**

This **Comprehensive Plan** for Thomas County is prepared under the Authority of Sections 23-114 to 23-174.10, Nebraska State Statutes 1943, as Amended.

**AMENDMENT**

The **Comprehensive Plan** may be amended or updated as the need arises as provided in the Nebraska State Statutes.



**ILLUSTRATION 1.1  
LOCATION MAP  
THOMAS COUNTY, NEBRASKA**







**SECTION 2:**  
**GOALS & POLICIES.**



## GOALS & POLICIES.

### INTRODUCTION

The **Comprehensive Plan** plays a major role in the future growth and sustainability of Thomas County. Important components of this **Plan** are specific planning **Goals** and **Policies** that provide local leadership with the direction for the administration and overall implementation of the **Plan**. In essence, **Goals** and **Policies** are the most fundamental elements of the Plan; the premises upon which all other elements of the **Plan** must relate. The following **Goals** and **Policies** will be in effect for the period of the **Thomas County Comprehensive Plan, 2019 to 2029**, pending annual review.

**Goals are broad statements**, identifying the present state or condition of the planning area and what the area could or should evolve into during the planning period. Goals are established for the primary components of the **Comprehensive Plan**, including **land use, housing, economic development, public facilities and transportation and plan maintenance and implementation**. Goals are long term in nature and, in the case of those identified for this **Comprehensive Plan**, will be active throughout the **10-year planning period**.

**Policies help to further define the specific actions to accomplish specific goals**. Policies, or often referred to as objectives, are sub-parts of a Goal and are accomplished in a much shorter time space.

The following **Goals** and **Policies** are the result of both qualitative and quantitative research conducted in association with the **Comprehensive Plan**. The **qualitative research** has included input received from the **Thomas County Planning Commission** and **general public**.

### GENERAL GOALS

The first step in developing **Goals** and **Policies** for this **Plan** is the creation of **general goals**. These “**General Goals**” were developed to "highlight" **important** elements of this comprehensive planning process, as determined via field analysis and the formation of "key" issues with the public.

**The following represents the General Goals associated with the rural, unincorporated areas of Thomas County.**

1. Protect and preserve the agricultural industry, including the diversity of crops and cattle/calf production. Historically, agriculture has been the primary income producing activity for Thomas County, and is anticipated to remain as such through the 10-year planning period.
2. Encourage proper rural housing development activities and job creation opportunities to stabilize the Thomas County population.
3. Promote the lifestyle and amenities of Thomas County to broaden the economic base and expand economic development and employment opportunities.
4. Promote citizen participation by persons of all ages and incomes to ensure the preservation improvement of the economic and social quality of life in Thomas County.
5. Collaborate and promote programs in conjunction with Nebraska Games and Parks and the Upper Loup NRD to promote the use of the Dismal River, Middle Loup River and the Nebraska National Forest at Halsey.
6. Enforce the **Comprehensive Plan** and appropriate planning and zoning administration procedures to ensure the proper implementation of the Thomas County Future Land Use Map and Zoning Regulations.
7. Maintain and strengthen relationships between the County and the Villages of Thedford and Halsey to produce planning and development practices supportive of proper land usage, economic growth, housing, public facilities and services, transportation and recreation.
8. Maintain a flood plain evaluation and administration process in Thomas County that fits with both proper development activities and flood mitigation efforts. This includes finalizing and implementing **minimum requirements of Nebraska Standards for floodplain management programs** in Thomas County.

**LAND USE**

**Goal 1 – Provide opportunities for land development in an orderly, efficient and environmentally sound manner.**

**Policies:**

- 1.1 Ensure that future non-agricultural development in rural Thomas County is equipped with modern public utility services. These facilities are recommended to be located in close proximity to the Villages of Thedford and Halsey and the unincorporated Community of Seneca.
- 1.2 Direct future developments to locations which are relatively free of environmental constraints relating to: sensitive soils, slope, floodplains, drainage, ground water, endangered species or other natural resources.
- 1.3 Avoid development in regions (specific Soils Associations) in Thomas County that could result in the contamination of soils and ground water resources.
- 1.4 Implement Zoning Regulations that allow for livestock/confinement facilities in appropriate areas of rural Thomas County, when in conformance with the Thomas County Zoning Regulations.
- 1.5 Utilize alternative energy systems to supplement individual residential and business electric consumption in accordance with Nebraska State Statute 70-12, as amended August, 2009.

**Goal 2 - Maintain land use development patterns and densities in Thomas County that conform to uniform planning standards.**

**Policies:**

- 2.1 Utilize the Future Land Use Map to make appropriate land use decisions in the County, which is based upon present needs and sound forecasts of future growth and development of the agricultural industry.
- 2.2 Preserve and protect existing and future State Special Use Areas, program hunting and trapping lands and, potentially, the Dismal and Middle Loup Rivers and the Nebraska National Forest environs for the use of residents and visitors to the County.
- 2.3 Direct both irrigated and dryland crop production to areas that minimize the effect on the local groundwater system.



- 2.4 Enforce Zoning Regulations to provide incentives for maintenance and preservation of agricultural lands for agricultural uses throughout the rural County jurisdiction, while encouraging appropriate non-agricultural development activities, non-detrimental to the natural environment.
- 2.5 Limit the development of new livestock confinement facilities and operations from areas with sensitive soils and other natural environmental conditions. Land along the Dismal and Middle Loup Rivers contain the highest concentration of sensitive soils conditions and designated flood plains, in addition to unique environmental settings.

**Goal 3 - Encourage compatible adjacent land uses through regulations suited to the unique characteristics and location of each use.**

**Policies:**

- 3.1 Establish an annual review and modification process of established Zoning Districts and regulations to encourage both development and redevelopment activities.
- 3.2 Ensure the orderly development of residential uses that are environmentally sound, regarding topography and soils capacity
- 3.3 Encourage planned development of residential dwellings within and adjacent the two incorporated Thomas County Communities and in areas not suitable for agricultural production. Encourage planned rural subdivisions with modern infrastructure, within appropriately Zoned districts.
- 3.4 Ensure the appropriate location of industrial and commercial developments within and/or adjacent Thomas County Communities, or in areas allowing for compatible land uses and adequate access to transportation systems and utilities.

**Goal 4 - Work cooperatively with Federal, State and County Governments to develop compatible flood control measures.**

**Policies:**

- 4.1 Continue to work cooperatively with State and Federal Agencies to protect the natural environment in Thomas County from developments that result in contaminants or pollutants.
- 4.2 Require all developments in the County to be consistent with flood plain requirements.

- 4.3 Review and identify measures which limit or reduce flood hazards, control water runoff and enhance the quality of surface and ground water.

**Goal 5 - Achieve residential, commercial, and industrial land use developments that are suitable for existing soils capacity and topography.**

**Policies:**

- 5.1 Support sound, planned rural subdivision development in Thomas County, through appropriate, but cost efficient standards for subdivision design and construction.
- 5.2 Identify land uses to promote and complement the existing State Recreation and Wildlife Management Areas.

**HOUSING**

**Goal 1 - Provide access to a variety of safe, decent and affordable housing types in Thomas County.**

**Policies:**

- 1.1 Improve on existing and develop new organizational relationships to create affordable housing in Thomas County, including County government partnering with West Central Nebraska Development District and the Community Action Partnership of Mid-Nebraska.
- 1.2 Promote affordable housing programs in rural Thomas County, both for the rehabilitation and/or removal of unsafe housing, as well as new housing construction.
- 1.3 Promote and encourage the development of varied housing styles, prices, densities, quantities and locations, as to attract individuals and families to Thomas County.

**Goal 2 - Protect and preserve existing rental and owner occupied residential housing units in Thomas County.**

**Policies:**

- 2.1 Promote housing rehabilitation programs in rural Thomas County to preserve and ensure that the existing housing stock meets current health and safety codes.
- 2.2 Identify and encourage the rehabilitation/preservation of the historically significant residences and structures in Thomas County.

**Goal 3 - Encourage future residential developments in Thomas County that are compatible and complements existing environmental features. Non-farm/ranch dwellings should be located adjacent or near hard surfaced highways.**

**Policies:**

- 3.1 Identify and promote additional areas for residential units in appropriate areas of Thomas County. Areas adjacent or near Thomas County Communities, where municipal services are available, would be best, preventing conflicts with agricultural production areas of the County.
- 3.2 Discourage development of residential units in environmentally sensitive areas, including, but not limited to, the Dismal River and Middle Loup River areas and the Nebraska National Forest at Halsey.

**Goal 4 - Encourage rehabilitation and new construction of housing for the elderly and persons with special needs in the communities of Thomas County.**

**Policies:**

- 4.1 Promote an adequate supply of affordable housing in Thomas County for persons with disability types.
- 4.2 Encourage the development of transitional housing, with supportive services, for persons/families in need of safe shelter.
- 4.3 Advocate the development of residential retirement housing, as needed, within or adjacent the Villages of Thedford and Halsey. This housing should be designed and built for elderly of all income levels as independent, congregate and residential care living units.
- 4.4 Promote additional housing to retain young families, especially the local workforce.

## **PUBLIC FACILITIES & TRANSPORTATION**

**Goal 1 - Plan, program and implement the most effective, safe and cost efficient public facilities and transportation systems throughout Thomas County.**

**Policies:**

- 1.1 Support local, public organizations in preparation of **Capital Improvement Programs or Plans**, consistent with the Goals and Policies of this **Comprehensive Plan**.
- 1.2 Recognize the need for and improve on intergovernmental and regional cooperation to reduce duplication of public health and safety efforts.
- 1.3 Maintain modern design standards and policies for public infrastructure improvements within the unincorporated Community of Seneca, in Thomas County.
- 1.4 Maintain a **One- and Six-Year Road Plan** to assure a safe and efficient road system in Thomas County.

**Goal 2 - Provide a transportation system throughout Thomas County for the safe and efficient movement of people, goods and services.**

**Policies:**

- 2.1 Coordinate transportation planning and improvements with the planning and development of other elements of the County, including public utilities and facilities supportive of commercial and industrial development.
- 2.2 Maintain a road and associated bridge system in Thomas County that is in accordance with the standard functional street classification system of the State of Nebraska.

**Goal 3 - Provide adequate, efficient and appropriate public utilities and services to both existing and future residential, commercial and industrial areas in Thomas County.**

**Policies:**

- 3.1 Provide facilities and services in Thomas County necessary to prevent degradation of the environment, including sewage treatment, refuse collection and disposal, road maintenance and similar environmental control processes as necessary.
- 3.2 Support efforts of each Community in Thomas County to supply appropriate drinking water and sewage treatment systems to all residents. Ensure the rules and regulations governing safe drinking water and sewage treatment are met in Thomas County. The Nebraska Departments of Environmental Quality and Health and Human Services assist in the regulation of these systems.
- 3.3 Maintain and improve existing public utilities and health & safety services in Thomas County, based upon future needs.

**Goal 4 - Provide for the equitable distribution of public facilities to meet the cultural, educational, social, recreational and safety and health needs of Thomas County.**

**Policies:**

- 4.1 Provide sufficient resources to examine, maintain and develop appropriate recreational, cultural and leisure activities in Thomas County.
- 4.2 Provide adequate public health, safety and crime prevention systems throughout Thomas County.
- 4.3 Promote a social and cultural environment in the County that provides an opportunity for all residents to experience, develop and share their values, abilities, ambitions and heritage.
- 4.4 Foster a local educational delivery system capable of maintaining the overall educational level in Thomas County.



- 4.5 Develop and promote programs to educate the residents of Thomas County and visitors regarding the rich heritage and history of the region. Utilize current and future public and cultural facilities such as community libraries, museums and natural wildlife areas associated with the Dismal and Middle Loup Rivers, as well as the Nebraska National Forest at Halsey.
- 4.6 Ensure the rules and regulations of the Americans with Disabilities Act are met in all public facilities.
- 4.7 Encourage the availability of all necessary services to youth and older adults in Thomas County.

## **PLAN MAINTENANCE & IMPLEMENTATION**

**Goal 1 - Maintain and utilize the Comprehensive Plan as the primary tool for Thomas County decisions regarding the physical development of the Region.**

**Policies:**

- 1.1 Establish an annual review process for the **Comprehensive Plan** and **Zoning Regulations**.
- 1.2 Coordinate development and land use changes with local, County and State officials.
- 1.3 Coordinate local groups and organizations to carry-out the Goals and Policies of this **Comprehensive Plan**.



**SECTION 3:**  
**POPULATION, INCOME &  
ECONOMIC PROFILE.**



## POPULATION, INCOME & ECONOMIC PROFILE.

### INTRODUCTION

Population, income and economic trends in Thomas County serve as valuable indicators of future development needs and patterns for the County and provide a basis for the realistic projection of the future population. The quantity and location of social and economic features play an important role in shaping the details of various development plans to meet the County's needs.

The population trends & projections for the years 2000 through 2029 were studied and forecasted, utilizing a process of both trend analysis, U.S. Census population estimates and popular consent. **Thomas County is projected to remain stable in population during the next 10 years, declining by an estimated 56 people.** The County should continue to promote the development of a variety of businesses and housing types as to attract individuals and families to the County during the 10-year planning period in Thomas County.

### GENERAL POPULATION TRENDS & PROJECTIONS

The analysis and projection of population are at the center of all planning decisions. This process assists in understanding important changes which have and will occur throughout the planning period.

Estimating population size is critical to a planning process. Further, projecting a County's population is extremely complex. Because projections are based on various assumptions about the future, projections must be carefully analyzed and continually re-evaluated due to an area's economic and social structure.

**POPULATION**

- ❖ **Table 3.1** highlights annual Census population estimates for each year since the 2010 Census, for Thomas County and each incorporated Community and the rural county, identified as the “Balance of County.” Since 2011, the Thomas County population has both increased and declined, from a low of 695 in 2015, to a high of 730 in 2017. Both the Balance of County and each Community have also followed this trend.

**Table 3.1**  
**Census Population Estimates**  
**Thomas County & Communities, Nebraska**  
**2011-2017**

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
<b>Thomas County:</b>	<b>698</b>	<b>701</b>	<b>705</b>	<b>701</b>	<b>695</b>	<b>727</b>	<b>730</b>	<b>720</b>
Theford:	212	212	214	213	211	220	221	218
Halsey:	79	80	80	80	79	82	82	81
<b>Balance of County:</b>	<b>407</b>	<b>409</b>	<b>411</b>	<b>408</b>	<b>405</b>	<b>425</b>	<b>427</b>	<b>421</b>

Source: 2011-2017 U.S. Census Estimates.  
 Hanna:Keelan Associates, P.C., 2019.

- ❖ **Table 3.2** identifies **population trends and projections** for Thomas County and each incorporated Community, from 2000 through 2029. A decrease in population occurred for Thomas County between the 2000 and 2010, declining 11.2 percent, or 82.

Currently (2019), the Thomas County total population and the Balance of County, or the rural portion of the County, have estimated populations of 619 and 362, respectively. Both the County and Balance of County are projected to decrease in population during the next 10 years. The 2029 population, for Thomas County, is estimated to be 563, a decline of 56 persons from 2019.

During the next 10 years, the Communities of Thedford and Halsey are also projected to decrease in population, but remain stable through 2029.

