

**Contents**

**KNOX COUNTY ..... 2**  
**CITY OF BLOOMFIELD ..... 31**  
**VILLAGE OF CENTER..... 49**  
**CITY OF CREIGHTON..... 67**  
**CITY OF CROFTON ..... 87**  
**VILLAGE OF NIOBRARA..... 105**  
**VILLAGE OF VERDEL..... 125**  
**VILLAGE OF VERDIGRE..... 140**

# County Profile

## Knox County

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The Knox County local planning team for the hazard mitigation plan are listed in the table below. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table KNX.1: Knox County Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Kelsy Jelinek	Emergency Manager / Zoning Administrator	Knox County	Attended Round 2 Meetings
Monica McManigal	Assessor	Knox County	Assisted with plan development
Kevin Barta	Highway Superintendent	Knox County	Assisted with plan development
Jo Fischer	County Clerk	Knox County	Attended Round 2 Meetings
Laura Hintz	Former Emergency Manager	Knox County	Attended Round 1 Meetings

## Location, Geography, and Climate

Knox County is located in northeastern Nebraska and is bordered by Boyd, Holt, Antelope, Pierce, and Cedar Counties in Nebraska and Bon Homme and Yankton Counties in South Dakota. The total area of Knox County is 1,140 square miles. There are 11 incorporated communities in Knox County: Village of Bazile Mills, City of Bloomfield, Village of Center, City of Creighton, City of Crofton, Village of Niobrara, Village of Santee, Village of Verdel, Village of Verdigre, Village of Wausa, Village of Winnetoon. There is also the Census-designated place of Lindy and a number of unincorporated communities and townships. Center serves as the county seat. Knox County includes the far eastern portion of the Niobrara River and is bordered by the Missouri River to the north. Topographic regions in the county include sand hills, plains, dissected plains, and small regions of valleys and bluffs and escarpments.<sup>1</sup>

### Climate

Knox County, like almost all of the Midwest, sits in the humid continental climate zone of the United States, and thus, experiences a wide temperature difference between its average high and low temperatures. The average high temperature in Knox County for the month of July is 86.4 degrees and the average low temperature for the month of January is 10.3 degrees. On average, Knox County receives over 27 inches of rain and 25 inches of snowfall per year. The table below compares county-wide climate indicators with those of the entire state. Climate data are helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events are likely to impact vulnerable populations.

**Table KNX.2: Knox County Climate**

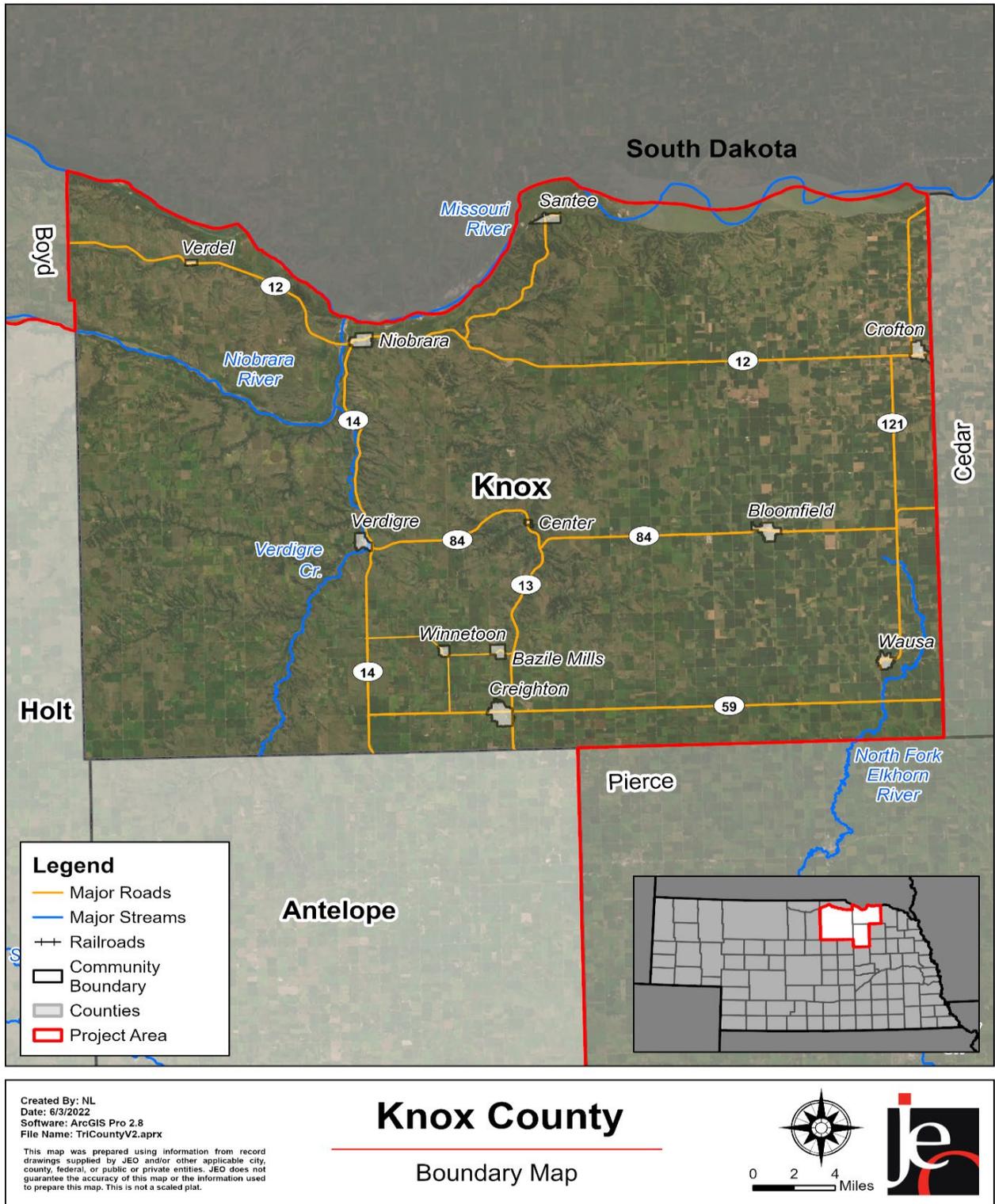
	Knox County	State of Nebraska
<b>July Normal High Temp</b>	86.4°F	87.4°F
<b>January Normal Low Temp</b>	10.3°F	13.9°F
<b>Annual Normal Precipitation</b>	27.63"	24.0"
<b>Annual Normal Snowfall</b>	25.6"	28.2"

Source: NCEI 1991-2020 Climate Normals<sup>2</sup>Precipitation includes all rain and melted snow and ice.

1 University of Nebraska-Lincoln, 1973. "Topographic Regions Map". <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1461&context=conservationsurvey>.

2 National Centers for Environmental Information. "Data Tools: 1991-2020 Normals." Accessed June 2022. <https://www.ncei.noaa.gov/access/us-climate-normals/>.

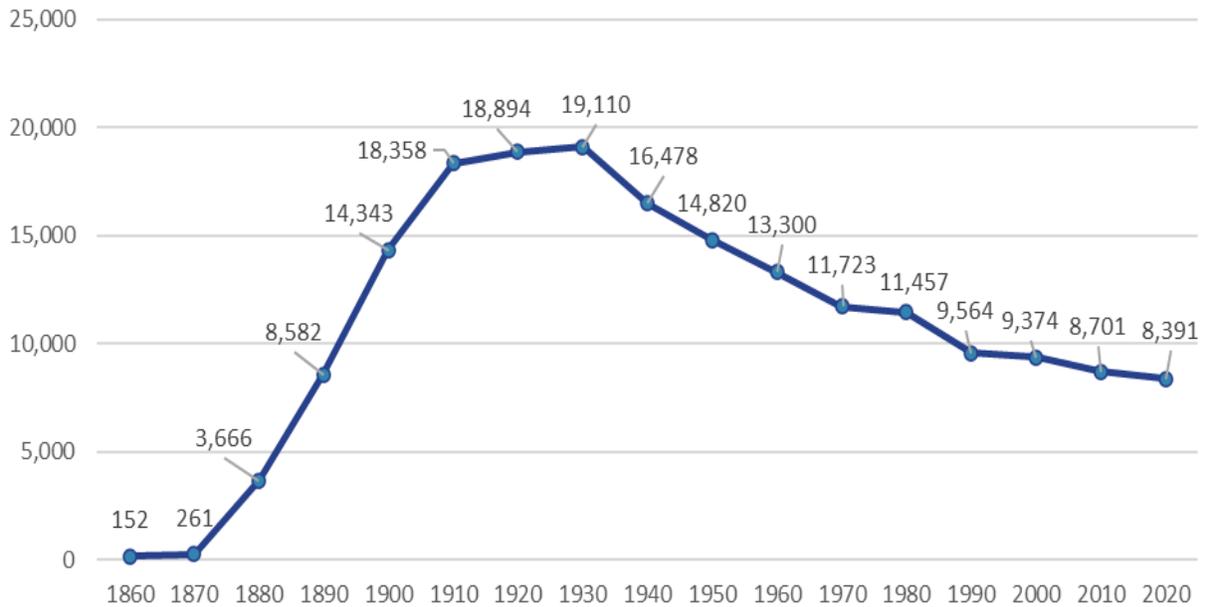
Figure KNX.1: Boundary Map of Knox County



## Demographics

The following figure displays the historical population trend from 1860 to 2020. This figure indicates that the population of Knox County has been decreasing since 1930 from 19,110 people to 8,391 in 2020. A declining population can lead to more unoccupied and unmaintained housing that is not being maintained and is then at risk of high winds and other hazards. Unoccupied housing may also be an economic indicator that future development is unlikely to occur. Furthermore, with fewer residents, tax revenue decreases for the county, which could make implementing mitigation projects more fiscally challenging. Knox County's population accounted for 0.42% of Nebraska's population in 2020.<sup>3</sup>

**Figure KNX.2: Population 1880 – 2020**



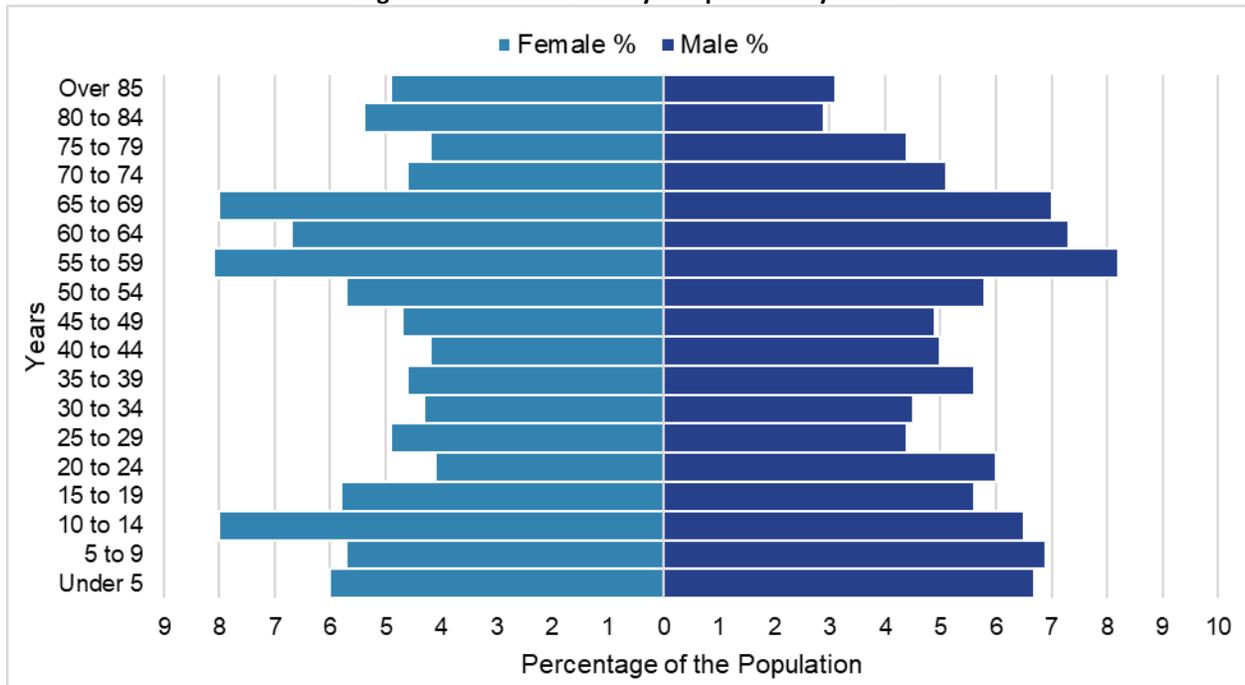
Source: U.S. Census Bureau

The young and elderly population may be at greater risk from certain hazards than other age groups. The following figure shows Knox County's population percentage broken down by sex and five-year age groups.<sup>4</sup> In general, the county's population is equally spread out between different age groups. This indicates that the population is likely to remain stable in the future. For a more elaborate discussion of this vulnerability, please see *Section Four | Risk Assessment*.