**Table 3.2**  
**Population Trends & Projections**  
**Thomas County & Communities, Nebraska**  
**2000-2029**

	<u>2000</u>	<u>2010</u>	<u>2019</u>	<u>2029</u>	<u>% Change</u> <u>2019-2029</u>
<b>Thomas County:</b>	729	647	619	563	-9.0%
Thedford:	211	188	183	174	-4.9%
Halsey:	59	76	74	71	-4.0%
<b>Balance of County:</b>	<b>459</b>	<b>383</b>	<b>362</b>	<b>318</b>	<b>-12.1%</b>

Source: 2000, 2010 Census.  
 Hanna:Keelan Associates, P.C., 2019.



## **AGE DISTRIBUTION**

- ❖ For planning purposes, the various cohorts of population are important indicators of the special needs of a County. The cohorts of age, sex and family structure can assist in determining potential labor force and the need for housing, public facilities and other important local services. An analysis of age characteristics can be used to identify the potential needs for public school, recreational areas and short- and long-term health care facilities.
- ❖ **Table 3.3** provides **age distribution trends and projections** for Thomas County, from 2000 to 2029. Overall, the County is projected to experience a net decrease in population during the next 10 years of approximately 56 persons. The “65-74”, “75-84” and “85+” age groups are projected to experience stable populations, decreasing only slightly through 2029. This can be attributed to a retiring Baby Boomer population, as well as much of the County’s senior population choosing to remain close to home for any services and amenities, rather than relocating to a larger community.
- ❖ The “19 and under” and “35-54” age groups are projected to experience the largest population declines during the next 10 years in Thomas County.

Overall, the **Balance of County** population is projected to decline an estimated 44 persons through 2029. The 55+ senior/elderly population is projected to increase, with all gains being experienced by the “55-64” age group.

In 2019, median age in **Thomas County** is an estimated 46.3 years, while the **Balance of County** median age is projected to be 44.8 years. The median age for the **County** as a whole is projected to increase to 48.7 years. The **Balance of County** median age is anticipated to increase to 47.4 years, between 2019 and 2029.

**Table 3.3  
Population Age Distribution  
Trends & Projections  
Thomas County, Nebraska  
2000-2029**

**Thomas County**

<b><u>age group</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>	<b><u>Change</u></b>	<b><u>2019</u></b>	<b><u>2029</u></b>	<b><u>Change</u></b>
19 and Under	183	156	-27	140	119	-21
20-34	96	81	-15	71	53	-18
35-54	226	161	-65	147	127	-20
55-64	76	114	+38	126	135	-11
65-74	72	69	-3	69	65	-4
75-84	53	43	-10	43	43	+0
85+	<u>23</u>	<u>23</u>	<u>+0</u>	<u>23</u>	<u>22</u>	<u>-1</u>
<b>TOTALS</b>	<b>729</b>	<b>647</b>	<b>-82</b>	<b>619</b>	<b>563</b>	<b>-56</b>
Median Age	42.1	45.2	+3.1	46.3	48.7	+2.4

**Balance of County**

<b><u>age group</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>	<b><u>Change</u></b>	<b><u>2019</u></b>	<b><u>2029</u></b>	<b><u>Change</u></b>
19 and Under	135	95	-40	81	57	-24
20-34	53	54	+1	50	41	-9
35-54	142	96	-46	89	75	-14
55-64	48	65	+17	70	78	+8
65-74	33	39	+6	40	38	-2
75-84	31	21	-10	21	19	-2
85+	<u>17</u>	<u>13</u>	<u>-4</u>	<u>11</u>	<u>10</u>	<u>-1</u>
<b>TOTALS</b>	<b>459</b>	<b>383</b>	<b>-76</b>	<b>362</b>	<b>318</b>	<b>-44</b>
Median Age	40.5	43.4	+2.9	44.8	47.4	+2.6

Source: 2000, 2010 Census.  
Hanna:Keelan Associates, P.C., 2019.

**HOUSEHOLD CHARACTERISTICS**

- ❖ **Table 3.4 identifies specific household characteristics** of Thomas County, from 2000 to 2029. The total number of households is projected to decrease an estimated 21 throughout the County, and decrease an estimated 17 households in the Balance of County.
- ❖ During the next 10 years, “persons per household” in Thomas County is projected to decline, slightly, from an estimated 2.22 to 2.19.
- ❖ **Currently, no Group Quarters are operating in Thomas County.** Group Quarters consist of living quarters that are not considered a household, such as dormitories, nursing care centers and correctional facilities.

**Table 3.4**  
**Specific Household Characteristics**  
**Thomas County, Nebraska**  
**2000-2029**

	<u>Year</u>	<u>Population</u>	<u>Group Quarters</u>	<u>Persons in Households</u>	<u>Households</u>	<u>Persons Per Household</u>
<b>Thomas County:</b>	2000	729	0	729	325	2.24
	2010	647	0	647	291	2.22
	<b>2019</b>	<b>619</b>	<b>0</b>	<b>619</b>	<b>278</b>	<b>2.22</b>
	<b>2029</b>	<b>563</b>	<b>0</b>	<b>563</b>	<b>257</b>	<b>2.19</b>
<b>Balance of County:</b>	2000	459	0	459	190	2.41
	2010	383	0	383	163	2.35
	<b>2019</b>	<b>362</b>	<b>0</b>	<b>362</b>	<b>156</b>	<b>2.31</b>
	<b>2029</b>	<b>318</b>	<b>0</b>	<b>318</b>	<b>139</b>	<b>2.28</b>

Source: 2000, 2010 Census.  
 Hanna:Keelan Associates, P.C., 2019.

**HOUSEHOLD TENURE**

❖ **Table 3.5** identifies **tenure by household** for Thomas County, from 2000 to 2029. The County is currently (2019) comprised of an estimated 278 households, consisting of 209 owner and 69 renter households. By 2029, owner households will account for an estimated 77.1 percent of the total households in Thomas County, resulting in 198 owner households and 59 renter households.

Between 2019 and 2029, the number of owner and renter households in Thomas County is projected to decline throughout the County. The Balance of County, is projected to decrease 10 owner households by 2029 while renter households will decrease seven households.

**Table 3.5**  
**Tenure By Household**  
**Thomas County, Nebraska**  
**2000-2029**

	<u>Year</u>	<u>Total Households</u>	<u>Owner</u>		<u>Renter</u>	
			<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
<b>Thomas County:</b>	2000	325	238	73.2%	87	26.8%
	2010	291	218	74.9%	73	25.1%
	<b>2019</b>	<b>278</b>	<b>209</b>	<b>75.4%</b>	<b>69</b>	<b>24.6%</b>
	<b>2029</b>	<b>257</b>	<b>198</b>	<b>77.1%</b>	<b>59</b>	<b>22.9%</b>
<b>Balance of County:</b>	2000	190	129	68.0%	61	32.0%
	2010	163	115	70.5%	48	29.5%
	<b>2019</b>	<b>156</b>	<b>111</b>	<b>71.1%</b>	<b>45</b>	<b>28.9%</b>
	<b>2029</b>	<b>139</b>	<b>101</b>	<b>72.8%</b>	<b>38</b>	<b>27.2%</b>

Source: 2000, 2010 Census.  
 Hanna:Keelan Associates, P.C., 2019.

**INCOME TRENDS & PROJECTIONS**

**AREA MEDIAN (HOUSEHOLD) INCOME**

❖ **Table 3.6** identifies **median household income** for Thomas County, Nebraska, from 2000 to 2029. Currently, median income in Thomas County is projected at \$56,512. Median income in the County is projected to increase an estimated 20.4 percent to \$68,030, by 2029. By comparison, the Villages of Thedford and Halsey are projected to experience income increases of 17.5 percent and 20 percent, respectively.

**The Balance of County currently has the highest median income in the County. This is projected to continue through 2029 with the area median income increasing from \$63,084 to \$79,320.**

**Table 3.6**  
**Area Median (Household) Income – Trends & Projections**  
**Thomas County & Communities, Nebraska**  
**2000-2029**

	<u>2000</u>	<u>2017 Est.*</u>	<u>2019</u>	<u>2029</u>
<b>Thomas County:</b>	<b>\$27,019</b>	<b>\$53,173</b>	<b>\$56,512</b>	<b>\$68,030</b>
Thedford:	\$31,875	\$49,688	\$51,003	\$59,932
Halsey:	\$30,625	\$41,000	\$42,346	\$50,857
<b>Balance of County:</b>	<b>\$35,807</b>	<b>\$59,594</b>	<b>\$63,084</b>	<b>\$79,320</b>

N/A = Not Available.

\*2017 Estimate Subject to margin of error.

NOTE: Four-Person Household, 100% Area Median Income - \$68,000.

Source: 2000 Census, 2013-2017 American Community Survey

Nebraska Investment Finance Authority, 2019.

Hanna:Keelan Associates, P.C., 2019.



**PER CAPITA INCOME**

- ❖ **Table 3.7**, identifies **per capita income** for Thomas County and the State of Nebraska, from 2012 to 2029. Per capita income is equal to the gross income of an area (State, County, City, Village) divided equally between the residents of the area.
- ❖ In **2019**, per capita income in Thomas County is an estimated **\$51,445**. By **2029**, per capita income will increase in the County by an estimated 13.3 percent, to **\$58,326**.

**Table 3.7**  
**Per Capita Income**  
**Thomas County, Nebraska / State Of Nebraska**  
**2012-2019**

<u>Year</u>	<b>Thomas County</b>		<b>State of Nebraska</b>	
	<u>Per Capita Income</u>	<u>Percent Change</u>	<u>Per Capita Income</u>	<u>Percent Change</u>
2012	\$43,255	--	\$46,066	--
2013	\$56,644	+30.9%	\$45,876	-0.4%
2014	\$72,980	+28.8%	\$48,419	+5.5%
2015	\$81,196	+11.2%	\$49,567	+2.3%
2016	\$63,891	-21.3%	\$50,029	+0.9%
2017	\$50,014	-21.7%	<b>\$50,809</b>	<b>+1.6%</b>
<b>2019</b>	<b>\$51,445</b>	<b>+2.9%</b>	<b>\$52,436</b>	<b>+3.2%</b>
<b>2000-2019</b>	<b>\$43,255-\$51,445</b>	<b>+18.9%</b>	<b>\$46,166-\$52,436</b>	<b>+13.5%</b>
<b>2019-2029</b>	<b>\$51,445-\$58,326</b>	<b>+13.3%</b>	<b>\$52,436-\$56,637</b>	<b>+8.0%</b>

Source: Nebraska Department of Economic Development, 2019.  
 Hanna:Keelan Associates, P.C., 2019.

**SOCIAL SECURITY INCOME**

❖ **Table 3.8** identifies the number of **persons receiving Social Security Income and/or Supplemental Security Income** in Thomas County. A total of 315 persons received Social Security Income in Thomas County, in 2016. Of this total, 44.5 percent, or 140 persons were aged 65+ years.

**Table 3.8**  
**Persons Receiving Social Security Income**  
**Thomas County, Nebraska**  
**2016**

<u>Social Security Income-2016</u>	<u>Number of Beneficiaries</u>
<u>Retirement Benefits</u>	
Retired Workers	160
Wives & Husbands	130
Children	10
<u>Survivor Benefits</u>	
Widows & Widowers	5
Children	0
<u>Disability Benefits</u>	
Disabled Persons	10
Wives & Husbands	0
<u>Children</u>	<u>0</u>
<b>TOTAL</b>	<b>315</b>
<u>Aged 65 &amp; Older</u>	
Men	65
<u>Women</u>	<u>75</u>
<b>TOTAL</b>	<b>140</b>
<u>Supplemental Security Income-2016</u>	
Aged 65 or Older	N/A
<u>Blind and Disabled</u>	<u>N/A</u>
<b>TOTAL</b>	<b>N/A</b>

N/A = Not Available.

Source: Department of Health and Human Services,  
 Social Security Administration, 2019.  
 Hanna:Keelan Associates, P.C., 2019.

**EMPLOYMENT & ECONOMIC TRENDS**

The most recent and comprehensive employment data available for Thomas County was obtained from the Nebraska Department of Labor. A review and analysis of Thomas County labor force statistics provides a general understanding of the economic activity occurring in and around the County.

**EMPLOYMENT DATA**

- ❖ **Table 3.9 identifies employment data trends and projections for Thomas County, Nebraska, from 2007 through 2029. In 2019, Thomas County is estimated to have 436 employed persons with an estimated unemployment rate of 2.7 percent. By 2029, employed persons in the County are projected to increase 23 persons, or 5.2 percent. The 2029 unemployment rate is projected at approximately 2.5 percent.**

**Table 3.9  
Employment Data Trends And Projections  
Thomas County, Nebraska  
2007-2029**

<u>Year</u>	<u>Number of Employed Persons</u>	<u>Change</u>	<u>Percent Unemployed</u>
2007	365	--	3.4%
2008	364	-1	4.0%
2009	334	-30	4.6%
2010	348	+14	5.2%
2011	329	-19	2.9%
2012	335	+6	4.6%
2013	365	+30	5.2%
2014	413	+48	3.5%
2015	379	-34	2.1%
2016	431	+52	3.4%
2017	427	-4	3.2%
2018	423	-4	2.8%
<b>2019</b>	<b>436</b>	<b>+13</b>	<b>2.7%</b>
<b>2029</b>	<b>459</b>	<b>+23</b>	<b>2.5%</b>
<b>2007-2029</b>	<b>365-459</b>	<b>+103</b>	<b>3.4%-2.8%</b>

Source: Nebraska Department of Labor, 2019.  
Hanna:Keelan Associates, P.C., 2019.

**TRAVEL TIME TO WORK**

- ❖ **Table 3.10** illustrates the **travel time to work** for residents of Thomas County, in 2015. Approximately 212 (76.2 percent) of the employed residents of Thomas County traveled less than 20 minutes to work or worked at home, while 32 residents, 11.5 percent, travel 40 minutes or more.

**Table 3.10**  
**Travel Time To Work**  
**Thomas County & Communities, Nebraska**  
**2017 Estimate<sup>^</sup>**

	<u>9 Minutes or Less</u>	<u>10-19 Minutes</u>	<u>20-29 Minutes</u>	<u>30-39 Minutes</u>	<u>40 Minutes or More</u>
<b>Thomas County:</b>	<b>182</b>	<b>30</b>	<b>23</b>	<b>31</b>	<b>32</b>
Theford:	80	6	5	14	2
Halsey:	13	2	5	1	0
Balance of County:	89	22	13	16	30

<sup>^</sup>Estimate subject to margin of error.  
 Source: 2013-2017 American Community Survey.  
 Hanna:Keelan Associates, P.C., 2019.

**CIVILIAN LABOR FORCE**

- ❖ **Table 3.11, Page 3.13**, identifies **workforce employment by type**, in Thomas County, Nebraska, for 2019. The Local Government sector is the largest Non-farm employment sector, with 71 employed persons in this category. “Retail Trade” was the second largest employment sector with 44 employed persons in 2019.