<sup>3</sup> United States Census Bureau. "2020 Census Bureau Decennial Census: P1: Race." <https://data.census.gov/>.

<sup>4</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov/>.

**Figure KNX.3: Knox County's Population Pyramid**



## Housing

The following table indicates that median household income and per capita income for the county is lower than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. Areas with relatively low economic indicators may influence a county's level of resilience during hazardous events.

**Table KNX.3: Housing and Income**

	Knox County	State of Nebraska
<b>Median Household Income</b>	\$53,653	\$63,015
<b>Per Capita Income</b>	\$29,210	\$33,205
<b>Median Home Value</b>	\$92,300	\$164,000
<b>Median Rent</b>	\$500	\$857

Source: U.S. Census Bureau<sup>5,6</sup>

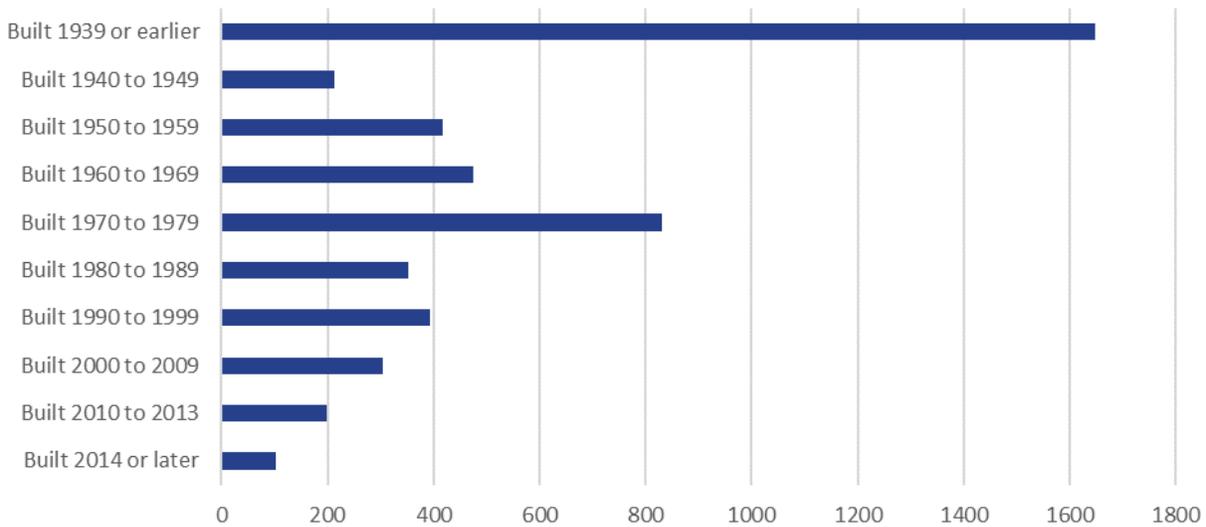
The following figure indicates that most of the housing in Knox County was built before 1939 (33.4%). Housing age can serve as an indicator of risk, as structures built prior to the development of state building codes may be at greater risk. The State of Nebraska first adopted building codes in 1987, with the International Building Code (IBC) adopted in 2010. The current edition of the IBC was updated in 2018. According to the 2020 American Community Survey, the county has 4,937 housing units with 73 percent of those units occupied. There are approximately 332 mobile homes in the county. Counties with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. According to the local planning team the majority of homes in the river bottom west of Niobrara are mobile homes located within an

5 United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov/>.

6 United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/>.

unincorporated part of the county. Renters are particularly vulnerable, as renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. Renters are less likely than homeowners to have flood insurance, have ready access to financial resources to evacuate, or to know their risks to flooding and other hazards.

**Figure KNX.4: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>5</sup>

**Table KNX.4: Housing Units**

JURISDICTION	TOTAL HOUSING UNITS				OCCUPIED HOUSING UNITS			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Knox County</b>	3,605	73.0%	1,332	27.0%	2,673	74.1%	932	25.9%
<b>Nebraska</b>	766,663	90.8%	77,585	9.2%	507,291	66.2%	259,372	33.8%

Source: U.S. Census Bureau<sup>5</sup>

### Broadband Access

Internet or broadband access—through Wi-Fi or cellphone coverage—is a critical means of sharing and receiving information regarding hazardous events, including storm warnings, evacuation orders, or weather updates. Rural communities often lack adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many people worked or attended school from home.

- **79.4% of households have a broadband internet subscription.** Knox County has a smaller share of households with broadband (79.4%) compared to the state (85.6%).<sup>7</sup>

<sup>7</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP02: Selected Social Characteristics in the United States." <https://data.census.gov/>.

## Economics

According to 2020 Business Patterns Census Data, Knox County had 250 business establishments. The following table presents the number of businesses, number of paid employees, and the annual payroll in thousands of dollars.

**Table KNX.5: Business in Knox County**

	TOTAL BUSINESSES	NUMBER OF PAID EMPLOYEES	ANNUAL PAYROLL (IN THOUSANDS)
<b>Total for All Sectors</b>	250	1,635	\$51,827

Source: U.S Census Bureau <sup>8</sup>

Agriculture is the backbone of Nebraska's economy. Knox County's 1,142 farms cover approximately 600,822 acres of land, about 82.3% of the county's total area. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute to agriculture by producing, processing and marketing farm products. These businesses generate income, employment and economic activity throughout the region.

**Table KNX.6: Agricultural Inventory**

AGRICULTURAL INVENTORY	
<b>Number of Farms</b>	956
<b>Number of Farms with Harvested Cropland</b>	709
<b>Acres of Harvested Cropland</b>	275,534

Source: USDA Census of Agriculture, 2017 <sup>9</sup>

## Governance

The county's governmental structure impacts its capability to implement mitigation actions. Knox County is governed by a board of supervisors. Other offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Board of Supervisors
- County Clerk
- County Assessor
- County Attorney
- County Engineer
- County Treasurer
- Emergency Manager
- Highway Superintendent
- Planning & Zoning
- Sheriff
- Surveyor

<sup>8</sup> United States Census Bureau. "County Business Patterns and 2020 Nonemployer Statistics." <https://data.census.gov/>.

<sup>9</sup> United States Department of Agriculture. "2017 Census of Agriculture." <https://www.nass.usda.gov/Publications/AgCensus/2017/>.

## Capability Assessment

According to the local planning team, county funds are sufficient to pursue new capital projects and have held relatively stable over recent years. There are no current large-scale projects with dedicated funds.

The planning team assessed Knox County’s hazard mitigation capabilities by reviewing local existing policies, regulations, plans, and programs related to hazard mitigation. The following tables summarize the county’s planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table KNX.7: Capability Assessment**

	CAPABILITY/PLANNING MECHANISM	YES/NO
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes – 2020
	Local Emergency Operations Plan	Yes
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes – 2015
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IBC
	Community Rating System	No
	Regional Community Wildfire Protection Plan	Yes – Missouri River Northeast CWPP
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Board of Supervisors
	Civil Engineering	No
	Local Staff Who Can Assess Community’s Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes – Fire and Rescue Agreements
	Other (if any)	Fire 40-12 Rescue KARA
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes – Roads
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No

CAPABILITY/PLANNING MECHANISM		Yes/No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Community-wide Internet or broadband access	~79.4% Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Not Applicable for Counties
	Other (if any)	

**Table KNX.8: Overall Capability**

OVERALL CAPABILITY	
<b>Financial resources to implement mitigation projects</b>	Limited
<b>Staff/expertise to implement projects</b>	Limited
<b>Public support to implement projects</b>	Limited
<b>Time to devote to hazard mitigation</b>	Limited
<b>Ability to expand and improve the identified capabilities to achieve mitigation</b>	Limited

### Social Vulnerability

According to FEMA’s National Risk Index, a new mapping tool that analyzes a jurisdiction’s risk to natural hazards, the overall Risk Index for Knox County is Relatively Low (12.62).<sup>10</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively High (56.29) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively Moderate (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics, the Rural Capacity Index evaluates rural communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding and fulfill reporting requirements, as well as design, build, and maintain infrastructure products over the long term. Counties lacking local capacity often have the greatest need for infrastructure investments—particularly rural counties. The Rural Capacity Index helps identify communities and counties with limited capacity on a scale of 0 (no capacity) to 100 (high capacity).

<sup>10</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

This index is based on 10 variables that can function as proxies for county capacity. The following table lists out the components and scores for the county.

**Table KNX.9: Knox County’s Rural Capacity Index**

Components of Index	Knox County
County is metropolitan?	No
Has head of planning?	Yes
Has college or university?	No
Adults with higher education	22%
Families below poverty level:	5%
Households with broadband	75%
People without health insurance	8%
Voter turnout	84%
Income stability score (0 to 100)	46
Population Change (2000 to 2019)	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>67 out of 100</b>

Source: *Headwaters Economics*<sup>11</sup>

## Plans and Studies

The County has several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Comprehensive Plan

Knox County has a comprehensive plan that was updated and approved in 2020. The plan incorporates hazard mitigation by making it a suggestion to check soil stabilization in the eastern part of the county along the Lewis and Clark Dam. In future updates of the comprehensive plan the planning team will consider any information from this hazard mitigation plan and how it can enhance the comprehensive plan.

### Ordinances and Regulations

The Knox County Zoning Regulations are currently under revision as of November 2022. The county’s floodplain ordinance and zoning ordinance outline where and how development should occur in the future. These documents discourage development in the floodplain and require one-foot base flood elevation per state standards.

### Knox County Local Emergency Operations Plan

The Knox County Local Emergency Operations Plan (LEOP) is updated as needed. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

<sup>11</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

### **Missouri River Northeast Community Wildfire Protection Plan**

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies.

The area's most at-risk from wildfire are in the WUI surrounding municipalities and in the canyons and bluffs along the Missouri and Niobrara Rivers, where there are heavy fuels, rough terrain, and limited access. Homes and other structures in these locations are at increased risk due to these factors. Locations of special concern identified by local fire districts and steering committee members include residential and recreational developments along the Missouri and Niobrara Rivers.

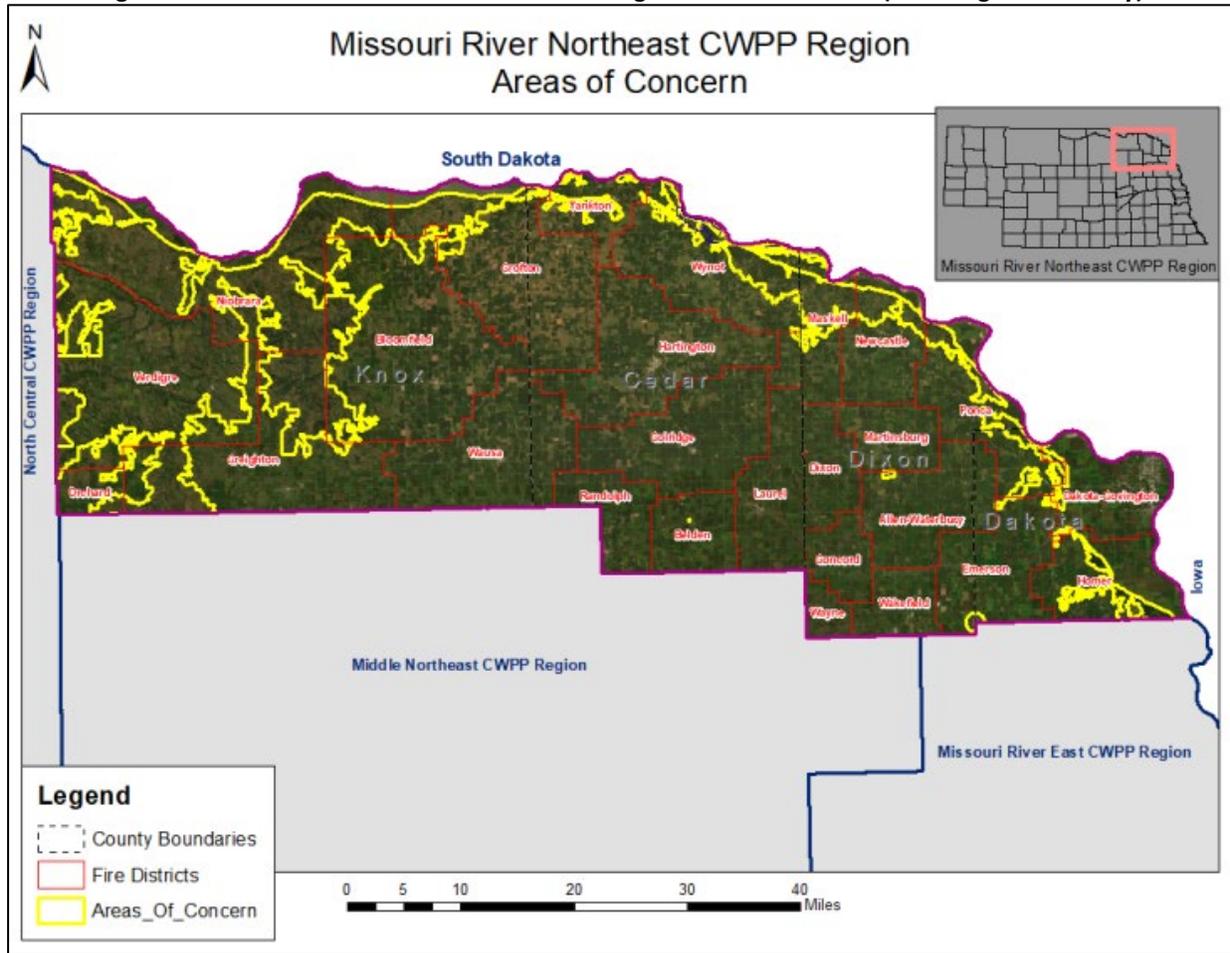
The Creighton fire chief identified the areas north and west of Highway 59 as an issue because of difficult access, rough terrain, heavy fuels (ERC), and lack of water within effective distance. The Verdigre VFD identified the west hillside of the village as a concern. The Crofton fire chief named the Devils Nest subdivision and the Lewis and Clark Lake area as being of particular concern due to multiple structures, difficult access, rough terrain, one way in/out, heavy fuels (ERC), and lack of water within effective distance.

The 2015 CWPP stated that in the Crofton district the forested area is concentrated along the Missouri River, with 91% of the wooded acres and 45% of the shrub acres north of Beaver Creek. The topography and the increasing presence of homes, both vacation and full-time residential, among the ERC-encroached riparian forest is a high concern. Egress and road width issues in these areas impact firefighter access and safety, as well as evacuation and wildland fire suppression. Part of the Yankton VFD is located in neighboring Cedar County. Their deputy chief listed both sides of the South Dakota/Nebraska border along Lewis & Clark Lake (which extends from Cedar County well into Knox County) and the Missouri River as having difficult access, rough terrain, one way in/out, and heavy fuels. He said that high home density, infrastructure, populated areas along and above Lewis and Clark Lake makes this an area of concern. The 2015 CWPP noted that portions of the Creighton district along Bazile Creek in the north, and Merriman Creek and branches of Verdigre/Cottonwood Creeks in the west, as well as parts of the Bloomfield district along Howe, Lost, Cook, Devils Nest, and Weigand Creeks, plus the west side of Little Bazile Creek would have the highest probability of large fire growth in the hilly mixed fuels. Limited water supply is a concern in the Verdel area.

The Santee Sioux Nation CWPP identified 27,000 acres of their reservation as at-risk WUI areas. These include the communities of Santee and Lindy, two tribal housing areas, the casino, and the surrounding areas. These areas contain rural housing intermixed in the WUI and are a designated focus for the BIA fire management program. The Ponca Tribe of Nebraska, although it has no geographic reservation, has a service area for tribal members that includes Knox County. The tribe has identified Grass/Wildfires as a priority hazard. Due to high percentages of young and elderly people, they stated that fires could impact the public health of the Tribe by causing respiration issues in these vulnerable populations.

Agricultural lands in those portions of the county which lie outside mapped Areas of Concern do have their own fire risk variables; however, irrigated croplands are not as fire prone as forests and grasslands. All of Knox County lies within the boundaries of the WUI in the CWPP.

Figure KNX.5: Missouri River Northeast CWPP Region Areas of Concern (including Knox County)



## Future Development Trends

Over the past five years the county has experienced constant new developments within the lake area with the goal of replacing old structures. Some of the new structures built, the Lazy River Acres area vacation homes, are located within the floodplain. Most development in the floodplain is regulated by the county through the Zoning Administrator. Additional development around the lake area is planned to occur within the next five years.

## Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines by type, as identified by the local planning team.



### Safety and Security

The Safety and Security Lifeline includes law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Knox County.

**Table KNX.10: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	1	Sheriff's Office	Y	Y	1% Floodplain, Tornadoes
	Fire Service	2	Bloomfield Fire Department	N	N	1% Floodplain
		3	Creighton Volunteer Fire Department	N	N	
		4	Crofton Volunteer Fire Department	N	N	
		5	Niobrara Volunteer Fire Department	N	N	
		6	Verdigre Volunteer Fire Department	N	N	1% Floodplain
	Search and Rescue	7	Wausa Rural Fire District	N	N	
	Government Service	8	Knox County Courthouse	Y	Y	1% Floodplain, Tornadoes, EOC Location
Community Safety	-	None Identified	-	-		

### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, and Shelter Lifelines for Knox County are included in the table below.

**Table KNX.11: Food, Water, and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	9	Verdigre Food Pantry	N	N	1% Floodplain
	Water	-	Cedar Knox Water District	N	N	
		-	Lower Niobrara Rural Water District	N	N	
Shelters	-	None Identified	-	-		

## Health and Medical

Health and Medical Lifeline components can include medical care, patient transport, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the county.

**Table KNX.12: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	10	Avera Creighton Care Centre	Y	Y	
		11	Avera Creighton Hospital	Y	N	
		12	Avera Medical Group – Crofton	N	N	
		13	Avera Medical Group – Niobrara	N	N	
		14	Avera Medical Group - Verdigre	N	Y	
		15	Bloomfield Medical Clinic PC	N	N	1% Floodplain
	Fatality Management	16	NE Department of Health and Human Services	N	N	1% Floodplain
	Public Health	17	Alpine Village Assisted Living Center/Nursing Home	Y	Y	
		18	Bloomfield Sanitation Department	Y	N	1% Floodplain
19		Good Samaritan Society – Sunset View	N	N		

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Knox County.

**Table KNX.13: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Power Grid	-	North Central Public Power District	N	N	
	Fuel	-	None Identified	-	-	

## Communications

Components of the Communications Lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. Communication Lifelines for Knox County are included in the table below.

**Table KNX.14: Communications Lifelines**

COMMUNICATIONS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Infrastructure	20	Lindy Radio Tower	Y	N	Tornadoes, High Winds, Ice Storms, Wildfire
		21	Winnetoon Radio Tower	Y	N	Tornadoes, High Winds, Ice Storms, Wildfire
Alerts, Warning, and Messages/911 and Dispatch	-	911 Dispatch*	Y	Y	1% Floodplain, Tornadoes, EOC Location	

\*911 Dispatch is located at the Knox County Courthouse (CF #8)

## Transportation

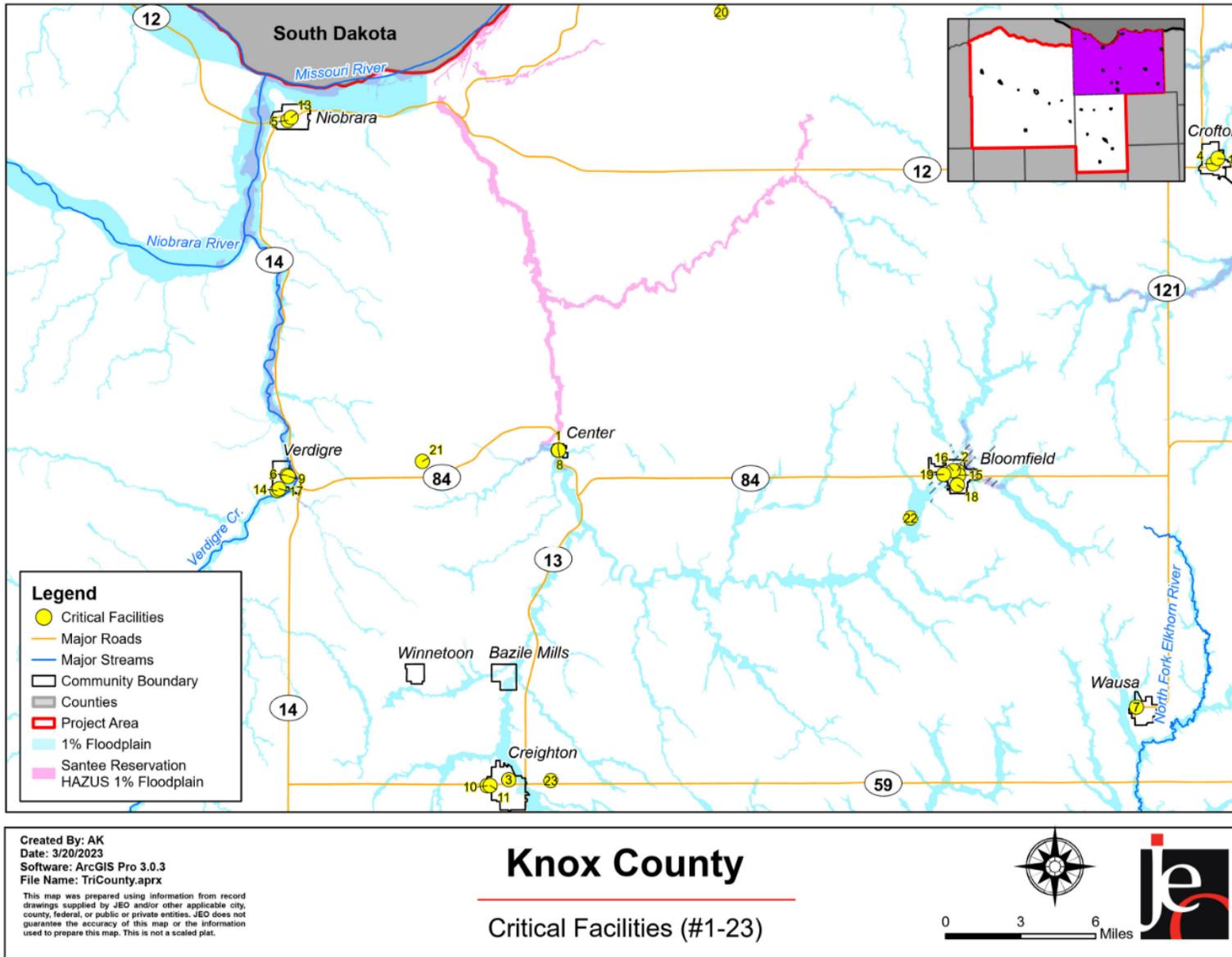
Transportation components include interstates, highways, major roadways, mass transit, railway, and aviation. Knox County's major transportation corridors include State Highways 12, 14, 59, 84, and 121. The most traveled route is Highway 59 with a total of 2,660 annual average daily traffic flow.<sup>12</sup> There are no rail lines within Knox County. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table KNX.15: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	22	Bloomfield Municipal Airport	N	N	1% Floodplain
23		Creighton Municipal Airport	N	N		
Railroads	-	None Identified	N	N		
Highways	-	State Highway 12	N	N		
	-	State Highway 14	N	N		
	-	State Highway 59	N	N		
	-	State Highway 84	N	N		
	-	State Highway 121	N	N		

12 Nebraska Department of Roads. 2022. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

Figure KNX.6: Community Lifelines (1-23)



## Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there are 15 chemical sites within Knox County which house hazardous materials (listed below). In the event of a chemical spill, local fire departments and emergency response agencies may be the first to respond to the incident. If HAZMAT response is required, the closest team is in Norfolk at the Norfolk Fire/HAZAMAT team. There are several gas transmissions pipelines that travel through the county and can be seen in the figure below. The local planning team reports that some chemical spills have occurred locally, including a Diesel Fuel spill and a small farm chemical spill. These spills resulted in road closures and cleanup efforts.