**Table 3.11  
Workforce Employment By Type  
Thomas County, Nebraska  
2019**

<b>Workforce</b>	
<b>Non-Farm Employment (Wage and Salary)</b>	<b>274</b>
Agriculture Forestry, Fishing & Hunting.	*
Mining, Quarrying and Oil/Gas Extraction.	*
Utilities.	0
Construction.	*
Manufacturing.	*
Wholesale Trade.	0
Retail Trade.	44
Transportation & Warehousing.	*
Information.	0
Finance & Insurance.	*
Real Estate & Rental/Leasing.	*
Professional, Scientific & Technical Services.	*
Management of Companies & Enterprises.	0
Administrative/Support/Waste.	0
Educational Services.	9
Health Care & Social Assistance.	*
Arts, Entertainment & Recreation.	0
Accommodation & Food Service.	*
Other Services (except Public Administration).	*
Federal Government.	11
State Government.	13
Local Government.	71

\*Data not available because of disclosure suppression.  
Source: Nebraska Department of Labor, Labor Market Information, 2018.  
Hanna:Keelan Associates, P.C., 2019.

**HOUSING STOCK CONDITIONS, VALUE & GROSS RENT**

**HOUSING STOCK CONDITIONS**

- ❖ **Tables 3.12 and 3.13 (Page 3.15)** illustrate a Housing stock profile for Thomas County, including units in structure and “substandard housing” as defined by the U.S. Department of Housing and Urban Development. A substandard unit is one that is lacking complete plumbing, plus the number of households with more than 1.01 persons per room, including bedrooms, within a housing unit. The 2000 and 2010 Census provided data identifying substandard housing units and housing units having overcrowded conditions.
- ❖ Between 2000 and 2017, both Thomas County (overall) and the Balance of County declined in the number of total housing units. The County decreased an estimated 44 housing units, while the Balance of County declined an estimated 29 housing units. A large majority of housing units in both the total County and the Balance of County consist of a single unit.
- ❖ Of the 293 total housing units in Thomas County, only two were identified as lacking complete plumbing, while no units were considered to be overcrowded. No housing units in the Balance of County were recorded as lacking complete plumbing or being overcrowded.

**Table 3.12  
Housing Stock Profile/Units In Structure  
Thomas County, Nebraska  
2000 & 2017 Estimate\***

		<u>Number of Units</u>				
		<u>1 unit</u>	<u>2-9 units</u>	<u>10+ units</u>	<u>Other**</u>	<u>Total</u>
<b>Thomas County:</b>	<b>2000</b>	<b>383</b>	<b>9</b>	<b>0</b>	<b>54</b>	<b>446</b>
	<b>2017*</b>	<b>363</b>	<b>6</b>	<b>12</b>	<b>21</b>	<b>402</b>
<b>Balance of County:</b>	<b>2000</b>	<b>218</b>	<b>7</b>	<b>0</b>	<b>33</b>	<b>258</b>
	<b>2017</b>	<b>217</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>229</b>

\*2017 Estimate subject to margin of error.

\*\*Other includes mobile homes, vans, RVs, boats, etc.

Source: 2000 Census, 2013-2017 American Community Survey.  
Hanna:Keelan Associates, P.C., 2019.



**Table 3.13  
Housing Stock Profile  
Defining Substandard Housing – HUD  
Thomas County, Nebraska  
2017 Estimate\***

	Complete Plumbing			Lack of Complete Plumbing		Units with 1.01+ Persons per Room	
	<u>Total</u>	<u>Number</u>	<u>% of Total</u>	<u>Number</u>	<u>% of Total</u>	<u>Number</u>	<u>% of Total</u>
<b>Thomas County:</b>	<b>293</b>	291	99.3%	2	0.7%	0	1.1%
<b>Balance of County:</b>	<b>162</b>	162	100.0%	0	0.0%	0	0.0%

\*2017 Estimate subject to margin of error.  
Source: 2013-2017 American Community Survey.  
Hanna:Keelan Associates, P.C., 2019.

**HOUSING VALUE & GROSS RENT**

- ❖ The cost of housing in any Community is influenced by many factors, primarily the cost of construction, availability of land and infrastructure and, lastly, the organizational capacity of the Community or County to combine these issues into an applicable format and secure the appropriate housing resources, including land and money. Thomas County and each Community are challenged to organize necessary resources to meet the needs of their residents, including both financial and organizational resources.
  
- ❖ **Table 3.14** identifies **owner occupied housing values** in Thomas County, from 2000 through 2029. Currently, the **Thomas County** median owner housing value is an estimated \$87,600. By **2029**, the estimated median housing value is projected to increase an estimated 33.6 percent to **\$117,100**. The **Balance of County** is also projected to experience an increase in housing values, increasing an estimated 28.1 percent through **2029**, or from \$125,900 to **\$161,400**.

**Table 3.14**  
**Owner Occupied Housing Value**  
**Thomas County, Nebraska**  
**2000-2029**

		<u>Less than \$50,000</u>	<u>\$50,000 to \$99,999</u>	<u>\$100,000 to \$149,999</u>	<u>\$150,000 to \$199,999</u>	<u>\$200,000 or More</u>	<u>Total</u>
<b>Thomas County:</b>	2000	107	36	3	2	2	<b>150</b>
	<b>2000 Med. Val.</b>	<b>\$34,300</b>					
	2017*	51	64	22	46	21	<b>204</b>
	<b>2017 Med. Val.*</b>	<b>\$82,300</b>					
	<b>2019</b>	<b>\$87,600</b>					
<b>2029</b>	<b>\$117,100</b>						
<b>Balance of County:</b>	2000	36	17	3	0	2	<b>58</b>
	<b>2000 Med. Val.</b>	<b>\$40,300</b>					
	2017*	31	21	12	27	21	<b>112</b>
	<b>2017 Med. Val.*</b>	<b>\$116,700</b>					
	<b>2019</b>	<b>\$125,900</b>					
<b>2029</b>	<b>\$161,400</b>						

\*2017 Estimate subject to margin of error.  
 Source: 2013-2017 American Community Survey.  
 Hanna:Keelan Associates, P.C., 2019.

- ❖ **Table 3.15** identifies **gross rent** in Thomas County, from 2000 through 2029. The current estimated median gross rent for Thomas County is \$549. The median gross rent is projected to increase an estimated 22 percent to \$670. Gross rent in the **Balance of County** is also projected to increase through **2029**, an estimated 29.6 percent, or from \$416 to **\$539**.

		<u>Less than \$300</u>	<u>\$300 to \$499</u>	<u>\$500 to \$699</u>	<u>\$700 or More</u>	<u>Total</u>
	2000	39	19	0	0	<b>58</b>
	<b>2000 Median Rent</b>	<b>\$300</b>				
<b>Thomas</b>	2017 Est.*	30	25	7	27	<b>89</b>
<b>County:</b>	<b>2017 Med. Rent*</b>	<b>\$531</b>				
	<b>2019</b>	<b>\$549</b>				
	<b>2029</b>	<b>\$670</b>				
	2000	27	5	0	0	<b>32</b>
	<b>2000 Median Rent</b>	<b>\$197</b>				
<b>Balance of</b>	2017 Est.*	18	16	2	14	<b>50</b>
<b>County:</b>	<b>2017 Med. Rent*</b>	<b>\$387</b>				
	<b>2019</b>	<b>\$416</b>				
	<b>2029</b>	<b>\$539</b>				

\*2017 Estimate subject to margin of error.  
Source: 2013-2017 American Community Survey.  
Hanna:Keelan Associates, P.C., 2019.



## **SECTION 4:** **LAND USE** **PROFILE & PLAN.**



## LAND USE PROFILE & PLAN.

### INTRODUCTION

The following **Land Use Profile & Plan** for the **Thomas County Comprehensive Plan** focuses on the analysis of existing and future land uses in rural Thomas County. Detailed components include the natural environment, highlighting soils, watersheds, wetlands and ground water.

### THE NATURAL ENVIRONMENT

The objective of the **Comprehensive Plan** is to protect agricultural lands and, where appropriate, provide for the potential development of intensive agricultural uses and/or non-farm/ranch rural dwellings and subdivisions. The consensus of the **Thomas County Planning Commission** was that the future of the County maybe reliant on both issues for continued economic prosperity. The challenge is to balance agricultural preservation with rural residential development, in appropriate areas of the County.

Thomas County contains an estimated total land area of 458,240 acres, or 720 square miles. Major waterways include the Dismal and Middle Loup Rivers, which generally flow from west to east. A small portion of the North Loup River is located in the northeast corner of the County. These rivers and associated tributaries are responsible for sculpting the terrain Thomas County, creating narrow valleys and broad canyons within the extensive rolling Sandhills that encompass Thomas County.

The entirety of Thomas County is located within the Sandhills topographic region. Soils are primarily used for pasture and range land. Crop production is very limited within the Sandhills topographic region.

### **SOILS**

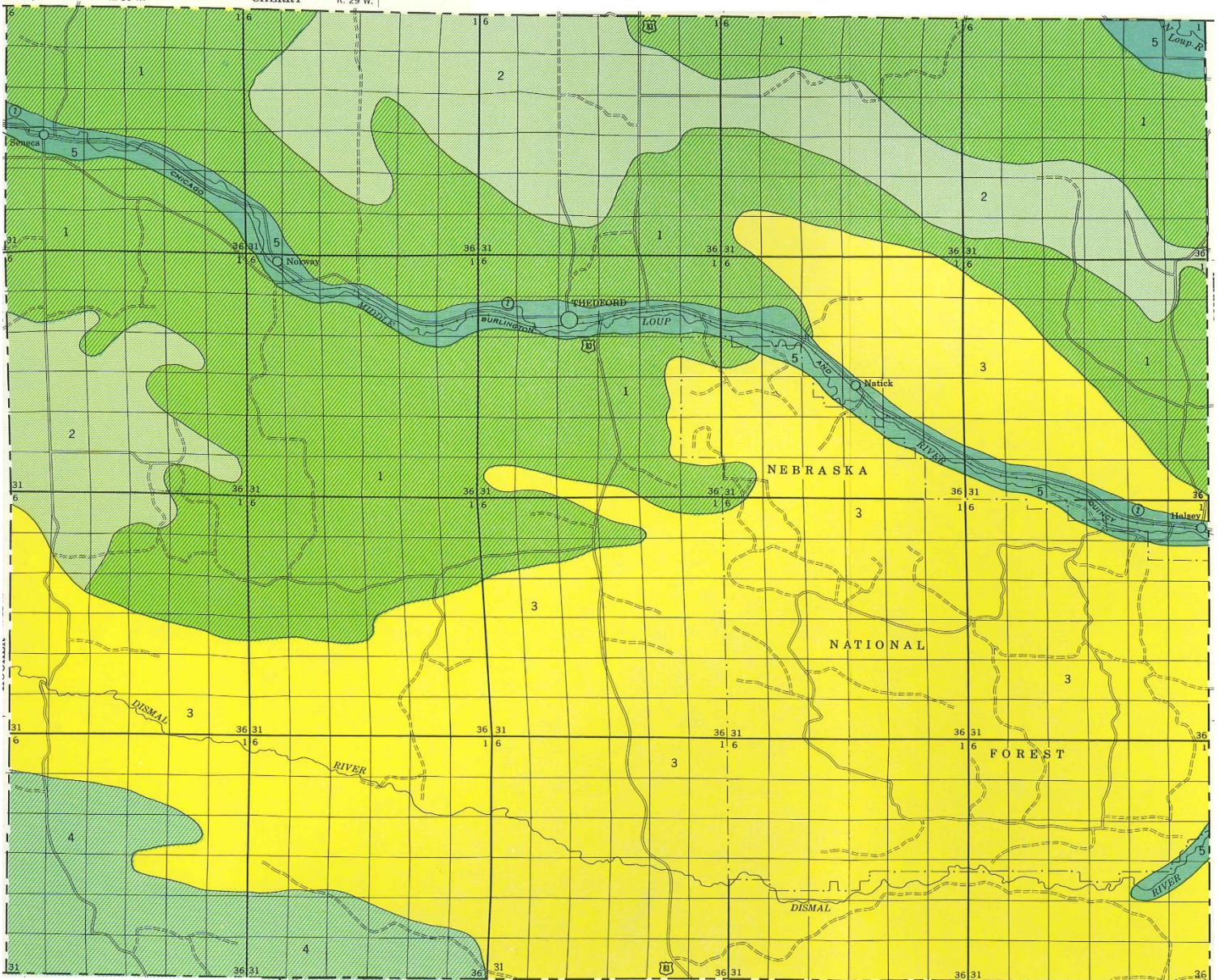
The Soil Conservation Services has identified five “Soil Associations” in Thomas County. These include the Valentine-Rolling, Valentine-Rolling-Anselmo, Valentine-Hilly, Valentine-Hilly-Dunday and Dunday-Loup Association. **Illustration 4.1** identifies the location of the six Soil Associations that are found in Thomas County. The following narrative describe the general characteristics of the five Associations.





# GENERAL SOILS MAP

## THOMAS COUNTY, NEBRASKA



- 1 VALENTINE-ROLLING ASSOCIATION
- 2 VALENTINE-ROLLING-ANSELMO ASSOCIATION
- 3 VALENTINE-HILLY ASSOCIATION
- 4 VALENTINE-HILLY-DUNDAY ASSOCIATION
- 5 DUNDAY-LOUP ASSOCIATION

**HANNA:KEELAN ASSOCIATES, P.C.**  
**COMMUNITY PLANNING & RESEARCH**

\* Lincoln, Nebraska \* 402.464.5383 \*

**ILLUSTRATION 4.1**



◆ **VALENTINE-ROLLING ASSOCIATION.**

The Valentine-Rolling Association is located in the northwest and northeast portions of Thomas County. This Association is comprised of broad areas of smooth, round-topped hills broken in places by small areas of steep, peaked hills and intervening small valleys. Valentine fine sand, rolling, makes up 85 percent of the Association and is concentrated on the smoother hills. Valentine fine sand, hilly is located on the steep, rough hills and comprises 14 percent of the Association. Remaining areas of the Association consist of rough, broken land along the slopes of the Middle Loup River.

None of the soils of this Association are suited for cultivation, but they make excellent range lands in native grass, if properly managed. Severe limitations exist for septic systems and sewage lagoons. The soils readily absorb, but does not adequately filter the effluent in septic tank absorption fields. Poor filtering capacity can result in the pollution of nearby water supplies. Steep slopes severely limit the construction of dwellings throughout this Association.

◆ **VALENTINE-ROLLING-ANSELMO ASSOCIATION.**

The northern and west central portions of the County are comprised of the Valentine-Rolling-Anselmo Association. The characteristics of this Association are nearly level to gently rolling valleys of low, smooth hills and a few areas of peaked hills. Nearly 80 percent of the Association is made up of Valentine fine sand, rolling soils. Dunday and Anselmo soils are found in the nearly level to gently rolling valleys and comprise 10 percent of the Association. Valentine fine sand, hilly soils make up the remaining steep hills. Areas of cultivated crops exist in the Dunday and Anselmo soils, but much of the cultivated areas have been returned to pasture lands.

The Association, with the exception of Dunday and Anselmo soils, have severe limitations for septic systems and sewage lagoons. The Valentine rolling and hilly soils do not adequately filter effluents and can pollute nearby water supplies. Areas of steep slopes limits the construction of dwellings.



◆ **VALENTINE-HILLY ASSOCIATION.**

The Roughest terrain in Thomas County is comprised of the Valentine-Hilly Association. Areas on both sides of the Dismal River, through the Nebraska National Forest and across the Middle Loup River in the eastern portion of the County are included within this Association. The areas consist of steep, rough dunes. The valleys are small and narrow. Valentine fine same-rolling makes up an additional 44 percent. The remaining one percent is comprised of small areas of rough, broken land and of Anselmo, Hord and alluvial souls along the Dismal River.