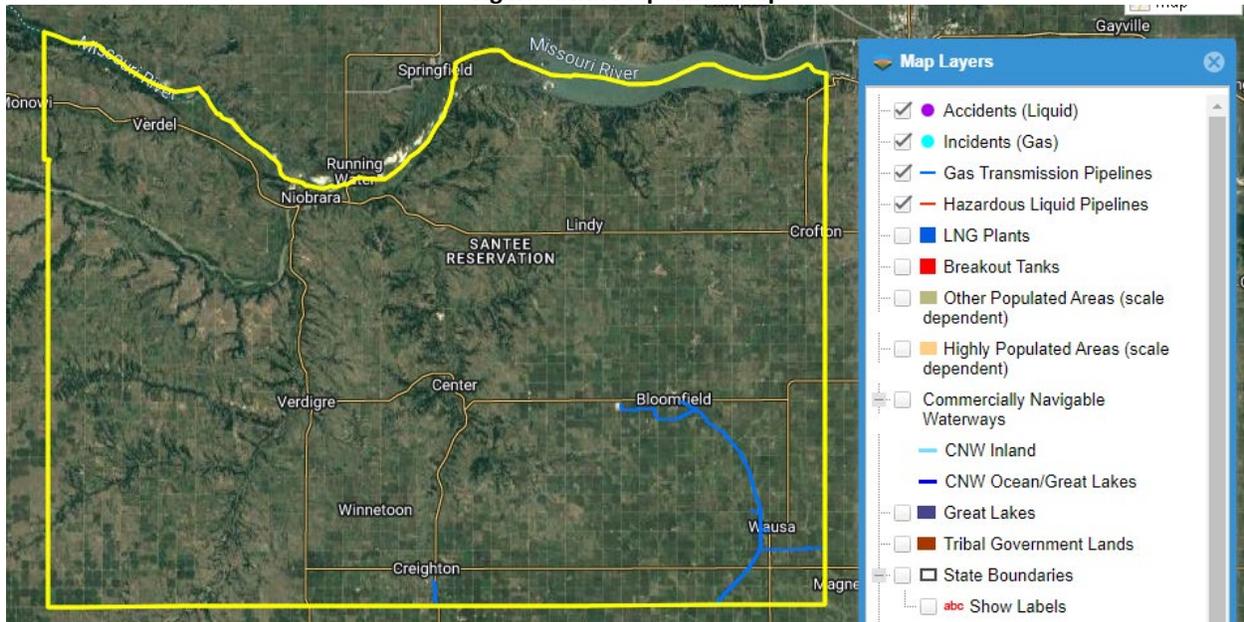
**Table KNX.16: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	COMMUNITY LOCATION	HAZARD TYPE CONCERNS AND NOTES
	Facilities		24	Battle Creek Farmers Co-op	Bloomfield
		25	Carlson Home & Auto Inc	Wausa	
		26	Central Valley Ag	Bloomfield	1% Floodplain
		27	CHS Inc	Wausa	
		28	CHS Inc Country Operations	Wausa	
		29	Crofton Bluffs Wind Farm	Crofton	
		30	Elkhorn Ridge Wind Farm	Bloomfield	
		31	Herbert Feed & Grain Co	Verdigre	1% Floodplain
		32	M G Waldbaum Company	Bloomfield	
		33	N & B Gas Co	Verdigre	1% Floodplain
		34	N & B Gas Co	Creighton	
		35	N & B Gas Co	Niobrara	
		36	NDOT Bloomfield Yard	Bloomfield	
		37	NDOT Niobrara Yard	Niobrara	
		38	Verdigre Farm Service	Verdigre	1% Floodplain
	HAZMAT, Pollutants, Contaminants	-	None Identified	-	

Source: Nebraska Department of Environment and Energy<sup>13</sup>

<sup>13</sup> Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021.

Figure KNX.7: Pipelines Map



Source: National Pipeline Mapping System<sup>14</sup>

**Other Community Lifelines**

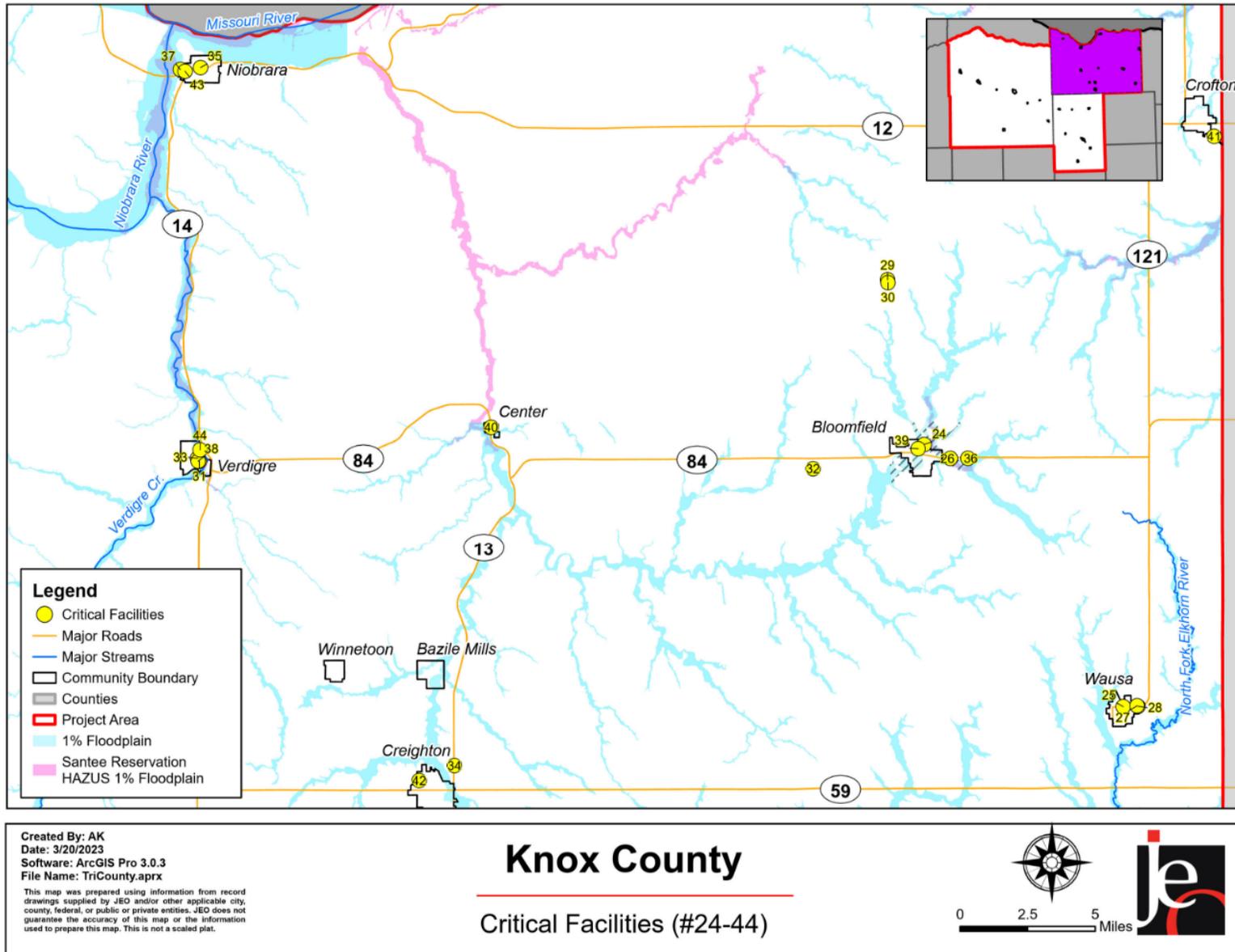
Knox County identified lifelines that did not fit into the previous seven FEMA lifeline categories but are considered lifelines by the community. These other community lifelines are listed in the table below.

Table KNX.17: Other Critical Facilities

OTHER COMMUNITY LIFELINES	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	HAZARD TYPE CONCERNS AND NOTES
		39	Bloomfield County Shed	N
	40	Center County Shed	N	
	41	Crofton County Shed	N	
	42	Creighton County Shed	N	
	43	Niobrara County Shed	N	
	44	Verdigre County Shed	N	

14 National Pipeline Mapping System. 2022. "Public Viewer." Accessed January 2022. <https://pvnpmns.phmsa.dot.gov/PublicViewer/>.

Figure KNX.8: Community Lifelines (24-44)



## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. A summary of the results of this analysis is provided in the following table. Several structures in Knox County have been removed from the floodplain via LOMA. A summary of LOMAs identified for Knox County can be found in the table below.

**Table KNX.18: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
<b>4,893</b>	\$423,460,890	1,210	\$98,042,360	25%

Source: County Assessor, 2022

**Table KNX.19: Flood Risk Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	06-07-BB79A-310451	09/06/2006	Structure removed from SFHA
LOMA	06-07-BD13A-310451	10/10/2006	Structure removed from SFHA
LOMA	08-07-0687A-310451	02/26/2008	Structure (residence) removed from SFHA
LOMA	10-07-1354A-310451	06/15/2010	Structure (residence) removed from SFHA
LOMA	10-07-1598A-310451	07/20/2010	Structure removed from SFHA
LOMA	10-07-1839A-310451	09/02/2010	Portion of property removed from SFHA
LOMA	10-07-2144A-310451	10/21/2010	Portion of property removed from SFHA
LOMA	10-07-2274A-310451	10/26/2010	Structure removed from SFHA
LOMA	11-07-0210A-310451	11/24/2010	Structure (garage) removed from SFHA
LOMA	11-07-0243X-310451	11/16/2010	Portion of property removed from SFHA
LOMA	11-07-0638A-310451	02/03/2011	Structure (residence) removed from SFHA
LOMA	12-07-1081A-310451	01/24/2012	Property removed from SFHA
LOMA	12-07-2242A-310451	05/29/2012	Portion of property removed from SFHA
LOMA	13-07-0044A-310451	12/18/2012	Property removed from SFHA
LOMA	13-07-0062A-310451	11/01/2012	Property removed from SFHA
LOMA	13-07-0259A-310451	11/29/2012	Portion of property removed from SFHA
LOMA	13-07-0393A-310451	12/20/2012	Portion of property removed from SFHA
LOMA	13-07-0497A-310451	01/15/2013	Portion of property removed from SFHA
LOMA	13-07-0762A-310451	04/02/2013	Portion of property removed from SFHA
LOMA	13-07-0825A-310451	02/07/2013	Portion of property removed from SFHA
LOMA	13-07-0848A-310451	03/07/2013	Property removed from SFHA
LOMA	13-07-0876A-310451	03/12/2013	Property removed from SFHA
LOMA	13-07-1430A-310451	05/09/2013	Portion of property removed from SFHA
LOMA	13-07-2072A-310451	08/13/2013	Portion of property removed from SFHA
LOMA	14-07-0826A-310451	02/20/2014	Portion of property removed from SFHA
LOMA	14-07-1148A-310451	03/25/2014	Portion of property removed from SFHA
LOMA	14-07-1155A-310451	03/25/2014	Property removed from SFHA

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	14-07-1221A-310451	03/27/2014	Property removed from SFHA
LOMA	14-07-1340A-310451	04/17/2014	Portion of property removed from SFHA
LOMA	14-07-1411A-310451	04/29/2014	Property removed from SFHA
LOMA	14-07-1443A-310451	05/08/2014	Portion of property removed from SFHA
LOMA	14-07-1525A-310451	05/20/2014	Portion of property removed from SFHA
LOMA	14-07-2025A-310451	07/15/2014	Property removed from SFHA
LOMA	14-07-2131A-310451	08/05/2014	Property removed from SFHA
LOMA	14-07-2133A-310451	08/05/2014	Portion of property removed from SFHA
LOMA	14-07-2198A-310451	08/14/2014	Property removed from SFHA
LOMA	14-07-2199A-310451	08/12/2014	Portion of property removed from SFHA
LOMA	14-07-2201A-310451	09/02/2014	Portion of property (Parcel 1) removed from SFHA
LOMA	14-07-2215A-310451	08/19/2014	Portion of property removed from SFHA
LOMA	14-07-2218A-310451	08/19/2014	Property removed from SFHA
LOMA	14-07-2506A-310451	08/12/2014	Property removed from SFHA
LOMA	14-07-2523A-310451	09/30/2014	Property removed from SFHA
LOMA	14-07-2791A-310451	10/28/2014	Portion of property removed from SFHA
LOMA	14-07-2813A-310451	11/04/2014	Portion of property removed from SFHA
LOMA	14-07-2906A-310451	11/12/2014	Property removed from SFHA
LOMA	15-07-0059A-310451	12/16/2014	Portion of property removed from SFHA
LOMA	15-07-0437A-310451	01/13/2015	Property removed from SFHA
LOMA	15-07-0595A-310451	03/10/2015	Portion of property removed from SFHA
LOMA	15-07-0628A-310451	02/17/2015	Property removed from SFHA
LOMA	15-07-0726A-310451	03/24/2015	Portion of property removed from SFHA
LOMA	15-07-0941A-310451	03/24/2015	Property removed from SFHA
LOMA	15-07-1081A-310451	04/17/2015	Property removed from SFHA
LOMA	15-07-1859A-310451	08/28/2015	Property removed from SFHA
LOMA	15-07-1925A-310451	08/17/2015	Property removed from SFHA
LOMA	15-07-1933A-310451	08/18/2015	Property removed from SFHA
LOMA	15-07-2135A-310451	10/08/2015	Portion of property removed from SFHA
LOMA	15-07-2140A-310451	01/21/2016	Portion of property removed from SFHA
LOMA	15-07-2142A-310451	10/27/2015	Property removed from SFHA
LOMA	16-07-0352A-310451	12/28/2015	Property removed from SFHA
LOMA	16-07-0422A-310451	01/06/2016	Property removed from SFHA
LOMA	16-07-1694A-310451	08/17/2016	Property removed from SFHA
LOMA	17-07-1332A-310451	05/03/2017	Property removed from SFHA
LOMA	17-07-1446A-310451	05/24/2017	Portion of property removed from SFHA
LOMA	17-07-1521A-310451	05/31/2017	Property removed from SFHA
LOMA	17-07-2435A-310451	10/03/2017	Property removed from SFHA
LOMA	17-07-2436A-310451	10/03/2017	Property removed from SFHA
LOMA	17-07-2675A-310451	12/08/2017	Portion of property removed from SFHA
LOMA	18-07-0056A-310451	12/14/2017	Portion of property removed from SFHA
LOMA	18-07-0096A-310451	11/15/2017	Property removed from SFHA
LOMA	18-07-0636A-310451	01/25/2018	Structure (residence) removed from SFHA
LOMA	18-07-0941A-310451	06/29/2018	Portion of property removed from SFHA