Almost none of the lands within the Valentine-Hilly Association are cultivated, and nearly one-half of the Association is contained within the Nebraska National Forest. Severe limitations exist for septic systems and sewage lagoons, as these soils readily absorb effluent but do not effectively filter contaminants. Dwellings are also severely limited by the steep slopes and rugged terrain of these Association soils.

◆ **VALENTINE-HILLY-DUNDAY ASSOCIATION.**

The extreme southwestern corner of Thomas County contains the Valentine-Hilly-Dunday Soil Association. High, steep dunes and intervening, large and nearly level valleys distinguish the Association. Valentine fine sand-Rolling soils make up 60 percent of the total acreage, while Valentine fine sand-Hilly comprises 30 percent. Dunday and Anselmo soils make up the remaining 10 percent. Areas that have cultivated crops are concentrated in the Dunday soils, however increasing amounts have been returned to pasture and grasslands.

Valentine soils, as with the other Associations, have severe limitations for construction of septic systems and sewage lagoons. However, Dunday soils better support development of rural dwellings due to much more level topography.

◆ **DUNDAY-LOUP ASSOCIATION.**

The entire length of the Middle and North Loup Rivers and the extreme eastern portion of the Dismal River are composed of the Dunday-Loup Association. Rolling terraces and river bottom lands occupy the areas included in the Association.

Stream terraces at the higher elevations of the Association are occupied by Meadin-Dunday loamy fine sands and Meadin loamy sand together comprise 51 percent of the area within the Association. Loup soils comprise 15 percent and are on the river bottoms and area poorly drained and used mostly for hay production. Marsh soils are generally covered with water and are suitable only for wildlife habitat, but occupy 13 percent of the total area within the Dunday-Loup Association.

This association contains the most tillable soils and highest producing haylands in the County. The Middle Loup River valley also contains the most abundant and easily available supply of water. Consequently, the highest concentration of development in Thomas County, ranch headquarters, all of the Communities and the railroad is located within the valley. Loup and Marsh soils are directly associated with the rivers and thus are undevelopable. Meadin-Dunday and Meadin loamy sand have moderate limitations to septic systems and sewage lagoons, but are better suited for the development of dwellings.

## **CLIMATE**

The climate of Thomas County is continental and characterized by widely ranging seasonal temperatures and rapidly changing weather patterns. The temperature ranges from an average daily minimum of 10.2 degrees in January to an average monthly maximum in July of 89.9 degrees. The majority of rainfall occurs between the months of April and September.

## **WATERSHEDS**

The topography and terrain of Thomas County is varied. The Middle Loup and Dismal Rivers have eroded narrow valleys along their respective corridors and have left the majority of the sandhills unaffected. The topography of Thomas County is generally comprised of the “sandhills” region of Nebraska. Drainage in the County is generally eastward. The southern portions of the County drain into the Dismal River. The Middle Loup River drains the north and central portions of the County, while the North Loup River drains the extreme northeastern portion.

## **GROUNDWATER**

Surface drainage and streams account for a small percentage of the Thomas County water resources. The majority of the water is in the Ogallala Aquifer. Groundwater levels have remained stable in Thomas County. The average depth of registered private wells is 120 feet. The surface water in drainage ways and depressions seeps into the aquifer to recharge it, thus the surface and ground water are part of one interactive system which cannot be separated.

The Village of Thedford is the only participating town in the Wellhead Protection Program (WHP). The municipal wells of the Village are within the Corporate Limits of the Community. However, the Wellhead Protection Area includes rural lands up to one-half mile beyond the Community. Protection of this municipal wellfield within the rural jurisdiction of Thomas County is extremely important. The wellfield should be protected from possible industrial and commercial contaminants, as well as monitored and protected from agricultural contaminants. Involvement in the WHP by all Thomas County communities is advised.

**Coordination with the NDEQ and involvement in the WHP Program will be extremely beneficial for the protection of the Thomas County water supply.**

**Additionally, Thomas County maintains the wells and septic system that serves the unincorporated Community of Seneca.**

## **EXISTING LAND USE ANALYSIS**

The **Existing Land Use Map, Illustration 4.2, Page 4.8**, serves as the basis for establishing the **Land Use Plan**. The **Existing Land Use Map** highlights the impact of concentrations of rural dwellings and intensive agricultural facilities and production areas throughout the County. The impact of residential development on the production of crops and the raising of livestock can be evaluated for Thomas County by the Nebraska Agricultural Census.

## **EXISTING LAND USES**

Harvested crop and livestock production are the most prolific rural land use in Thomas County, which is generally practiced throughout all areas of the County. Beef cow operations can be found throughout the County. The Nebraska National Forest, located in the east central and southeastern portions of Thomas County, comprises 141,864 acres, or 222 square miles of land in the County.

♦ **RURAL RESIDENTIAL DEVELOPMENT.**

The **Existing Land Use Map, Illustration 4.2, Page 4.8**, indicates rural dwellings exist throughout Thomas County in areas where soil conditions are permissible for development. Most rural residential dwellings, including ranch homes/properties are located along the Highway 2 and 83 Corridors. Residential dwellings not located along major highways are serviced by access roads connecting one home or ranch to another, due to the lack of a complete rural road system.

♦ **PUBLIC/QUASI-PUBLIC AND RECREATIONAL USES.**

**Public/quasi-public land uses**, such as churches, cemeteries and rural utility substations are scattered throughout Thomas County. **Rural wildlife and recreation land uses** includes the Nebraska National Forest, as well as State Wildlife Management Areas and State Recreation Areas throughout the County.

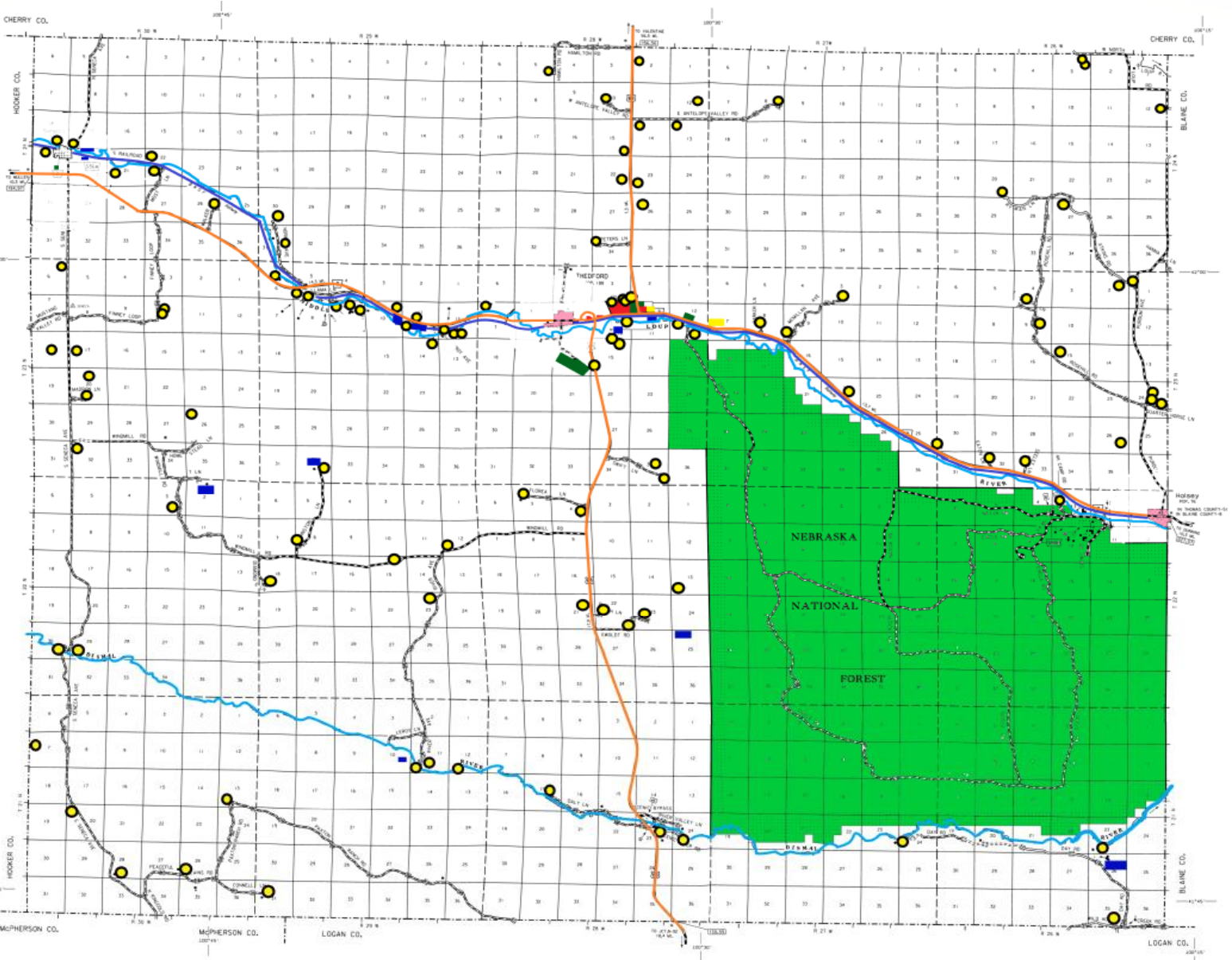
♦ **COMMERCIAL AND INDUSTRIAL USES.**

**Commercial and industrial land uses** are generally located within one to two miles of the Thomas County Communities. Rural livestock facilities are identified as “intensive agricultural” uses on the **Existing Land Use Map** and are located in highest concentrations in the central portion of the County.



# EXISTING LAND USE MAP

## THOMAS COUNTY, NEBRASKA



**LEGEND**

- |                                   |                              |
|-----------------------------------|------------------------------|
| VACANT/AGRICULTURE                | MUNICIPAL JURISDICTION       |
| PARKS/RECREATION                  | RURAL SINGLE FAMILY DWELLING |
| PUBLIC/QUASI-PUBLIC               | HIGHWAY CORRIDOR             |
| RESIDENTIAL SUBDIVISION           | RAILROAD CORRIDOR            |
| COMMERCIAL                        | RIVER CORRIDOR               |
| INTENSIVE AGRICULTURAL/INDUSTRIAL |                              |

**HANNA:KEELAN ASSOCIATES, P.C.**  
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ILLUSTRATION 4.2

**AGRICULTURAL PRODUCTION STATISTICS**

**NUMBER AND SIZE OF FARMS/RANCHES**

The development of new, small scale farms/ranches has been the trend in Thomas County between 2007 and 2017. *Statistics included in the Nebraska Census of Agriculture are released every five years; the latest being 2017.*

The number and size of farms/ranches, identified in **Table 4.1**, indicates that the number of farms/ranches in the “50 to 179” acre category experienced the largest increase, a total of four farms/ranches, or 44.4 percent, between 2007 and 2017. Large scale 1,000+ acre farms/ranches remained stable during the same 10-year period. The remaining farm/ranch categories of “1 to 9,” “180 to 499” and “500 to 999” acres, declined by a combined total of 14 farms/ranches between 2007 and 2017.

Overall, the total number of farms/ranches decreased by 12.6 percent, or by 13 farms/ranches, between 2007 and 2017. **The average farm/ranch size has increased by 4.6 percent, from 4,125 in 2007 to 4,313 acres in 2017.** The decrease in total crop land and land in farms/ranches between 2007 and 2017, along with the decrease in total farms/ranches, will have a significant impact on the County as agriculture is the main source of income. The increase in 10 to 49 and 50 to 179 acre farms/ranches may reflect the increase in smaller farms/ranches being acquired by larger, more established farming/ranching and livestock operations.

**Table 4.1  
Farms/Ranches By Size  
Thomas County, Nebraska  
2007 – 2017**

<b>Size</b>	<b>2007</b>	<b>2012</b>	<b>2017</b>	<b>% Change 2007 - 2012</b>	<b>% Change 2007 - 2017</b>
1 to 9 Acres	4	8	3	+100.0%	-25.0%
10 to 49 Acres	6	5	8	-16.7%	+33.3%
50 to 179 Acres	9	10	13	+11.1%	+44.4%
180 to 499 Acres	11	3	2	-72.7%	-81.8%
500 to 999 Acres	13	8	7	-38.5%	-46.2%
<u>1,000 to Acres or More</u>	<u>60</u>	<u>53</u>	<u>57</u>	<u>-11.7%</u>	<u>-5.0%</u>
<b>Total Farms</b>	<b>103</b>	<b>87</b>	<b>90</b>	<b>-15.5%</b>	<b>-12.6%</b>
<b>Total Crop Land</b>	<b>10,180</b>	<b>8,007</b>	<b>7,406</b>	<b>-21.3%</b>	<b>-27.2%</b>
<b>Land in Farms</b>	<b>424,918</b>	<b>367,535</b>	<b>388,140</b>	<b>-13.5%</b>	<b>-8.7%</b>
<b>Average Farm Size</b>	<b>4,125</b>	<b>4,225</b>	<b>4,313</b>	<b>+2.4%</b>	<b>+4.6%</b>
<b>Median Farm Size</b>	<b>1,600</b>	<b>1,800</b>	<b>2,304</b>	<b>+12.5%</b>	<b>+44.0%</b>

Source: Nebraska Census of Agriculture, 2007, 2012 & 2017.  
Hanna:Keelan Associates, P.C., 2019.



**CROP PRODUCTION TRENDS**

**Table 4.2** identifies the **status of crop production** in Thomas County from 2007 to 2017. The total number of farms/ranches that harvested crops decreased by 15, or 35.7 percent from 2007 to 2017. During the same period, the number of farms/ranches with irrigated cropland decreased by four, or by 21.1 percent. Total acres of irrigated cropland during the same period decreased by 621 acres, or 19.4 percent. This trend indicates that farms/ranches with both irrigated and harvested crop lands are consolidating into larger sized farms/ranches.

The total number of farms/ranches declined by 37 percent, or by 17, while the total acres of Crop Land decreased by 27.3 percent or by 2,774 acres between 2007 and 2017.

	<u>2007</u>	<u>2012</u>	<u>2017</u>	<u>% Change 2007 - 2012</u>	<u>% Change 2007 - 2017</u>
<b>IRRIGATED LAND</b>					
Farms/Ranches	19	12	15	-36.8%	-21.1%
Acres	3,208	2,944	2,587	-8.2%	-19.4%
<b>HARVESTED CROP LAND</b>					
Farms/Ranches	42	36	27	-14.3%	-35.7%
Acres	9,247	6,290	4,412	-32.0%	-52.3%
<b>TOTAL CROP LAND</b>					
Farms/Ranches	46	42	29	-8.7%	-37.0%
Acres	10,180	8,007	7,406	-21.3%	-27.3%

Source: Nebraska Census of Agriculture, 2007, 2012 & 2017.  
Hanna:Keelan Associates, P.C., 2019.

**Table 4.3, Page 4.11,** identifies **harvested crops by type** in Thomas County, from 2007 to 2017. Corn for grain, seed, silage or green chop, as well as hay-alfalfa and other wild crop were the only identified harvested crops in Thomas County. Production acres of hay-alfalfa, other wild crops and silage decreased 60.4 percent, or 5,435 acres.

**Table 4.3  
Harvested Crops By Type  
Thomas County, Nebraska  
2007-2017**

CROP BY TYPE	Production in Acres			% Change	% Change
	2007	2012	2017	2007-2012	2007-2017
Corn for Grain or Seed	(D)*	1,638	(D)*	--	--
Corn for Silage or Green Chop	(D)*	260	(D)*	--	--
Sorghum for Grain or Seed	-	-	-	--	--
Wheat for Grain	-	-	-	--	--
Oats for Grain	-	-	-	--	--
Soybeans for Beans	-	-	-	--	--
Hay-alfalfa, Other Wild, Silage	8,994	4,361	3,559	-51.5%	-60.4%

\*(D) Withheld to avoid disclosing data for individual operations.  
Source: Nebraska Census of Agriculture, 2007, 2012 & 2017.  
Hanna:Keelan Associates, P.C., 2019.

**LIVESTOCK PRODUCTION TRENDS**

**Table 4.4** identifies **livestock production trends** from 2007 through 2017. During this period, the total number of livestock producing farms/ranches for “Cattle/Calves” decreased by 25 farms/ranches, while the total number of cattle/calves decreased, slightly, by 2,534 or 8.3 percent during the same period. While total farms/ranches/animals with beef cows decreased, from 2007 to 2017, the number of farms/ranches/animals with milk cows increased, slightly, in Thomas County.

**Table 4.4  
Livestock Production Trends  
Thomas County, Nebraska  
2007 – 2017**

Type	Total Farms/Ranches / Total Animals			% Change	% Change
	2007	2012	2017	2007 – 2012	2007 – 2017
Cattle/Calves	90 / 30,515	76 / 26,151	65 / 27,981	-15.6% / -14.3%	-27.8% / -8.3%
Beef Cows	88 / 17,484	65 / 13,298	58 / 15,527	-26.1% / -23.9%	-34.1% / -11.1%
Milk Cows	3 / 13	8 / 22	- / -	+166.7% / +69.2%	-- / --
Hogs and Pigs	2 / (D)**	1 / (D)**	1 / (D)**	-50.0% / --	-50.0% / --
Sheep and Lambs	- / -	- / -	- / -	-- / --	-- / --

\*Farms less than 180 acres in size were not included in this analysis.  
\*\*(D) Withheld to avoid disclosing data for individual operations.  
Source: Nebraska Census of Agriculture, 2007, 2012 & 2017.  
Hanna:Keelan Associates, P.C., 2019.

## **SUMMARY OF AGRICULTURAL STATISTICS**

The review of agricultural statistics between 2007 and 2017 indicates the total number of acres harvested has decreased and the total number of farms/ranches has also declined by nearly 34.5 percent. Farming/ranching operations in Thomas County during this 10-year period have mostly been consolidating or ceasing operation. During the same period, the number of livestock produced in Thomas County declined slightly, but remained stable.

## **FUTURE RURAL LAND USE ANALYSIS**

**Illustration 4.3, Page 4.13**, identifies the **Future Land Use** for Thomas County. The primary hard-surfaced County roads and State highways were reviewed to determine the potential impact of rural development adjacent these corridors. Rural residential land uses not associated with farming or ranching are most suitable adjacent Highways 2 and 83.

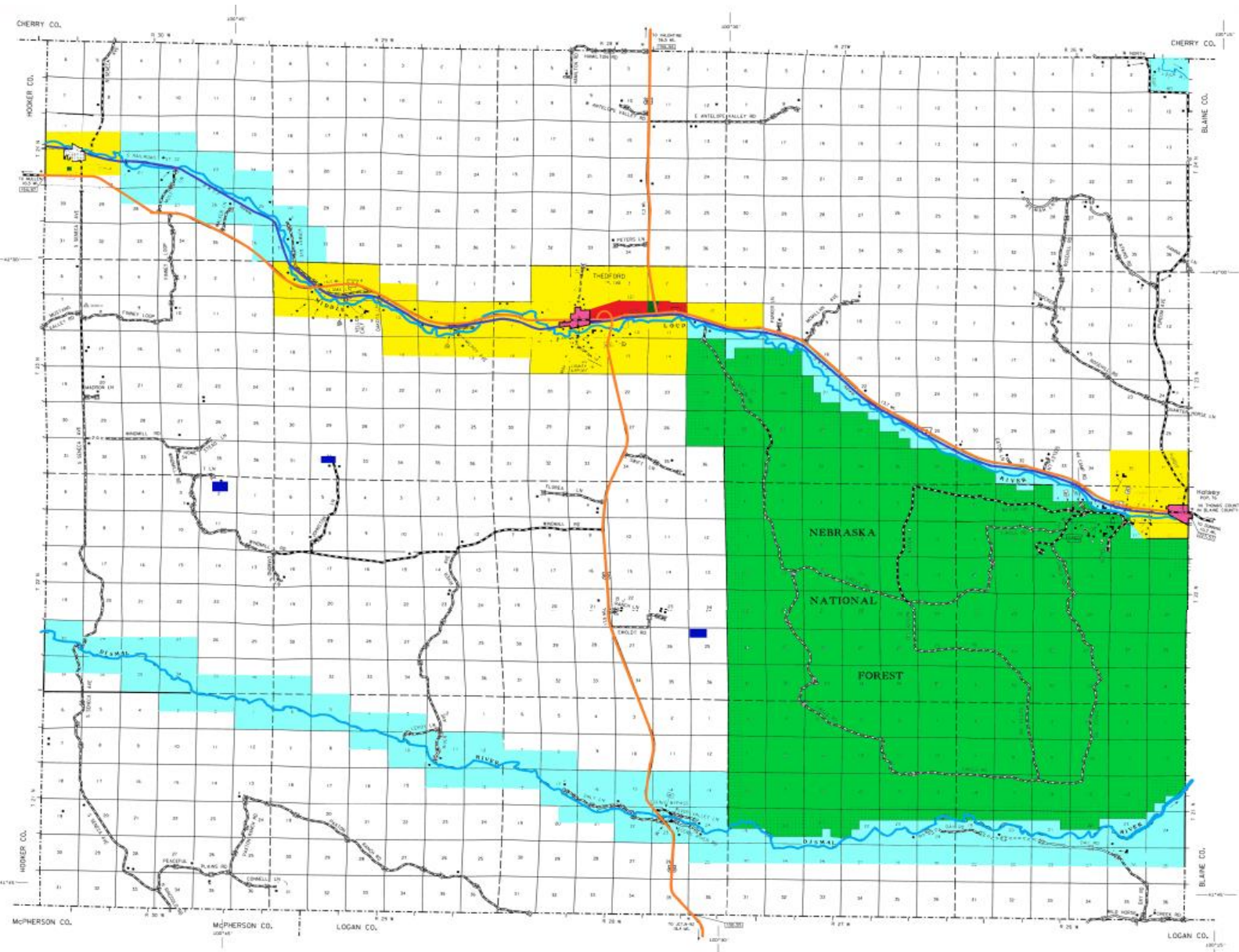
## **GENERAL AGRICULTURAL AREAS**

The **Thomas County Comprehensive Plan** focused on evaluating the effectiveness of policies that were intended to preserve and protect agricultural and livestock production areas by encouraging the development of non-farm/ranch dwellings along the two major highway corridors in Thomas County. Significant agricultural and livestock production lands are generally concentrated in the north and western portions of the County, as identified in the **Future Land Use Map, Illustration 4.3, Page 4.13**, and are represented as “vacant agricultural” areas. These areas are recommended to be preserved and protected from unnecessary encroachment of residential, commercial or industrial development. Non-farm/ranch rural residential dwellings are widely scattered throughout in the northeast and eastern portions of Thomas County and accessed by single roads and trails due to an incomplete rural roads system.



# FUTURE LAND USE MAP

## THOMAS COUNTY, NEBRASKA



**LEGEND**

- |   |                                   |
|---|-----------------------------------|
| VACANT/AGRICULTURE                      | INTENSIVE AGRICULTURAL/INDUSTRIAL |
| PARKS/RECREATION                        | MUNICIPAL JURISDICTION            |
| PUBLIC/QUASI-PUBLIC                     | MUNICIPAL PLANNING JURISDICTION   |
| TRANSITIONAL AGRICULTURAL / RESIDENTIAL | RIVER PROTECTION AREA             |
| COMMERCIAL                              | HIGHWAY CORRIDOR                  |
|   | RAILROAD CORRIDOR                 |

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**ILLUSTRATION 4.3**

## **AGRICULTURAL RESIDENTIAL AREAS**

Existing rural farmstead dwellings are widely spread throughout the County, but concentrations exist along major Highway Corridors. The **Future Land Use Map, Illustration 4.3**, promotes the continued development of non-farm/ranch dwellings in AGR “Agricultural Residential District” areas along the Highway 2 and 83 Corridors. By promoting non-farm/ranch residential development in the Transitional Agricultural areas, the County also seeks to preserve and protect agricultural production areas from further encroachment of conflicting uses. This practice also would locate these future dwellings nearest local goods and services.

## **OPEN SPACE & PARKS/RECREATION AREAS**

The Nebraska National Forest is the largest park/recreation area in Thomas County, encompassing an estimated 222 square miles, or 141,864 acres. Several recreational opportunities are also located within the communities of Thomas County. Preservation of these and other natural open space areas, such as river corridors and wetland areas, should be a priority during the 10-year planning period.

**Rural Conservation Districts along the major river corridors of Thomas County should be enforced and limited of adverse impacts to environmental characteristics such as scenic status, excessive slope, soils conditions, high water table, or other factors, require the regulation of development in keeping with the conditions imposed by the natural environment.**

## **COMMERCIAL AND INDUSTRIAL/ INTENSIVE AGRICULTURAL AREAS**

Future commercial uses in Thomas County should consist of “Highway Commercial” developments, including all permissible uses, as allowed via the Thomas County Zoning Regulations. Land zoned as “C – Commercial” should be located in close proximity to the Communities of Thomas County and, in limited cases, be considered at the junction of major highway corridors.

Industrial areas are encouraged to locate in close proximity to major transportation routes within each Community or specified rural areas, adjacent railroad or highway corridors. The types of encouraged industries should include “light manufacturing” and agriculture-related industries. These types of industries are often clean and efficient in operation and provide various employment opportunities.

Agriculture-oriented uses, such as intensive livestock confinement facilities are the primary intensive rural uses in the County. This **Comprehensive Plan** identifies these facilities as intensive agricultural uses in agricultural production areas. **The development of new animal and livestock confinement facilities should be carefully reviewed to ensure conformance with the land use goals and expectations of the County. Animal confinement facilities should not be located within flood plain/flood prone areas along rivers, creeks, streams and drainage ways, nor areas which have topographical or soil constraints.**





**SECTION 5:**  
**PUBLIC FACILITIES &**  
**TRANSPORTATION.**



## **PUBLIC FACILITIES & TRANSPORTATION.**

### **INTRODUCTION**

**Section 5** of this **Comprehensive Plan** discusses current conditions and planned improvements to existing **public facilities and transportation systems** in Thomas County. All improvements to these components are aimed at maintaining or improving the quality of life in the County. The intent of this **Section** is to determine the adequacy of these public facilities to meet the future estimated demand during the current planning period.

### **PUBLIC FACILITIES**

**Public Facilities** identify existing public places in the County and determine future needs of and desires for pertinent public facilities during the planning period 2019 to 2029. Public facilities provide citizens with social, cultural and educational opportunities in Thomas County. Facilities can include, but are not limited to schools, fire protection, medical/elderly services and recreational facilities such as parks and sports fields.

### **EDUCATION**

A broader-based education, with emphasis on technical and human relation skills has become necessary and desired in today's society. Standards developed by educators and planners can provide guidance in the creation of, and addition to, each of the School Districts' educational facilities. It will be important, during the 10-year planning period, that the facilities maintained by Public School Districts within Thomas County are able to support the existing school-age or youth populations, as well as be prepared to support a potential increasing youth population.

**Public schools in Thomas County should strive to meet the following general standards and guidelines:**

- Schools should be centrally located.
- Schools should not be located near high traffic or heavily concentrated areas with high noise levels.
- Land acquisition should be made with future expansion in mind.
- Adequate open space should be available to students.
- Provide safe routes to schools from all neighborhoods of Thomas County Communities, including sidewalks, pedestrian crossings and school bus access.

Two Public School Districts maintain a presence in Thomas County Communities: **Theford Public Schools** and **Sandhills Public Schools**.

- ❖ The **Theford Public Schools District** maintains one Elementary School building and one High School building, both in the Community of Theford. The High School, originally built in 1956, is located at 304 Maple Street and enrolls students in grades 7 through 12. The Elementary School building, constructed in 1940, is located at 407 Court Street and enrolls students in grades Pre-K through 6. The preschool was established in approximately 1996 as a joint effort of the Theford Elementary School and Educational Services Unit #16. Children from the age of birth through pre-kindergarten attend the integrated preschool, which also accepts children with mental and physical disabilities.

Extra-curricular activities offered at Theford Public Schools District include the standard clubs and organizations, as well as a variety of athletic teams. To enhance the student learning experience with a variety of educational applications, students in grades 7-12 receive laptops for personal use throughout the school year.

Theford Public Schools currently employs approximately 28 total staff members, including 16 certified teachers. Approximately 115 students Pre-Kindergarten through 12<sup>th</sup> grade are currently enrolled in the District. Many students in the District travel between 5 and 50 miles to attend either the Elementary or High School.

- ❖ The **Sandhills Public Schools District** maintains an Elementary School in the Community of Halsey, and a High School in Dunning, Nebraska (Blaine County). Organized in 1973, the District is a consolidated system which includes the communities of Brewster, Dunning, Halsey and Purdum, Nebraska. Sandhills Elementary School is located adjacent Highway 2 in Halsey, Nebraska, and enrolls students in grades K through 4. Dunning High School, located along Highway 2 in the Village of Dunning, Nebraska (Blaine County), enrolls students in grades 5 through 12. During the 2008-2009 school year, the Sandhills and Theford Public Schools Districts began a co-op program for athletics and became the Sandhills/Theford Knights.

The Sandhills Public Schools District also offers a wide variety of extra-curricular activities and athletic to teams to students. All students in grades 7 through 12 have received laptops during the academic year since the 2009-2010 school year.

Sandhills Public Schools employs approximately 27 total staff members, including 15 full time, certified teachers. Approximately 90 students Kindergarten through 12<sup>th</sup> grade are currently enrolled in the District.

### **PUBLIC LIBRARIES**

The **Thomas County Library** is located at 501 Main Street in Thedford, Nebraska. The Library is open weekly during the following days:

Monday: 4:00-7:00 PM  
Tuesday: 1:00-6:00 PM  
Wednesday: 1:00-6:00 PM  
Thursday: 1:00-6:00 PM  
Friday: 1:00-4:00 PM

The Library was built in 1964 and currently employs four part-time employees. The Library currently maintains 486 registered users and approximately 54,257 volumes with an average annual circulation of 7,632. Amenities include 10 public internet computers available for use.

A public Library is available to residents of the Halsey area in Dunning, Nebraska at the High School. The Library is available to the public weekly during the fiscal school year on Thursday nights, 7:00 to 9:00 PM.

### **PARKS/RECREATION**

An integral part to the quality of life in any County or Community is a well-maintained park system and recreational opportunities provided to its residents and visitors. Additionally, parks and recreational facilities ensure the health of families and individuals, and contribute to the economic and environmental well-being of the entire County. The following highlights Thomas County's Public Parks and other recreational facilities.