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	18-07-2012A-310451	10/22/2018	Portion of property removed from SFHA
LOMA	18-07-2036A-310451	09/20/2018	Structure removed from SFHA
LOMA	19-07-0248A-310451	12/31/2018	Structure removed from SFHA
LOMA	19-07-0705A-310451	02/22/2019	Property removed from SFHA
LOMA	19-07-0719A-310451	04/19/2019	Structure (residence) removed from SFHA
LOMA	19-07-0964X-310451	03/06/2019	Property removed from SFHA
LOMA	19-07-1056A-310451	04/22/2019	Portion of property removed from SFHA
LOMA	19-07-1084A-310451	04/26/2019	Property removed from SFHA
LOMA	19-07-1148A-310451	05/30/2019	Structure (residence) removed from SFHA
LOMA	19-07-1245A-310451	05/28/2019	Portion of property removed from SFHA
LOMA	19-07-1299A-310451	07/03/2019	Portion of property removed from SFHA
LOMA	19-07-1361A-310451	07/23/2019	Portion of property removed from SFHA
LOMA	19-07-1924A-310451	11/13/2019	Portion of property removed from SFHA
LOMA	19-07-1955A-310451	12/05/2019	Property removed from SFHA
LOMA	21-07-0120A-310451	12/07/2020	Portion of property removed from SFHA
LOMA	21-07-0890A-310451	06/15/2021	Portion of property removed from SFHA
LOMA	21-07-0928A-310451	06/24/2021	Portion of property removed from SFHA
LOMA	22-07-0510A-310451	04/14/2022	Portion of property removed from SFHA
LOMA	22-07-0594A-310451	05/03/2022	Portion of property removed from SFHA
LOMA	22-07-0787A-310451	06/21/2022	Structure removed from SFHA

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Knox County which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Knox County. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Hazardous Materials	Fixed Site	4	\$0		
	Transportation	2	\$50,000	N/A	
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm				
	Wind	88	\$5,900	N/A	
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

Knox County experienced two 100+-year flood events in less than 10 years. The first event occurred in 2011 and the second occurred in 2019. In 2011, flooding in late May and early June closed Highway 12 between Verdel and Niobrara and also closed Highway 14/37 north of Niobrara. The flooding forced the evacuation of 50 to 60 residences including the Lazy River Acres area in between Niobrara and Verdel. The flooding carried over into September and the highways were not reopened until then. In 2019 many communities in the county were damaged by flooding. Niobrara and Verdigre experienced the most damage. Niobrara had a total loss of all businesses in the business district and many properties along the river were lost. The main business area in Verdigre was also flooded along with many homes in the community. Verdel had three homes that were damaged and some people had to be evacuated via tractor. Many roads and bridges in the county were damaged and some are still being repaired or need to be repaired. The washed-out bridges made travel in the county very difficult. It was estimated that the flooding caused over \$1,200,000 in damages. The Village of Verdigre is a concern for the local planning team as the entire business district and fire hall are located in the 100-year floodplain.

### NFIP Information

Knox County has 51 NFIP policies in force for \$11,734,000. There are no repetitive loss properties in Knox County. The county will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances.

Mitigation Actions

MITIGATION ACTION	BRIDGE REPAIRS
<b>Description</b>	Repair bridges that were damaged in the 2019 floods. Ash Falls bridge project is currently underway.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$1,000,000+
<b>Local Funding Source</b>	General Fund, Cost Match
<b>Timeline</b>	1-5 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Highway Superintendent
<b>Status</b>	In Progress. Ash Falls bridge project is currently underway. Other bridge repair projects have not started.

MITIGATION ACTION	IMPROVE/CERTIFY DIKE
<b>Description</b>	Building a dike or levee between the river and main street to help protect the businesses district from flooding in Verdigre.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	Unknown
<b>Local Funding Source</b>	General Fund, Cost Share
<b>Timeline</b>	5+ Years
<b>Priority</b>	High
<b>Lead Agency</b>	Knox County Board of Supervisors, Verdigre Board
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	DRAINAGE ASSESSMENT FOR BRIDGE AND CULVERT IMPROVEMENTS
<b>Description</b>	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas and potential drainage improvements.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$10,000 to \$100,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Floodplain Administrator
<b>Status</b>	Not Started

MITIGATION ACTION	FLOODPLAIN DEVELOPMENT ORDINANCE ENFORCEMENT
Description	Work with local floodplain administrators in the county to update floodplain education.
Hazard(s)	Flooding
Estimated Cost	\$5,000+, Staff Time
Local Funding Source	General Budget, Staff Time
Timeline	2-5 Years
Priority	Medium
Lead Agency	Floodplain Administrator
Status	Not Started

MITIGATION ACTION	ROAD AND EMBANKMENT IMPROVEMENTS
Description	Identify, design, and construct road and embankment improvements as necessary for proper drainage and to adequately manage the traffic load.
Hazard(s)	Flooding
Estimated Cost	\$50,000+
Local Funding Source	General Fund
Timeline	5+ Years
Priority	High
Lead Agency	Highway Superintendent
Status	Not Started

MITIGATION ACTION	STREAM BANK STABILIZATION
Description	Stream bank/bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, rock weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance and provide flooding benefits. Flood protection for critical and/or highly vulnerable facilities, areas, populations, and infrastructure is key.
Hazard(s)	Flooding
Estimated Cost	\$50,000 to \$100,000+
Local Funding Source	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Highway Department
Status	Not Started

### Hazard: Severe Thunderstorms

According to NCEI data, there have been 93 severe thunderstorms and 234 hail events in the county from 1996 to 2021 causing \$1,581,400 in property damage. The most damaging event occur on June 23, 2000, when 1.75-inch hail caused \$1,500,000 in property damage around Crofton. More recently the county experienced a derecho in December 2021 that damaged properties. On the last day of school in 2022, there was a large storm that caused power outages across the county. Locations were without power for

between one and four days. The grocery store in Verdigre had to throw out any merchandise in coolers and freezers.

This hazard was selected as a top concern for the county because of the potential property damage and crop loss. Knox County is heavily dependent on agriculture, so any crop damage negatively impacts the local economy. To help reduce the impacts and risks of severe thunderstorms, all county buildings have insurance, the county courthouse has a backup generator, and emergency management has two mobile generators. In addition, storm spotter training is held annually for fire departments, county sheriff department, and the public.

County emergency management would like to add a warning siren and storm shelter to each location. The City of Crofton is in need of an additional alert siren. There is a neighborhood in the community where residents are not able to hear the siren going off. Within the neighborhood is an apartment complex for those over the age of 55. The RV park north of Crofton and the camping area west of Niobrara current do not have a good shelter location or warning system.

#### *Mitigation Actions*

MITIGATION ACTION	ALERT AND WARNING SIRENS
<b>Description</b>	Perform an evaluation of existing alert sirens to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation. Crofton is in need of an additional siren. The RV park north of Crofton and camping area west of Niobrara are in need of a warning siren.
<b>Hazard(s)</b>	Severe Thunderstorms, Severe Winter Storm, Tornado and High Winds
<b>Estimated Cost</b>	\$40,000+
<b>Local Funding Source</b>	General Fund, Cost Share
<b>Timeline</b>	2-5 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Knox County Emergency Management, Crofton City Council
<b>Status</b>	Planning stage for the additional siren in Crofton. Not started on the other sirens.

MITIGATION ACTION	BACKUP GENERATORS
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters. The backup generator at the County Courthouse needs to be updated.
<b>Hazard(s)</b>	Severe Thunderstorms, Severe Winter Storms
<b>Estimated Cost</b>	\$20,000 to \$35,000/generator
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	Ongoing
<b>Priority</b>	Medium
<b>Lead Agency</b>	Knox County Emergency Management
<b>Status</b>	Planning stage for updating the County Courthouse backup generator.

MITIGATION ACTION	STORM SHELTER
<b>Description</b>	Assess, design, and construct fully supplies safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting. The RV park north of Crofton and camping area west of Niobrara could use a shelter location.
<b>Hazard(s)</b>	Tornado and High Winds, Severe Thunderstorms
<b>Estimated Cost</b>	Stand-Alone: \$400 to \$500/square foot, Addition/retrofit: \$350 to \$400/square foot
<b>Local Funding Source</b>	General Budget, Cost Share
<b>Timeline</b>	2-5+ Years
<b>Priority</b>	High
<b>Lead Agency</b>	Knox County Emergency Management
<b>Status</b>	Not Started

MITIGATION ACTION	WARNING SYSTEMS
<b>Description</b>	Implement a mass notification text system like CodeRed.
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	Unknown
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	1-2 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Knox County Emergency Management, County Dispatch
<b>Status</b>	The county is currently researching potential options and costs.

MITIGATION ACTION	WEATHER RADIOS
<b>Description</b>	Purchase weather radios for those in rural areas that do not have good cell reception for the mass notifications.
<b>Hazard(s)</b>	Severe Thunderstorms, Severe Winter Storm, Tornado and High Winds
<b>Estimated Cost</b>	\$75/radio
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	2-5 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Knox County Emergency Management
<b>Status</b>	Not Started

### Hazard: Severe Winter Storms

Knox County has experienced 93 severe winter storms from 1996-2021 according to the NCEI. These events have caused \$3,500,000 in property damages. Most of the damage was from one winter storm event on November 28, 2005. This current winter (2022-2023) has seen a large amount of snowfall in the county. Local townships have had to ask for additional funding as many have run out of gravel and other pretreatment supplies. The large amount of snow has also increased concerns for flooding if there is a rapid snow melt. Other past events have caused power loss for several days and stranded rural individuals

in their homes. In 2008, the Avera Creighton Campus was able to provide food and shelter to some community members during an ice storm that caused a power outage for an extended period of time. The county has a lot of older residents in the rural areas of the county and may need assistance with snow removal. Currently, the highway department has had issues with not having enough staff to handle all of the snow removal. The Crofton snow removal position has been open and needed to be filled for the past year. In addition, Verdigre does not currently have a maintenance worker who would handle snow removal.

### *Mitigation Actions*

MITIGATION ACTION	CIVIL SERVICE IMPROVEMENTS
<b>Description</b>	New motor graders are needed to assist in snow removal.
<b>Hazard(s)</b>	Severe Winter Storms
<b>Estimated Cost</b>	\$50,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	1-3 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Highway Superintendent
<b>Status</b>	Currently working on funding to purchase the motor graders.

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION CAMPAIGNS
<b>Description</b>	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. In addition, educate citizens on erosion control and water conservation methods.
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$1,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Knox County Emergency Management
<b>Status</b>	Education and awareness is done on an annual basis.

### Removed Past Mitigation Strategies

MITIGATION ACTION	FLOOD-PRONE PROPERTY ACQUISITION
<b>Description</b>	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the National Flood Insurance Program. Repetitive loss structures are typically highest priority.
<b>Status</b>	The county will likely never undertake this project.

MITIGATION ACTION	PARTICIPATE OR MAINTAIN GOOD STANDING IN THE NATIONAL FLOOD INSURANCE PROGRAM
<b>Description</b>	Participate in the national flood insurance program (NFIP) or maintain good standing with the NFIP including floodplain management practices/requirements and regulation enforcement and updates.
<b>Status</b>	Removed by the local planning team. The county will continue to maintain good standing the NFIP.