- ❖ **Halsey Park** – Located at 507 Highway 2, Halsey Park consists of playground equipment, picnic tables, grills, a swing set and a community building. The building was originally built in 1976 and an addition was completed in 1990. The community building is rented for special occasions such as receptions, retirement parties, funeral services, etc.

- ❖ **Seneca Park** – Seneca Park is located in the unincorporated Community of Seneca, in the northwestern portion of Thomas County. The Park has playground equipment, picnic tables and grass recreational areas.
- ❖ **Thedford Park** – Located on the west end of Thedford, the Park maintains standard playground equipment and a baseball diamond, in addition to camping areas with amenities such as electrical hook-ups, grills, fire pits and picnic tables.
- ❖ **Thedford Golf Course** – This nine-hole public “Links Course” emphasizes the natural sandhills topography and is located less than one mile south of Thedford, west of U.S. Highway 83. The facility was completed in 1999 as a par 36 golf course and provides a cart shed with storage for 30 golf carts and driving range, which was completed in 2002. The Thedford Golf Course Association is comprised of a nine-member Board of Directors.
- ❖ **Bessey Ranger District Nebraska National Forest** – Located two miles west of Halsey on State Highway 2, the Nebraska National Forest of Halsey comprises 90,233 acres and the world’s largest hand-planted forest. The District is a favorite location for camping, hunting, hiking and picnicking.

Thirty-five campsite units with picnic tables, water, nearby toilets, trash pickup, fire grates and firewood are available year-round. Other amenities include showers, a shelter house, tennis courts, a softball diamond, a swimming pool and a trailer dump station.

- ❖ **Charles E. Bessey Tree Nursery** – The Charles E. Bessey Tree Nursery, first established in 1902, is the oldest seedling nursery managed by the USDA Forest Service and is part of the Dismal River environs. The Nursery was established to produce the tree seedlings used to create the world’s largest manmade forest (the adjacent Bessey Ranger District). The Nursery production area is 50 acres and is capable of producing 4.5 million bareroot conifer and hardwood seedlings each year, although current production is 1.5 million seedlings.

Since 1926, the Nursery has been producing seedlings for the Nebraska Conservation Trees Program for distribution to rural landowners in Nebraska. Conservation trees are also distributed to rural landowners in North Dakota, South Dakota, Wyoming, Colorado and Kansas. The Nursery has produced seedlings for Bureau of Indian Affairs Reservations in South Dakota and Wyoming. Such agreements have helped to create strong and unique relationships between the Nursery and various state and federal agencies.



- ❖ **Thomas County Fairgrounds** – The County Fairgrounds are located at the junction of Highway 83 and Highway 2 just outside the Village of Thedford. The County Fair is held each summer, and includes the following facilities: an outdoor arena, grandstands, concessions, restrooms, a 4-H/Agriculture building, an open barn and roping chutes.
- ❖ **Thedford High School Rodeo** – The Thedford High School Rodeo is the oldest high school rodeo operated in Nebraska. The Rodeo is held annually in early summer at the Thomas County Fairgrounds.
- ❖ **Thomas County Historical Museum** – The Thomas County Historical Museum is located at 609 Court Street, within a historic home in Thedford, Nebraska. The Museum is open 10:00 AM to 12:00 PM and from 2:00 PM to 4:00 PM Monday, Wednesday and Friday, or by appointment. The Museum has a wide variety of artifacts depicting the history of the Sandhills Region and the many relics used by the settlers.

## **MEDICAL FACILITIES**

The Thomas County area does not have a medical facility. Persons in need of medical attention are transported to hospitals in either North Platte or Broken Bow. A medical clinic is available in the Community of Mullen, in Hooker County.

## **PUBLIC SAFETY**

Public administration facilities serve the citizens of the County and conduct business of government and carry out its operations. Therefore, it is essential these services are centrally located and convenient to the majority of the citizens in Thomas County.

- ❖ **Law Enforcement** – The **Thomas County Sheriff's Department** is located at 503 Main Street in Thedford, Nebraska and serves the entire Thomas County area. The Sheriff Department employs one full-time Sheriff and one Deputy Sheriff. The Department does not have holding cells, criminals are taken to either the Broken Bow or North Platte Sheriff's Departments.

Thomas County Communities are also served by the Sheriff's Department. If additional help is needed the Blaine County Sheriff's Department and the Highway State Patrol are available.

- ❖ **Fire Protection** – The **Halsey Rural Fire District** is located at 105 Main Street in Halsey, and currently has 16 volunteer fire fighters. The Department has an Insurance Classification Rating (ISO) of “10” and an average response time of approximately 10 minutes.

Fire and emergency medical services for the Village of Thedford and surrounding areas are provided by the **Thedford Volunteer Fire and Rescue District**. A new Fire Hall located along Highway 2 on the east edge of Thedford was completed in late 2017. More than 40 volunteer firefighters and EMTs (Emergency Medical Technicians) comprise both the Fire Department and EMS (Emergency Medical Services) system.

The Thedford Volunteer Fire and Rescue District maintains the following equipment: two ambulances, two grass rigs, two tankers, one engine, one extraction rig and a command suburban. The District covers more than three-quarters of a million acres, and offers the only rural ALS (Advanced Life Support) between Grand Island and Alliance on Nebraska State Highway 2. The District includes three-fourths of Thomas County, ending on the west at Seneca at the Hooker County line, south at the Logan County line, east to Halsey, to the Blaine County line and covers approximately 60 percent of Cherry County to the north. On average, the District responds to approximately 40 to 50 calls per year.

- ❖ **Airport** – The **Thomas County Airport** is located just outside Thedford to the south along Highway 83. The Airport is a small private airport handling private planes, crop dusting services and flying lessons. The Airport has a 4,400 foot long runway, supporting approximately 33 aircraft operations per week.
- ❖ **Civil Defense** – The present **Civil Defense** services in Thomas County are managed by **Region 26**, along with local volunteer fire departments, the County Sheriff’s Department and other County officials. Region 26 was established in 1971 for the purpose of 911 communications for an eight county area, and developed into an emergency management region as well. The Region 26 coverage area includes the counties of Thomas, Blaine, Loup, Garfield, Wheeler, Greeley, Valley and Sherman in central Nebraska. Civil defense is responsible for notifying citizens in the case of an emergency. In the case of an emergency, a list of trained volunteers is maintained on an as-needed basis. The planning and preparation for natural disaster and man-made emergencies consist of the following: Mitigation, Preparation, Response, and Recovery. Examples of natural and man-made disasters include floods, tornadoes, winter storms, chemical spills, explosions, plane crashes, etc. Other services include weather alert of severe weather, tornado awareness week education, winter time road services, etc.



**GOVERNMENT & PUBLIC ADMINISTRATION**

❖ **County Courthouse** – The **Thomas County Courthouse** is located at 503 Main Street in Thedford, Nebraska. The courthouse meets ADA standards and hold Thomas County Commissioner meetings on the first and third Tuesday of each month. Offices included in the County Courthouse include:

- County Assessor
- County Attorney
- County Election Commissioner
- County Clerk
- County Treasurer
- County Court
- County Planning & Zoning Commission
- County Sheriff
- County Clerk of District Court
- Register of Deeds
- UNL Extension Office

❖ **Village Offices** – The **Thedford Village Offices** are housed at 600 Main Street. Meetings of the Village Board of Trustees are held at the Thomas County Library, 501 Main Street. The Library meets ADA standards and serves the current needs of the Village Board.

The **Halsey Village Offices** are located within the **Halsey Community Building** at 507 Highway 2. The building was originally constructed in 1976 and an addition was completed in 1990. The Community Building includes the office of the Village Clerk, and is also rented to area citizens for events, such as receptions, funeral services, retirement parties, town meetings, etc.

❖ **Upper Loup Natural Resources District** – The Upper Loup Natural Resources District (NRD) and the United States Department of Agriculture Soils Conservation Service have offices located together in a building along Highway 2 on the east edge of Thedford. The NRD is comprised of 6,690 square miles and includes all of Grant, Hooker, Thomas, Blaine and Logan Counties, and parts of McPherson, Brown and Cherry Counties.

❖ **Postal Services** – The **Thedford Post Office** is located at 507 Walnut Street in Thedford, Nebraska. The building is ADA accessible and houses approximately 200 postal boxes. The Post Office maintains three rural delivery routes, and the Service Center is open from 7:30 AM to 11:30 AM and from 12:00 PM to 2:00 PM, Monday through Friday, as well as 8:30 AM to 10:00 AM on Saturdays. The lobby is open 24 hours per day, seven days per week.

The **Post Office of Halsey** is located at 508 Highway 2. The brick building was built in 1962 and meets ADA standards. The Post Office maintains more than 100 postal boxes, and has a rural route provided by a H.C. company. The Service Center is open from 7:30 AM to 12:00 PM and from 12:30 PM to 2:00 PM, Monday through Friday, as well as 7:30 AM to 9:00 AM on Saturdays. The lobby is open 24 hours per day, seven days per week.

The **Seneca Post Office** is located at 109 West Street. The brick building was formerly a bank and currently meets ADA standards. Nearly 100 postal boxes are housed in the Post Office, and a H.C. company provides a rural route throughout the surrounding area. The Service Center is open from 10:00 AM to 12:00 PM, Monday through Friday, as well as 10:00 AM to 11:00 AM on Saturdays. The lobby is open 24 hours per day, seven days per week.

❖ **United States Department of Agriculture (USDA)** – A USDA Natural Resources Conservation Service (NRCS) office is located along Highway 82, just east of the Highway 83 overpass, and is home to the office of the District Conservationist. The NRCS utilizes various local, state and national land and natural resource conservation programs include the following:

- Environmental Quality Incentives Program.
- Well Head Identification and Protection.
- Wetlands Reserve Program.
- Conservation Reserve Program.
- Nebraska Soil & Water Conservation Program.

The NRCS utilizes these programs to address concerns and formulate solutions for the Upper Loup Natural Resource District

## **TRANSPORTATION**

The availability of a convenient and efficient transportation system is essential to the continued economic and physical development of Thomas County. An adequate transportation system is required to transport goods and services to and from major travel routes and market centers within and outside the County. The overall purpose of this transportation analysis is to provide the necessary guidelines for the safe movement of people and vehicles throughout the County.

The primary sources of information utilized to develop the transportation analysis were the (1) Thomas County “One and Six Year Road Improvement Program” and (2) State of Nebraska Department of Transportation “Nebraska Highway Program” (Fiscal Years 2019-2024 and Beyond).

## **EXISTING TRANSPORTATION SYSTEM**

**Illustration 5.1, State Functional Classification Map**, as identified by the Nebraska Department of Transportation, depicts the transportation system in Thomas County. The transportation network in Thomas County comprises one U.S. Highway (83), one Nebraska State Highway (2), two Nebraska Highway spurs (S86A & S86B) and many County roads. U.S. Highway 83 links Thomas County and its Communities with many cities and metropolitan areas throughout the region, while the state highway and county roads provide transportation services throughout the county and into adjacent counties.

## **ROAD CLASSIFICATIONS**

Nebraska Highway Law identifies the nine functional classifications of rural highways as follows:

- (1) **Interstate:** Which shall consist of the federally designated National System of Interstate and Defense Highways;
- (2) **Expressway (Other Freeways & Expressways):** Second in importance to Interstate. Shall consist of a group of highways following major traffic desires in Nebraska and ultimately should be developed to multilane divided highway standards;
- (3) **Major Arterial (Other Principal Arterials):** Consists of the balance of routes which serve major statewide interests for highway transportation in Nebraska. Characterized by high speed, relatively long distances, and travel patterns;
- (4) **Scenic-Recreation:** Consists of highways or roads located within or which provide access to or through state parks, recreation or wilderness areas, other areas of geological, historical, recreational, biological, or archaeological significance, or areas of scenic beauty;

- (5) **Other Arterial (Minor Arterials):** Which shall consist of a group of highways of less importance as through-travel routes which would serve places of smaller population and smaller recreation areas not served by the higher systems;
- (6) **Collector (Major and Minor Collectors):** Which shall consist of a group of highways which pick up traffic from many local or land-service roads and carry it to community centers or to the arterial systems. They are the main school bus routes, mail routes, and farm-to-market routes;
- (7) **Local:** Which shall consist of all remaining rural roads, except minimum maintenance roads; and
- (8) **Minimum Maintenance:** Which shall consist of (a) roads used occasionally by a limited number of people as alternative access roads for area served primarily by local, collector, or arterial roads, or (b) roads which are the principal access roads to agricultural lands for farm machinery and which are not primarily used by passenger or commercial vehicles.
- (9) **Remote Residential:** Consists of roads or segments of roads in remote areas of counties with (a) a population density of no more than five people per square mile or (b) an area of at least one thousand square miles, and which roads or segments of roads serve as primary access to no more than seven residences.

The rural highways classified under subdivisions (1) through (3) of this Section should, combined, serve every incorporated municipality having a minimum population of 100 inhabitants or sufficient commerce, a part of which will be served by stubs or spurs, and along with rural highways classified under subsection (4) of this section, should serve the major recreational areas of the State. Sufficient commerce shall mean a minimum of \$200,000 of gross receipts under the Nebraska Revenue Act of 1967.

## TRAFFIC VOLUME

The Nebraska Department of Transportation monitors traffic volume in the Thomas County area, for local roads and State and Federal highways. This tabulation process is done to identify appropriate existing road classification and engineering standards.

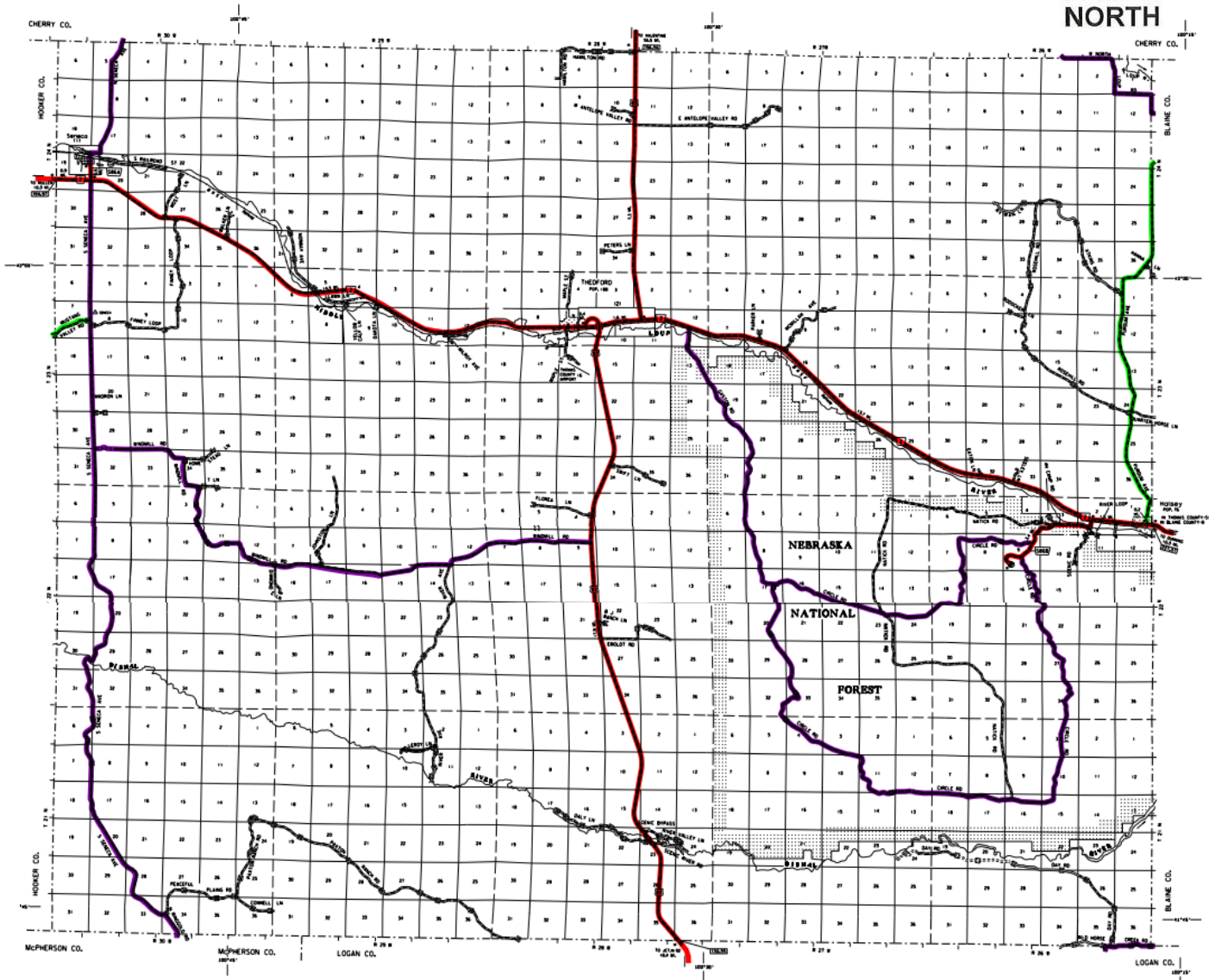
**Illustration 5.2** identifies the average daily traffic counts for State and Federal transportation routes throughout Thomas County. Each of the road segments are identified as “*Major Arterial*” roads. All other roads within the County jurisdiction are classified as “*Other Arterial*,” “*Collector*,” “*Remote Residential*,” or minimum maintenance roads.

The analysis of average 24-hour traffic volumes at the above identified locations indicates that in the four-year period between 2014 and 2018, traffic volumes decreased in terms of both total vehicles and heavy commercial vehicles traveling through the County. However, traffic volumes during the two-year period, from 2016 to 2018, increased slightly. As shown on **Illustration 5.2, Page 5.12**, Segment C (Highway 2), just west of Thedford, was the only location where the total traffic volume increased between 2014 and 2018.

**All traffic volumes, with the exception of Highway 2 west of Thedford, experienced stable to slightly decreasing volumes in both total vehicles and heavy commercial vehicles during the four-year period 2014-2018.**

# STATE FUNCTIONAL CLASSIFICATION MAP

## THOMAS COUNTY, NEBRASKA



Source: Nebraska Department of Transportation.

**LEGEND**

STATE FUNCTIONAL CLASSIFICATION

INTERSTATE .....	
EXPRESSWAY .....	
MAJOR ARTERIAL .....	
OTHER ARTERIAL .....	
COLLECTOR .....	
REMOTE RESIDENTIAL (Rural Only).....	
MINIMUM MAINTENANCE (Rural Only) .....	
SCENIC RECREATION (Rural Only) .....	
URBANIZED BOUNDARY .....	

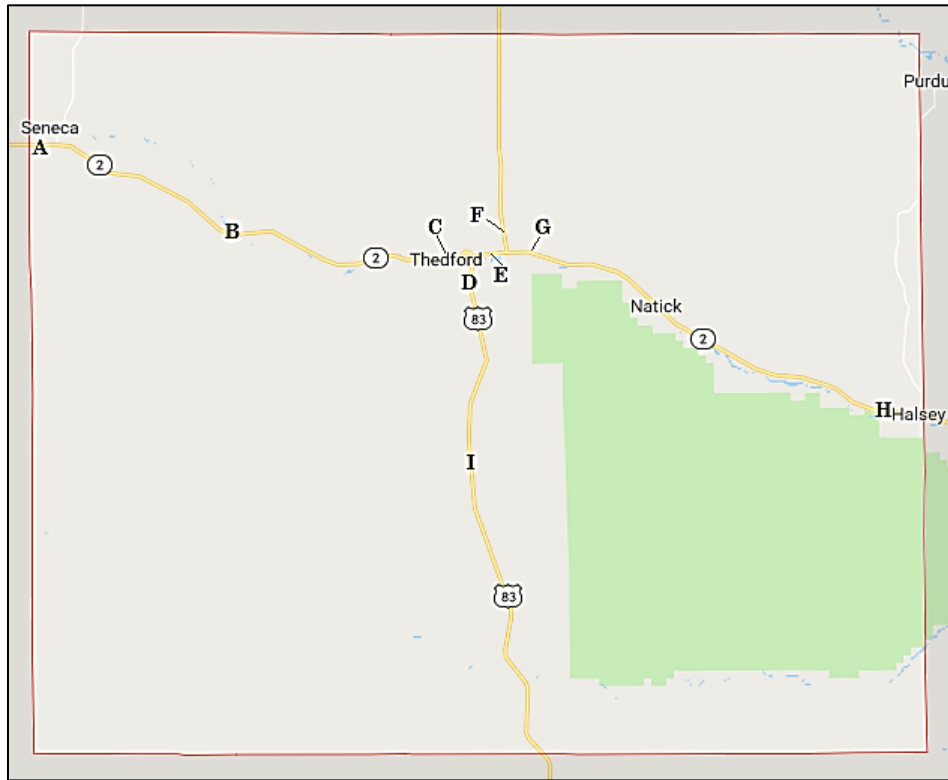
**HANNA:KEELAN ASSOCIATES, P.C.**  
**COMMUNITY PLANNING & RESEARCH**

\* Lincoln, Nebraska \* 402.464.5383 \*

ILLUSTRATION 5.1



**AVERAGE ANNUAL 24-HOUR TRAFFIC  
THOMAS COUNTY, NEBRASKA**



**AVERAGE ANNUAL 24-HOUR TRAFFIC\*  
THOMAS COUNTY, NEBRASKA  
2014, 2016 & 2018**

	<u>2014</u>	<u>2016</u>	<u>2018</u>
Segment A	810/130	630/100	705/110
Segment B	710/115	615/100	710/115
Segment C	765/125	740/120	790/130
Segment D	1,420/260	1,035/200	1,240/230
Segment E	2,085/341	1,910/329	1,880/299
Segment F	1,575/310	1,325/270	1,290/274
Segment G	1,175/225	1,105/194	1,075/219
Segment H	1,290/205	935/150	1,250/200
Segment I	<u>1,340/265</u>	<u>1,035/200</u>	<u>1,135/220</u>
<b>Totals</b>	<b>11,170/1,976</b>	<b>9,330/1,663</b>	<b>10,075/1,797</b>

\*Total Vehicles / Heavy Commercial Vehicles.  
Source: Nebraska Department of Transportation, 2014-2018.

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**ILLUSTRATION 5.2**



**FUTURE THOMAS COUNTY TRANSPORTATION SYSTEM**

**COUNTY ONE- AND SIX-YEAR ROAD IMPROVEMENT PLAN**

The future transportation system is outlined in the Thomas County **One- and Six-Year Road Improvement Plan**. The County’s One-Year Plan identifies projects to be undertaken in Fiscal Year 2019, while the Six-Year Plan includes projects to be undertaken through 2024, or earlier if funding becomes available. Road Improvement Plans are available in the office of the County Clerk.

The Thomas County Highway Superintendent annually prepares the One and Six-Year Road Plan and reports directly to the County Commissioners. The County Board of Commissioners approves the Plan and files it with the Nebraska Department of Transportation. All 11 road improvement projects listed below are included on both the One-Year and Six-Year Road Improvement Plan for Thomas County.

- **C-86(57):** River Avenue; From near the SW corner Section 35, T22N, R29W north; Grade/Gravel; 2.3 Miles; Estimated Cost: \$23,000.
- **C-86(74):** S Seneca Avenue; From near the SW corner Section 17, T21N, R30W north to the Dismal River; Grade/Gravel; 4.25 Miles; Estimated Cost: \$45,000.
- **C-86(82):** Fuller Road; From S Seneca Avenue west to the county line; Grade/Gravel; 1.3 Miles; Estimated Cost: \$18,000.
- **C-86(88):** Peaceful Plains Road; From near the NE corner Section 35, T21N, R30W west & Paxton Ranch Road; From near the NE corner Section 35, T21N, R30W north; Grade/Gravel; 1.0 Miles; Estimated Cost: \$16,000.
- **C-86(93):** Windmill Road; From near the NW corner Section 34, T23N, R30W southeasterly to Diamond E Lane; Grade/Gravel; 4.0 Miles; Estimated Cost: \$88,000.
- **C-86(94):** S Seneca Avenue; From near the NW corner Section 8, T22N, R30W south; Grade/Gravel; 3.0 Miles; Estimated Cost: \$66,000.
- **C-86(97):** Heritage Road; From S Seneca Avenue west to the county line; Grade/Gravel; 1.0 Miles; Estimated Cost: \$20,000.
- **C-86(100):** Quarter Horse Lane; From Purdum Avenue east to the county line; Grade/Gravel; 0.5 Miles; Estimated Cost: \$8,000.

- **C-86(101):** Windmill Road; From Highway 83 west; Millings/AC; 3.0 Miles; Estimated Cost: \$32,000.
- **C-86(102):** Maple Street (Thedford); From the Loup River to Hillcrest Cemetery; Grade/Gravel; 0.5 Miles; Estimated Cost: \$8,000.
- **C-86(103):** East Antelope Valley Road; From Hwy 83 east 3 miles and northeasterly 1 mile; Grade/Gravel; 4.0 Miles; Estimated Cost: \$48,000.

## **STATE ONE AND SIX-YEAR TRANSPORTATION PLAN**

The Nebraska “Surface Transportation Program 2019-2024” is an annual publication that includes a list of one-year short-term and six-year long-range improvement projects for State and Federal Highways. Improvement projects located in Thomas County include the following projects:

### **One-Year Projects (Fiscal Year 2019 to Fiscal Year 2020):**

- None.

### **Six-Year Planning Program Projects (Fiscal Years 2020-2024):**

- **NH-2-2(120):** Nebraska State Highway 2; Thedford West; Milling, Resurfacing & Bridge Repair; 4.6 Miles; Estimated Cost: \$2,890,000.
- **NH-2-2(121):** Nebraska State Highway 2; Halsey West & East; Milling, Resurfacing; 6.7 Miles; Estimated Cost: \$3,260,000.
- **NH-83-3(110):** U.S. Highway 83; Thedford North; Milling, Resurfacing; 7.3 Miles; Estimated Cost: \$3,420,000.



**SECTION 6:**  
**ENERGY ELEMENT.**



## **INTRODUCTION**

This **Section** of the **Thomas County, Nebraska, Comprehensive Plan** complies with a **July, 2010, amendment to Nebraska State Statues 23-114.02**, requiring updates to a County Comprehensive Plan to include an “**Energy Element.**” This component of the **Plan** profiles the energy infrastructure and energy use by sector, in the County, including residential, commercial and industrial. This Section also discusses the utilization of renewable energy sources and the promotion of energy conservation measures.

## **PUBLIC POWER DISTRIBUTION**

Energy usage and consumption throughout Thomas County has followed the trends prevalent in the State of Nebraska. Electrical power is distributed across rural Thomas County by **Custer Public Power District (CPPD)**, which purchases electricity from **Nebraska Public Power District (NPPD)**. CPPD is geographically the largest rural public power district in Nebraska, serving over 8,000 square miles of territory. This service area includes Thomas, Custer, Blaine, Logan, McPherson, Loup and Hooker Counties, as well as portions of Sherman, Dawson, Cherry, Lincoln, Brown and Garfield Counties.

As the largest electric generating utility in the State of Nebraska, NPPD provides electricity to all or parts of 91 of the State’s 93 Counties. The fuel sources of NPPD’s generating facilities includes coal, oil, natural gas and nuclear energy. Additionally, NPPD also purchases electricity from the **Western Area Power Administration (WAPA)**, which markets and transmits electricity for federally owned hydropower facilities.

## RENEWABLE ENERGY STRATEGIC PLAN

*“NPPD will further diversify its mix of generating resources (nuclear, coal, gas, hydro and renewable including wind, energy efficiency, and demand response) and energy storage, capitalizing on the competitive strengths of Nebraska (available water, proximity to coal, wind) **with a goal of achieving 10% of our energy for NPPD’s native load from renewable resources by 2020.**”*

As of 2016, NPPD had a total of 312 megawatts (MWs) generated from renewable resources, primarily wind, from eight separate facilities in the State. Energy from renewable resources is at just over 9 percent of the total energy generation, putting NPPD on track to achieve its goal of 10 percent energy generation from renewable resources by 2020.

- ◆ NPPD was formed in 1970 through the merger of two public power districts and the assets of the former Nebraska Public Power System.
- ◆ More than 5,200 miles of overhead and underground power lines make up NPPD’s electric system.
- ◆ NPPD revenue is derived from wholesale power supply agreements with 46 municipalities and 25 public power districts and cooperatives. NPPD also serves 79 Nebraska communities at retail, consisting of more than 91,000 customers.

## GENERATING RESOURCES

The source of NPPD’s generating facilities includes Fossil fuels – coal, oil or natural gas, Nuclear, Hydroelectric, Wind and Methane. Additionally, NPPD purchases electricity from the **Western Area Power Administration (WAPA)**, which markets and transmits electricity for federally owned hydropower facilities.

**In 2017, NPPD’s energy generation for Nebraska customers was comprised of:**

- ◆ 27.3 percent of NPPD’s energy generation was from coal.
- ◆ 48.2 percent was from nuclear.
- ◆ 2.0 percent generation from oil & natural gas.
- ◆ 8.3 percent from renewable wind generation.
- ◆ 8.4 percent from renewable Hydro generation.
- ◆ The remaining 5.9 percent of NPPD’s energy was supplied through wholesale purchases.

**MORE THAN 56% OF NPPD’S GENERATION SOURCES ARE CARBON-FREE.**



**NPPD RENEWABLE ENERGY CAPABILITIES****1.) Western Area Power Administration –**

In 2017, NPPD purchased electrical energy, produced primarily from Hydropower, in the amount of 447.6 MWs of “firm” power.

**2.) Hydroelectric Generators –**

NPPD operates three hydroelectric generating facilities, at North Platte and Kearney on the Platte River and near Spencer on the Niobrara River. Combined these facilities produce 28 megawatts and serve approximately 9,500 homes. Nearly 9 percent of the electric power sold by NPPD in 2016 came from water power, including purchases from plants operated by other Nebraska utilities and the Western Area Power Administration.

**3.) Wind Turbine Generators –**

NPPD owns 32 MW of the Ainsworth Wind Energy Facility, while Omaha Public Power District (OPPD) and JEA of Jacksonville, Florida each own 10 MWs of the facility, the Municipal Energy Agency of Nebraska purchases 7 MWs, and the City of Grand Island purchases one MW.