MITIGATION ACTION	NEW WATER WELL, TOWER, AND STANDPIPE
<b>Description</b>	Evaluate the need to expand water storage capacity through new water tower, standpipe, etc. to provide a safe water supply for the community and additional water for fire protection. Communities can evaluate the need to install a new well to provide a safe backup water supply for the community, replace existing wells affected by drought, and additional water for fire protection.
<b>Status</b>	This project would be completed and handled by a different entity.

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The County Emergency Manager, County Clerk, and County Sheriff are responsible for reviewing and updating this county profile as changes can occur before or after a major event. The plan will be reviewed annually. The public will be notified of the plan review during county supervisor meetings and using social media.

# Community Profile

## City of Bloomfield

Tri-County  
Hazard Mitigation Plan

2023

## Local Planning Team

The City of Bloomfield’s local planning team members for the hazard mitigation plan are listed in the table below with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table BMF.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Colette Panning	City Administrator	City of Bloomfield	Attended Round 1 and Round 2 Meetings
Jeff Holtz	City Paramedic	City of Bloomfield	Attended Round 1 and Round 2 Meetings

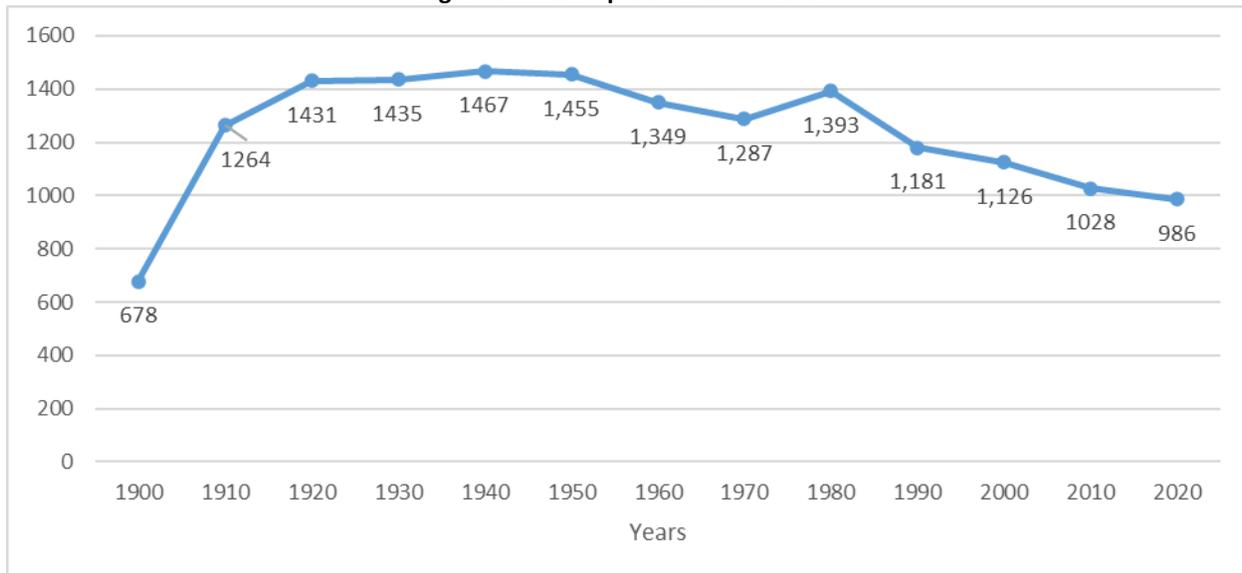
## Location and Geography

The City of Bloomfield is in eastern Knox County and covers an area of 525 acres. The Little Bazile Creek runs through the city from the northeast corner to the southwestern corner. The city serves as a major business center in Knox County with a trade area of 30-plus-miles.

## Demographics

The following figure displays the historical population trend for the City of Bloomfield. This figure indicates that the population of Bloomfield has been declining since 1980 to 862 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Bloomfield’s population accounted for 11.75% of Knox County’s population in 2020.<sup>15</sup>

**Figure BMF.1: Population 1900 - 2020**



Source: U.S. Census Bureau

<sup>15</sup> United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure BMF.2: City of Bloomfield

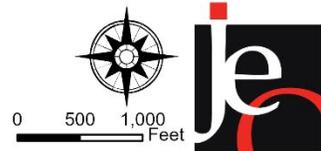


Created By: NL  
Date: 6/6/2022  
Software: ArcGIS Pro 2.8  
File Name: TriCountyV2.aprx

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# City of Bloomfield

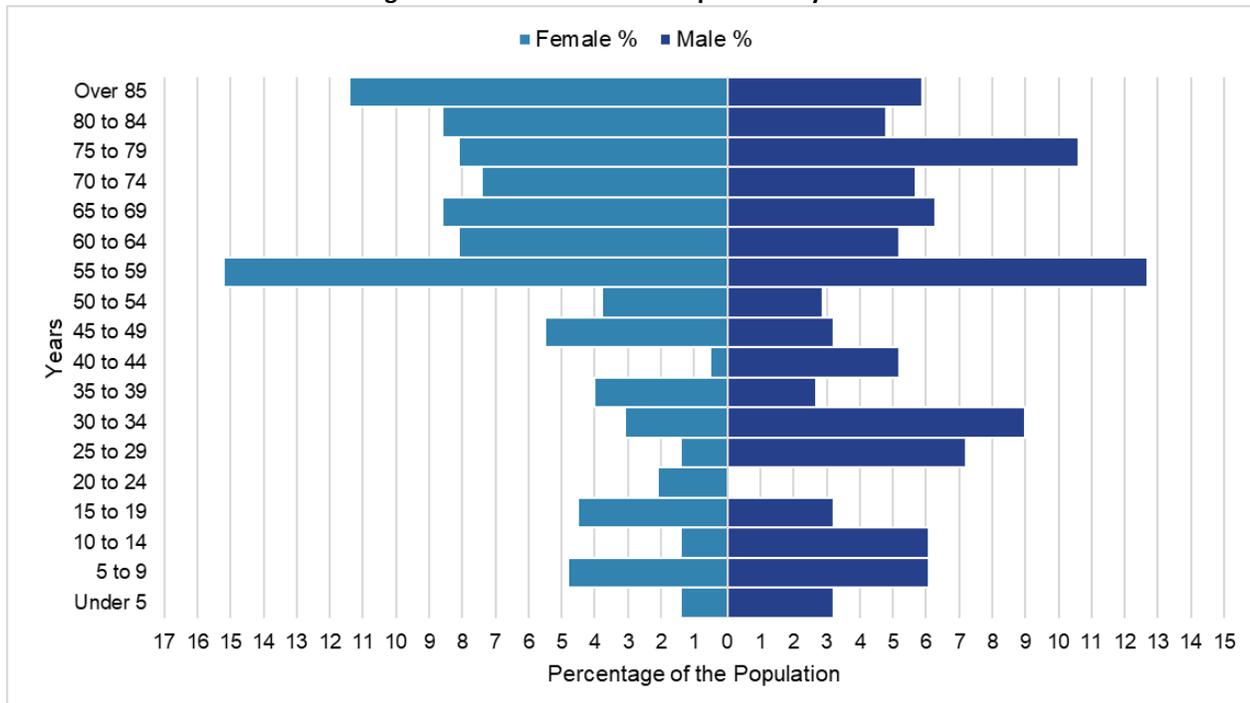
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Bloomfield's population:

- **5.7% is non-white.** Since 2010, Bloomfield has grown less ethnically diverse. In 2010, 3.0% of the city's population was non-white. By 2020, 5.7% was non-white.<sup>15</sup>
- **58.6 median age.** The median age of Bloomfield was 58.3 years in old 2020. The population grew older since 2010, when the median age was 52.7.<sup>16</sup>

**Figure BMF.3: Bloomfield's Population Pyramid**



The figure above shows Bloomfield's population percentage broken down by sex and five-year age groups. Bloomfield's population is top heavy, suggesting future population decline as older generations are replaced by fewer younger residents. The largest population group in the city is between 55 and 59 years old.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Bloomfield's population has:

- **6.6% of people living below the poverty line.** The poverty rate (6.6%) in the City of Bloomfield was equal to the state (6.6%) and higher than the county (5.8%) poverty rate in 2020.<sup>17</sup>
- **\$47,000 median household income.** Bloomfield's median household income in 2020 (\$47,000) was \$16,015 lower than the state (\$63,015) and \$6,653 higher than Knox County (\$53,653).<sup>17</sup>

16 United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov/cedsci/>.

17 United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov/cedsci/>.

- **1% unemployment rate.** In 2020 Bloomfield has a lower unemployment rate (1%) when compared to the state (3.4%) and county (3.5%).<sup>17</sup>
- **23% of workers commuted 30 minutes or more to work.** Fewer workers in Bloomfield commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (23% compared to 55.6%).<sup>18</sup>

### Major Employers

Major employers in the City of Bloomfield include Michael Foods, Bloomfield Schools, CUA, Battle Creek Coop, and the local nursing home. According to the local planning team, residents also travel to other communities for employment, such as Yankton and Norfolk.

### Broadband Access

Internet access or access to broadband has become a critical resource to share and receive information regarding hazardous events. Wi-Fi, internet, and cell coverage are the primary methods of dissemination and retrieval of key hazard related information including storm warnings, evacuation orders, or weather updates. Rural communities often struggle to have adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many residents worked from home or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription is 78.9%.

### Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Those houses and vacant housing may be more vulnerable to hazard events if they are poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team indicates there are no large mobile home parks within the city. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards. Bloomfield's housing stock has:

- **86.2% of housing built prior to 1970.** Bloomfield has a larger share of housing built prior to 1970 than the state and county (86.2% compared to 45.5% and 55.7%).<sup>19</sup>
- **10.6% of housing units vacant.** Bloomfield has a higher vacancy rate 10.6% compared to the rest of the state (9.2%) and a lower rate than Knox County (27.0%).<sup>19</sup>
- **0% mobile and manufacture housing.** The City of Bloomfield has a smaller share of mobile and manufactured housing (0%) compared to the state and county (3.3% and 6.7%).<sup>19</sup>
- **26.8% renter occupied.** The rental rate of Bloomfield was 26.8% in 2020. This is lower than the state's rate of 33.8% and higher than the county's rates of 25.9%.<sup>19</sup>

18 United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov/cedsci/>.

19 United States Census Bureau. "20 Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/cedsci/>.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The City of Bloomfield is governed by a mayor and city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- City Administrator
- City Clerk/Treasurer
- Mayor
- Floodplain Administrator
- Attorney
- Planning and Zoning
- Ambulance Department
- Fire Department
- Utility Superintendent
- Council Members

## Capability Assessment

The City of Bloomfield's annual budget is currently limited to maintaining current facilities and systems. A large portion of city municipal funds are dedicated to a project focusing on sewer lift stations. Municipal funds have remained about the same if not slightly decreased.

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table BMF.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Local Emergency Operations Plan	Yes
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IRC
	Community Rating System	No
Other (if any)	Capital Improvement Plan, Drought Management Plan, Wellhead Protection Plan	

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Administrative &amp; Technical Capability</b>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	JEO is local Engineer
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)		
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes – School's Safety Board
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Community-wide Internet or broadband access	~78.9%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table BMF.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

### NFIP Information

Bloomfield has 14 NFIP policies in-force for a total of \$2,300,000. There are no repetitive flood loss properties in Bloomfield. The city will continue to comply with NFIP regulations by employing a Floodplain Administrator. The city has adopted an ordinance designed to meet State and Federal requirements for participation and requires building permits for buildings within the floodplain.

### Social Vulnerability

According to FEMA’s National Risk Index, the overall Risk Index for Knox County which includes the City of Bloomfield is Relatively Low (12.62).<sup>20</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively Moderate (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively High (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics evaluated communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding, fulfill reporting requirements, and design, build, and maintain infrastructure products over the long term. Communities which lack local capacity often have the greatest need for infrastructure investments, particularly rural communities and communities of color. To help identify communities with limited capacity, Headwaters Economics created a new Rural Capacity Index on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the community compared to the county.

**Table BMF.4: Bloomfield’s Rural Capacity Index**

Components of Index	BLOOMFIELD	Knox County
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	18%	22%
Families below poverty level:	3%	5%
Households with broadband	81%	75%
People without health insurance	2%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	-241	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>47</b>	<b>67 out of 100</b>

Source: Headwaters Economics<sup>21</sup>

<sup>20</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

<sup>21</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

## Plans and Studies

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Communities have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Comprehensive Plan

The comprehensive plan is designed to guide the future actions and growth of the city. The City of Bloomfield's comprehensive plan will limit development in areas adjacent to known hazardous areas in the next update. Information from this hazard mitigation plan will be incorporated into the next comprehensive plan update by ensuring the safety of the firehall and ambulance hall are considered, both of which are in the floodplain.

### Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the city would like to pursue including needed improvements to the city's storm sewers. The city will update the Capital Improvement on an as needed basis.

### Drought Management Plan

Drought Management Plans are used to define drought locally and identify processes in order to respond to and manage the impacts of future drought events. This plan is a tool that will assist the community in long term resource management and policy development. Drought management plans typically include recommendations for how a community can reduce the impact of drought. Bloomfield's Drought Management Plan was last updated in 2004.

### Ordinances and Regulations

The city's local zoning ordinance, floodplain ordinance, and subdivision regulation will be updated on an as needed basis. The ordinances do not place limits on development in the floodplain or place limits on development in the ETJ, however the city does have guidelines for developing in the floodplain. For Bloomfield, the floodplain is based on Knox County's countywide FEMA DFIRM maps.

### Wellhead Protection Plan

The purpose of wellhead protection plans is to protect the public drinking water supply wells from contamination. It includes identifying potential sources of groundwater contamination in the area. The City of Bloomfield's Wellhead Protection Plan was last updated in 2000.

### Knox County Local Emergency Operations Plan

The City of Bloomfield is an annex in the Knox County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

### Missouri River Northeast Community Wildfire Protection Plan

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

### Future Development Trends

The City of Bloomfield has experienced a small business increase over the past five years, with two new businesses being established in the city. One new storage building was also developed at 208 W Bazile and is located within the floodplain. The building was required to meet floodplain ordinance regulations. There are no new housing developments or new businesses currently planned for the next five years.

### Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



#### Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Bloomfield.

**Table BMF.5: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	1	Bloomfield Police Department	N	N	
	Fire Service	-	None Identified	-	-	
	Search and Rescue	-	None Identified	-	-	
	Government Service	2	Bloomfield City Clerk	N	N	
	Community Safety	-	None Identified	-	-	

## Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the City of Bloomfield are included in the table below.

**Table BMF.6: Food, Water, and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	3	Country Market	N	N	Within Floodplain
		4	Dollar General	N	N	
	Water	-	None Identified	-	-	
	Shelters	-	None Identified	-	-	

## Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the community.

**Table BMF.7: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	5	Bloomfield Medical Clinic PC	N	N	Within Floodplain
	Fatality Management	6	NE Department of Health and Human Services	N	N	Within Floodplain
	Public Health	7	Bloomfield Sanitation Department	Y	N	Within Floodplain
		8	Good Samaritan Society – Sunset View	N	N	Within Floodplain

Source: Nebraska Department of Health and Human Services<sup>22, 23, 24, 25</sup>

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Bloomfield.

**Table BMF.8: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Power Grid	9	Kuchar Electric	N	N	Within Floodplain
		10*	Johnson Electric	N	N	
	Fuel	11	Bloomfield Tire and Oil	N	N	
		12	Cenex	N	N	
		13	Source Gas LLC	N	N	

\*Not displayed on map

22 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities."

<https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.

23 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals."

<https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.

24 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities."

<https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.

25 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic."

[https://dhhs.ne.gov/licensure/Documents/RHC\\_Roster.pdf](https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf).

## Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. No Communication Lifelines were identified for the City of Bloomfield.

## Transportation

Components include interstates, highways, major roadways, mass transit, railway, and aviation. Bloomfield's major transportation corridor is State Highway 84 with an average of 1,225 vehicles daily, 120 of which are trucks.<sup>26</sup> Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table BMF.9: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	-	None Identified	-	-	
	Railroads	-	None Identified	-	-	
	Highways	-	NE-84	N	N	

## Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are four chemical sites within or near Bloomfield which house hazardous materials (listed below). One fixed chemical spill occurred in Bloomfield in 2014 when a release from a pressure relief valve caused an estimated 1,000 pounds of anhydrous ammonia to be released. Thirty employees were evacuated during the incident, but no injuries were reported. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. The nearest HAZMAT response team is located in Norfolk, roughly 47 miles south of Bloomfield. There are two gas transmission pipelines that travel through or near the community and can be seen in the figure below. The local planning team reports no chemical spill events have occurred locally in recent years.

**Table BMF.10: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Facilities	14	Battle Creek Farmers Co-op	N	N	Within Floodplain
		15	Central Valley Ag	N	N	
		16*	Elkhorn Ridge Wind Farm	N	N	
		17*	MG Waldbaum Company	N	N	
		18*	NDOT Bloomfield Yard	N	N	
HAZMAT, Pollutants, Contaminants		None Identified	-	-		

\*Not displayed on map

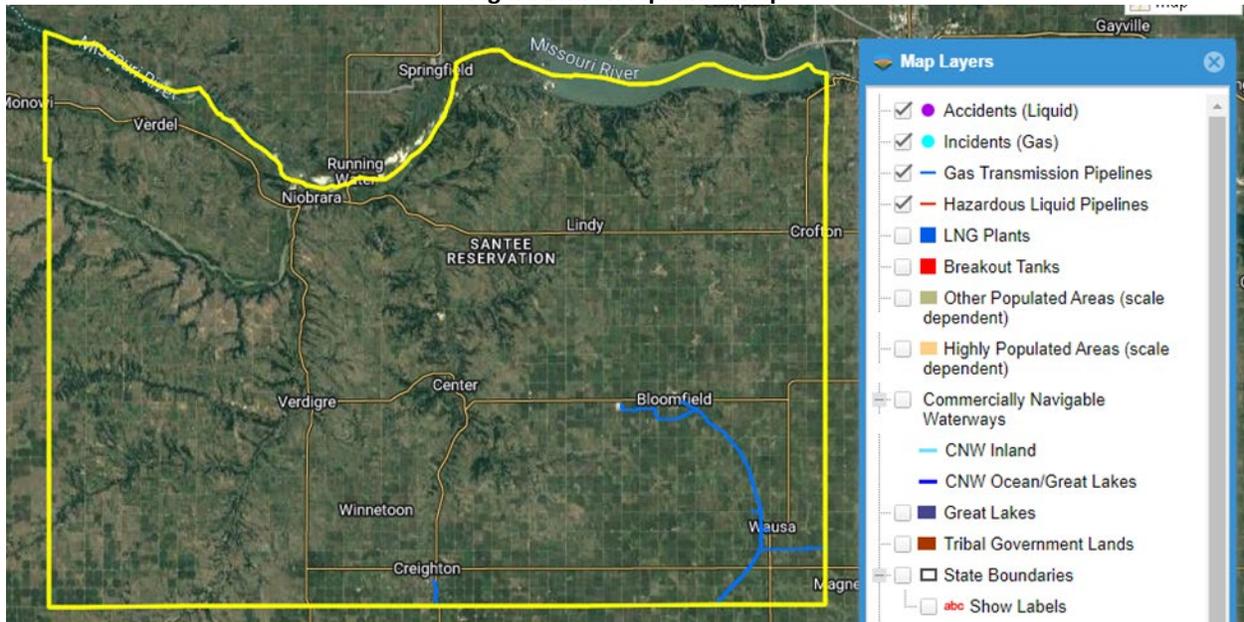
Source: Nebraska Department of Environment and Energy<sup>27</sup>

<sup>26</sup> Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map].

<https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

<sup>27</sup> Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2022.

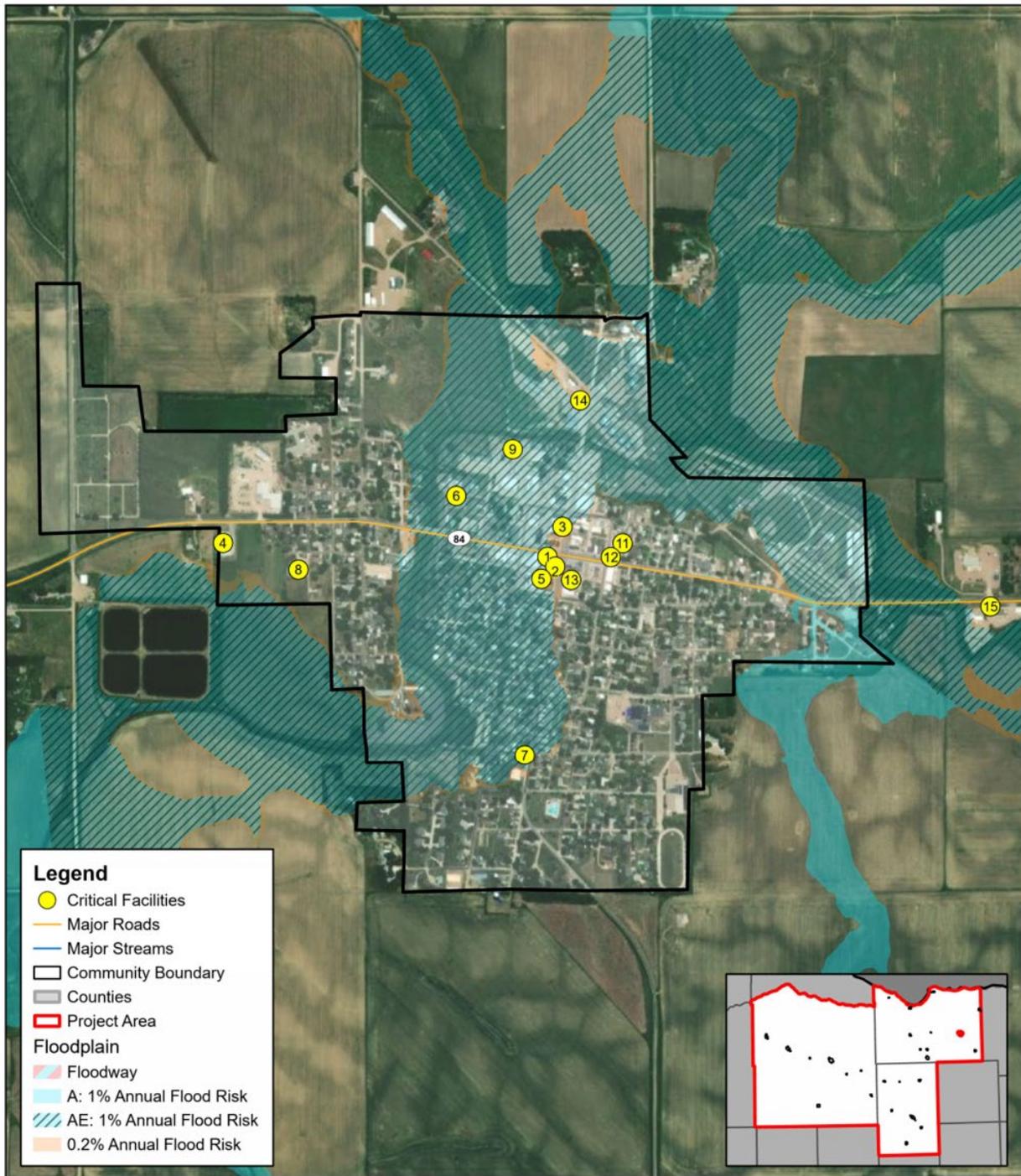
Figure BMF.4: Pipelines Map



Source: National Pipeline Mapping System<sup>28</sup>

28 National Pipeline Mapping System. 2022. "Public Viewer." Accessed September 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Figure BMF.5: Community Lifelines



Created By: AK  
 Date: 2/27/2023  
 Software: ArcGIS Pro 3.0.3  
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**City of Bloomfield**  
 Critical Facilities



\*Community Lifelines #10, 16, 17, and 18 are located outside the extent of the map above.

## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. A summary of the results of this analysis is provided in the following table. Several structures in Bloomfield have been removed from the floodplain via LOMA. A summary of LOMAs identified for Bloomfield can be found in the table below.

**Table BMF.11: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
567	\$36,021,530	218	\$12,387,965	38%

Source: County Assessor, 2022

**Table BMF.12: Bloomfield Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	08-07-1277A-310351	08/07/2008	Portion of property removed from SFHA
LOMA	09-07-0039A-310351	11/18/2008	Property removed from SFHA
LOMA	09-07-0078A-310351	10/21/2008	Property removed from SFHA
LOMA	12-07-0689A-310351	01/05/2012	Structure removed from SFHA
LOMA	13-07-1493A-310351	05/21/2013	Structure removed from SFHA
LOMA	14-071749A-310351	06/17/2014	Structure removed from SFHA
LOMR	07-07-1724P-310351	10/25/2007	No revision to the Flood Insurance Study Report

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Bloomfield which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the City of Bloomfield. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
	Wind				
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Agricultural Plant and Animal Diseases

The local planning team is concerned about the occurrences of animal diseases in the community due to the dependency on jobs at Michael Foods, a local poultry farm west of the city. During the bird flu outbreak of 2022, the farm was heavily impacted, resulting in the loss of local jobs and income to the community. During the flu, the farm had to cull their entire bird flocks and sanitize all facilities. In response to the virus, Michael Foods has implemented new controls on their farm to ensure diseases are not transmitted on entering the facility on people or vehicles. According to the local planning team, the city has offered meeting rooms to Michael Foods for interviews and training to help minimize the risk of diseases being brought onto the farm.