NPPD has power purchase agreements with six additional wind generating facilities in Nebraska. NPPD purchases a total of 435 MWs, of which NPPD utilizes 281 MWs and has purchase agreements for the remaining 154 MWs to other utility districts.

**4.) Solar Energy –**

Under NPPD’s 2017 wholesale power contract, customers have the ability to invest in their own, local renewable energy sources by installing qualifying local generation, including solar, and offset its purchases of demand and energy from NPPD by up to two megawatts or 10 percent of their demand, whichever is greater.

Central City installed a 200 KW facility and became Nebraska’s first “Community Solar Garden.” This 100-panel system was installed in an industrial park and is owned by the City. Plans include installing an additional 500 KW system later this year. A new solar project near Callaway, Nebraska, in Custer County is a 600 KW solar facility owned by a private company. As of June 2016, it is the largest solar facility in the State. Custer Public Power District purchases power generated from the system.

NPPD also developed a “Community Solar Program” that is now in effect as of 2017 in pilot programs in Scottsbluff and Venango. The Program allows community members to purchase solar energy without having to install solar panels on individual rooftops. Solar subscribers can purchase different amounts of solar energy based on their annual electricity usage.

## **NPPD TRADITIONAL PRODUCTION FACILITIES**

### **Coal-Fired Generators –**

NPPD owns the Gerald Gentleman and Sheldon Stations, which are both coal-fired generating stations. Together, these facilities produce 1,590 MWs. The Gerald Gentleman Station produces enough power to supply electricity to 600,000 Nebraskans. Additionally, NPPD has a coal power purchase agreement with the Nebraska City #2, owned by Omaha Public Power District, for 162 MWs.

### **Natural Gas & Oil-Fired Generators –**

Gas and Oil fired generators are utilized only during peak loads or as replacement power if another facility is down. NPPD owns two natural gas-fired generation facilities, the Beatrice Power Station and the Canaday Station that produce a combined total of 365 MW.

Three oil-fired generation facilities located in Hallam, McCook and Hebron, Nebraska produce 162 MW. NPPD also have capacity purchases agreements with 12 municipal systems in Nebraska for an additional 93 MWs.

## **NPPD EMISSION FREE ELECTRICITY**

### **Nuclear Facilities –**

**Cooper Nuclear Station** operates as the largest single unit electrical generator in Nebraska, by generating 810 MW of electricity. This facility is capable of supplying power to more than 310,000 customers during peak summer usage. In November of 2010, NPPD received an additional 20 years beyond its initial 40-year license to provide power through at least January, 2034.

### **“NET METERING”**

In 2009, the State of Nebraska Legislature approved and signed into law, LB 439 (**Nebraska State Statute §70-2001 to 2005**), which is also referred to as “**Net Metering**.” This law allows individual residences and businesses to supplement their standard electric service with one, or combinations of, five alternate energy systems, including Solar, Methane, Wind, Biomass, Hydropower and Geothermal.



By implementing these types of alternative energy systems, individuals will reduce their reliance on public utility systems, potentially generating more electricity than they use and profit by the public utility districts purchasing their excess energy. The Thomas County Planning Commission could choose to allow usage control of Net Metering by allowing residential and businesses property owners to seek a **Special Use Permit**, if the applicant can document a project in conformance with allowable provisions included in the **Thomas County Zoning Regulations**.

*A new net metering service was developed by NPPD to assist its Communities in complying with net metering laws. As of 2018, NPPD had 29 net metering solar customers.*

## **THOMAS COUNTY ENERGY CONSUMPTION**

Custer Public Power District provided annual Thomas County consumption and revenue data between 2014 and 2018 (see **Table 6.1**, on the following page). Commercial, Irrigation and Rural Residential were analyzed. Commercial energy consumption also includes consumption from agricultural and industrial sectors.

The five-year period between 2014 and 2018 revealed a gradual increase in overall energy consumption, from an estimated 7.25 Million Kilowatt Hours (KWh) to 7.61 Million KWh, with a peak output in 2017 of 7.74 Million KWh. Rural residential properties have consistently consumed the most KWh of energy within the reviewed five-year period.

Total revenues from Custer Public Power have gradually increased from 2014 to 2018. Revenues from Thomas County increased 15.2 percent, or from \$824,878 to \$950,533. With the exception of 2015, Rural Residential energy consumption in Thomas County has consistently generated the most revenue for Custer Public Power.

**Table 6.1  
Thomas County Rural Consumption And Revenue Data  
2014-2018**

<b>Consumption of Electricity (KWh)</b>	<b><u>2014</u></b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>
Commercial	3,147,396	3,187,119	3,256,841	3,404,370	3,455,747
Irrigation	374,145	436,609	407,076	607,411	287,412
<u>Rural Residential</u>	<u>3,730,397</u>	<u>3,546,643</u>	<u>3,598,507</u>	<u>3,733,346</u>	<u>3,869,036</u>
<b>TOTAL</b>	<b>7,251,938</b>	<b>7,170,371</b>	<b>7,262,424</b>	<b>7,745,127</b>	<b>7,612,195</b>
<b>Revenues</b>					
Commercial	\$ 389,464	\$ 414,602	\$ 405,979	\$ 426,243	\$ 445,423
Irrigation	\$ 25,795	\$ 31,014	\$ 28,110	\$ 40,963	\$ 21,125
<u>Rural Residential</u>	<u>\$ 409,619</u>	<u>\$ 414,259</u>	<u>\$ 432,845</u>	<u>\$ 457,777</u>	<u>\$ 483,985</u>
<b>TOTAL</b>	<b>\$ 824,878</b>	<b>\$ 859,875</b>	<b>\$ 866,934</b>	<b>\$ 924,982</b>	<b>\$ 950,533</b>

\*Note: Commercial also includes agricultural and industrial sectors.

Source: Custer Public Power District.

## STATE-WIDE TRENDS IN ENERGY CONSUMPTION

During the last 40+ years, the State of Nebraska, as a whole, has vastly increased energy consumption. However, percentage share of personal income has remained constant, although it has declined in recent years. In 1970, 11.5 percent of the percentage share of personal income was spent on energy. As of 2015, 8.9 percent was spent on energy usage. The peak percentage occurred in 1980 at 16.6 percent.

Trends in the Total Energy Consumption for the State of Nebraska, published in the *“2018 Annual Report” of the Nebraska Energy Office*, is mirrored in each of the individual energy categories, coal, natural gas, gasoline and distillate fuel oil (primarily diesel fuel), nuclear power, and hydroelectric production. Each energy type is detailed between 1960 and 2016, as follows:

- ◆ **Coal** consumption has increased from 20 trillion British Thermal Units (BTUs) in 1960 to 240.5 trillion BTUs in 2016. Peak use of coal was reached in 2013, surpassing the previous high set in 2011. The increase through 2013 was attributable to coal energy used to generate electricity.

- ◆ **Natural Gas** consumption has risen and fallen during the 56-year period between 1960 and 2016, beginning at 140.4 trillion BTUs, peaking in 1973 at 230.8 trillion BTUs and, by 2016, declining to 172.9 trillion BTUs.
- ◆ **Gasoline and Diesel Fuel** consumption nearly doubled in Nebraska between 1960 and 2016. Gasoline consumption increased by just under 25 percent, from 78.8 to 102.2 trillion BTUs, as of 2016, and peaked in 1978 at 116 trillion BTUs. Diesel fuel consumption more than quadrupled from 24.2 trillion BTUs to 111.4 trillion BTUs, primarily due to an increase in trucking and agricultural use. Petroleum consumption, overall, peaked in 1978 at 246.7 trillion BTUs.
- ◆ **Nuclear** power generation began in Nebraska in 1973 at 6.5 trillion BTUs. Usage has since increased to 97.8 trillion BTUs as of 2016. The peak use of nuclear power was in 2007 at 115.8 trillion BTUs.
- ◆ **Renewable energy** consumption has fluctuated, beginning in 1960 at 13.4, and peaking in 2016 at 161.3 trillion BTUs. Hydropower was the primary renewable energy source from 1960 to 1994. Biofuels, or ethanol production, began equaling hydropower in 1995. As of 2016, 69.97 percent of all renewable energy produced came from biofuels, 4.9 percent from hydroelectric, 21.7 percent from wind, and 2.5 percent from wood products. Minor amounts came from geothermal and solar energy.

## **NEBRASKA ENERGY CONSUMPTION BY SECTOR**

- ◆ **Commercial Sector:** The commercial sector includes non-manufacturing business establishments, including energy use by local, state and federal governments. Energy use in the commercial sector closely parallels consumer energy use and economic activity in the State of Nebraska. More than 90 percent of all fuel used in the commercial sector was supplied by natural gas and electricity. Although natural gas has historically been the dominant fuel type, recent trends suggest a period of near parity between the two fuel types is likely into the near future. In 2016, a total of 134.5 trillion BTUs were consumed in the commercial sector, down 1.9 percent from 2015.
- ◆ **Residential Sector:** The residential sector consumed 17 percent, or 147.9 trillion BTUs, of the State's total energy demand in 2016. Demand decreased 0.4 percent from 148.4 trillion BTUs in 2015. Natural gas and electricity accounted for 89.6 percent of the total energy use in the residential sector.

- ◆ **Industrial Sector:** The industrial sector includes manufacturing, construction, mining, forestry and agricultural operations. Energy use in the industrial is more diverse, with natural gas, renewable energy, electricity, coal and a variety of petroleum products all being utilized. The industrial sector consumes more energy than any other sector in the State. In 2016, it accounted for 44 percent, or 384.8 trillion BTUs, of the State’s total energy consumption. This was a 4.5 percent increase in energy use from 2015.
- ◆ **Transportation Sector:** Public and private vehicles, railroads, aircraft and boats are all included in the transportation sector. Petroleum products accounted for 93 percent of the energy use in the transportation sector in 2016. Approximately 23 percent of the State’s total energy consumption (201.1 trillion BTUs) was used in the transportation sector in 2016.
- ◆ **Electric Power Sector:** The electric power sector consists of facilities which generate electricity primarily for use by the public. About 60 percent of energy usage in this sector comes from coal, while nuclear energy accounted for approximately 27 percent in 2016. Demand in the State’s electric power sector totaled 368.4 trillion BTUs in 2016, a 17.5 percent decrease, or 35.4 trillion BTUs, from 2015.
- ◆ **Agricultural Sector:** As per the U.S. Department of Agriculture National Agricultural Statistics Service, there were 47,400 farms and ranches on 45.2 million acres in Nebraska in 2017, encompassing 91 percent of the State’s total land area. Energy demand information in this sector is not available on a consistent or annual basis.

## **INCREASED ENERGY COSTS & CONSERVATION**

A comparison of “**Total Energy Expenditures Per Capita**” between the United States and the State of Nebraska indicated that between 1970 and 1994, Nebraska and the Nation’s per capita energy consumption were very close to one another. But, after 1994, Nebraska’s consumption began to be drastically higher than that of the Nation. The industrial sector, which includes agriculture, was the one sector that was surging in energy consumption in Nebraska.

Ethanol production in Nebraska in 1994 was 78.9 million gallons, by 2016 production had increased to 2.1 billion gallons. Considering ethanol production uses high volumes of both electricity and natural gas, the State’s energy expenditures per capita increased as well. **Additionally, in 2016, 43 percent of the State’s total corn harvested, or 727 million of the total 1.692 billion bushels of corn, was consumed by ethanol production.**

High fuel costs or limited availability of a particular energy type increases the desire for energy efficiency practices. For example, historic peak prices for natural gas in 2008 motivated farmers to convert natural gas and propane fueled irrigation equipment to electric power; to limit frequency and amount of applications of anhydrous ammonia fertilizer (a natural gas product); and to increase the use of conservation tillage practices to reduce crop cultivation. Access to low-cost financing through the Nebraska Energy Office and locally available low-interest loans to modernize agricultural equipment have led to conservation increases in the Agricultural Sector.

The U.S. Department of Agriculture issued a report in 2008 which concluded that farmers have increased conservation practices. **Since the 1970s, total farm energy consumption had fallen by 26 percent, while farm production increased by 63 percent, due to the adoption of energy conservation practices.** This figure is even more significant when the consolidation of farms is considered.

**In 1966, just 3.1 million acres of Nebraska crop lands were irrigated, but as of 2017, 8.6 million acres were irrigated. Thus, approximately 38.6 percent of the total cropland in Nebraska was irrigated.**

### ***ENERGY CONSERVATION POLICIES.***

The most effective means for Thomas County to reduce its total energy consumption in each of the Energy Sectors (and by selected energy type) is through conservation practices and by continuing to promote the conversion to alternative energy systems when appropriate.

The following is a list of policies to guide energy practices throughout the County:

- ◆ **Promote the use of “Net Metering” or the use of one or more combinations of selected alternative energy sources to reduce public/quasi-public, residential, commercial and industrial facilities consumption of energy.**
  - Utilize the Thomas County Zoning Regulations to control the placement and operation of alternative energy systems.
  - Require compliance with a Conditional Use permit process so that established conditions are met by the applicant.

- Utilize the net metering services of Custer Public Power District to assist Thomas County in complying with Nebraska’s Net Metering Law.
- Promote the development of vocational education opportunities in the Public School Districts of Thomas County, as well as regional State and Community Colleges, to educate the current and future workforce in alternative energy design, fabrication of equipment and maintenance.
- ◆ **As other sources of Alternative Energy Systems are developed, or become cost-effective for use in Nebraska, the planning documents of the County are recommended to be revised to guide their locations and monitor their operation.**
- ◆ **Promote the use of conservation methods to reduce the consumption of energy usage in each of the individual sectors including residential, commercial and industrial (which includes agricultural and public uses).**
  - Promote the expanded use of solar, methane, biomass, hydropower and geothermal exchange energy systems, or other sources of alternative energy systems, for applications throughout Thomas County. The use of an alternate energy source or combinations of these energy sources should be considered by farming and ranching operations to lower energy consumption and to make energy more affordable.
  - Promote the rehabilitation of agricultural, residential, commercial, industrial and public/quasi-public buildings utilizing weatherization methods and energy efficient or “green building” materials in conformance to the “LEED” Certified Building techniques.
  - Promote the use of conservation programs supported by Custer Public Power District, and in its association with Nebraska Public Power District, for its member Communities and public power districts. For example, the Prescriptive Lighting or Custom Lighting Programs provide cash incentives to businesses that replace old lighting fixtures with high-efficient light fixtures such as LED to reduce energy costs.
  - The Thomas County residents and farming/ranching operations could also access grant and loan programs to replace light fixtures with LED fixtures that reduce consumption and are more energy efficient.
  - Support and provide incentives for the expanded use of agricultural practices to reduce energy consumption. Techniques such as conservation tillage, high efficiency irrigation equipment and cost-effective fuel sources to power irrigation systems.



- Support State and Federal incentive programs to continue to provide low-cost financing to purchase modern agricultural equipment such as low-pressure pivots and no-till equipment. Programs such as the U.S. Department of Agriculture’s Rural Energy for America Program (REAP) that finances irrigation efficiency improvements switching diesel, propane and natural gas pumps to electric operated.
- Promote the availability of incentives provided by public power districts to develop alternative energy sources for, and from, agricultural practices. Modern methods such as producing methane gas from livestock confinement facilities to power agricultural equipment, is one example.
- Promote the use of solar and geothermal exchange energy systems for agricultural applications that power equipment and heat/cool farm and ranch buildings.