Mitigation Actions:

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Administrator
<b>Status</b>	This is a new mitigation action.

Additional Mitigation and Resiliency Actions:

MITIGATION ACTION	ALERT/WARNING SIREN
<b>Description</b>	Install new alert/warning sirens for severe weather and tornado alerts.
<b>Hazard(s)</b>	Severe Thunderstorm, Tornadoes and High Winds
<b>Estimated Cost</b>	\$5,000+, Varies by scope
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Administrator
<b>Status</b>	This is a new mitigation action

MITIGATION ACTION	EMERGENCY VEHICLES
<b>Description</b>	Purchase new ambulance and fire truck emergency vehicles for the city.
<b>Hazard(s)</b>	Extreme Heat, Hazardous Materials, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Wildfire
<b>Estimated Cost</b>	New Ambulance: \$300,000; New Fire Truck: \$600,000+
<b>Local Funding Source</b>	General Funds, Grants, Fire Department Funds
<b>Timeline</b>	2-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	City Administrator, Ambulance Department, Fire Department
<b>Status</b>	This is a new mitigation action

MITIGATION ACTION	FIRE HALL
<b>Description</b>	Build a new firehall with a conference room to be used by local companies such as Michael Foods for training events and interviews. The new firehall should also have enough space to house fire department employees.
<b>Hazard(s)</b>	Wildfires
<b>Estimated Cost</b>	TBD
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Clerk, Fire Department
<b>Status</b>	This is a new mitigation action

MITIGATION ACTION	STORM SHELTER
<b>Description</b>	Build tornado shelter at Fairgrounds and/or retrofit bathrooms as safe rooms in existing buildings.
<b>Hazard(s)</b>	Severe Thunderstorms, Tornadoes and High Winds
<b>Estimated Cost</b>	\$400,000
<b>Local Funding Source</b>	Rodeo Club Funds
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Administrator
<b>Status</b>	This is a new mitigation action

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the City Administrator, Mayor, and City Paramedic. The plan will be reviewed annually. The public will be notified and involved in the review and revision through announcements on the city website and during City Council meetings.

# Community Profile

## Village of Center

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The Village of Center’s local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table CNT.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Loren Hintz	Village Resident	Village of Center	Attended Round 1 and Round 2 meetings

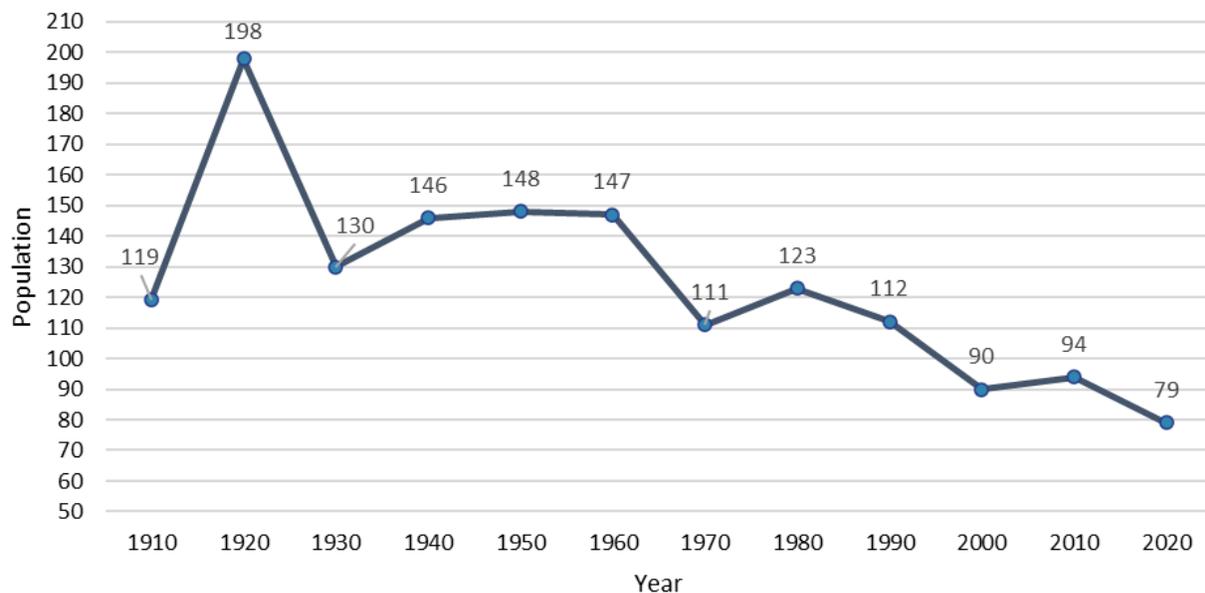
## Location and Geography

The Village of Center is in the center of Knox County and covers an area of 67 acres. The Bazile Creek runs along the western side of the village. The village serves as the county seat in Knox County.

## Demographics

The following figure displays the historical population trend for the Village of Center. This figure indicates that the population of Center has been declining since 1950 from 148 residents to 79 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Center’s population accounted for 0.94% of Knox County’s population in 2020.<sup>29</sup>

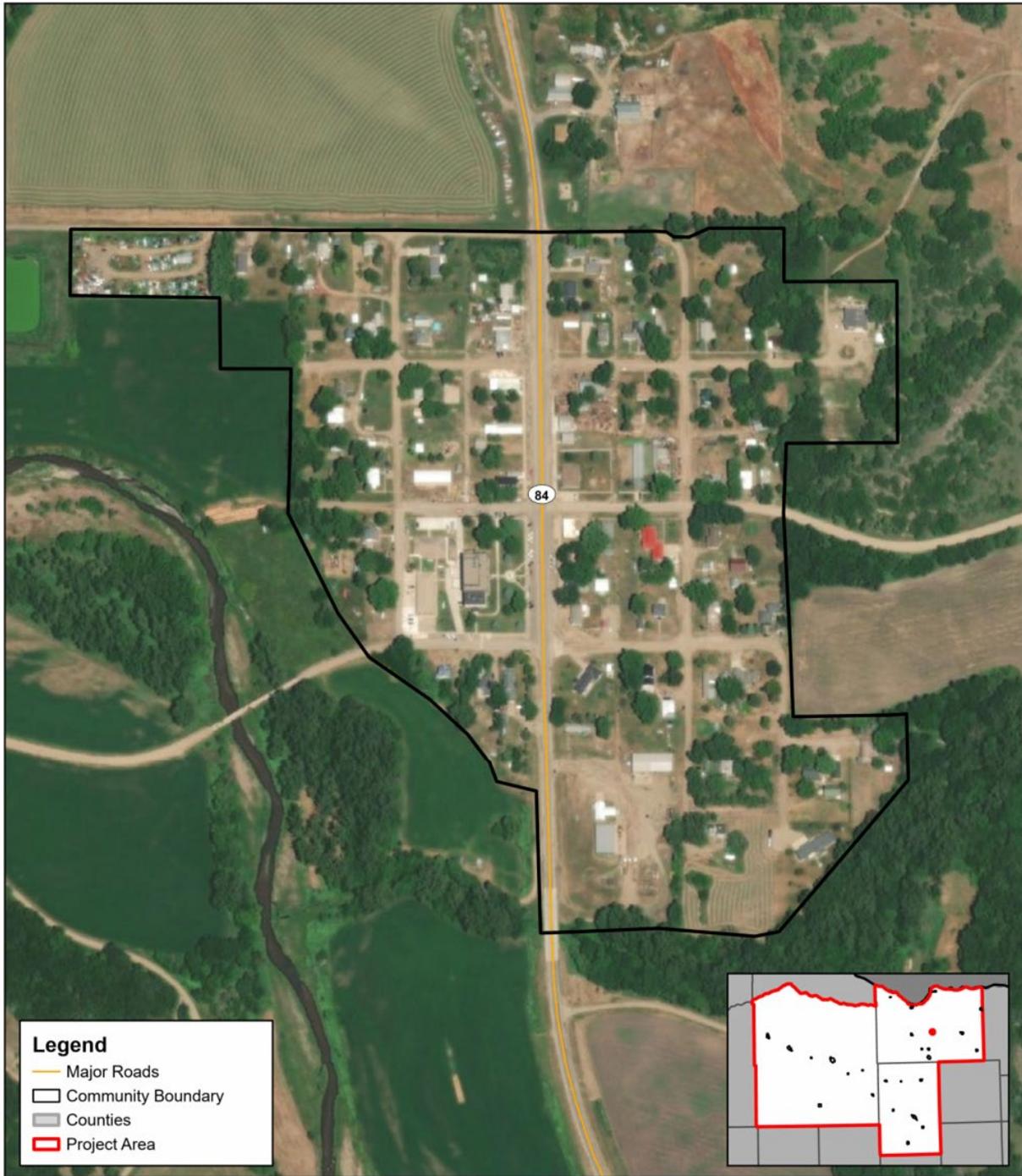
**Figure CNT.1: Population 1910 - 2020**



Source: U.S. Census Bureau

29 United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure CNT.2: Village of Center



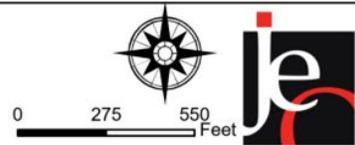
Created By: AK  
Date: 2/27/2023  
Software: ArcGIS Pro 3.0.3  
File Name: TriCounty.aprx

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# Village of Center

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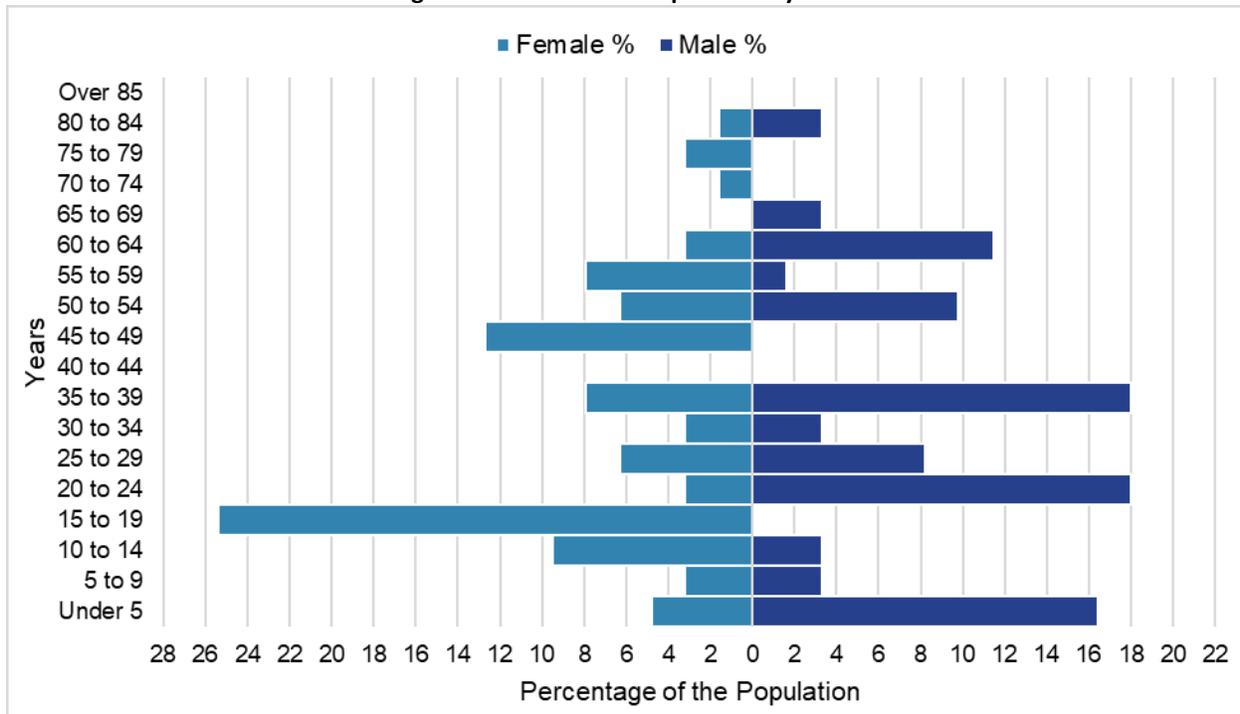
## Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Center’s population:

- **4% is non-white.** Since 2010, Center grew less ethnically diverse. In 2010, 13.3% of the village’s population was non-white. By 2020, 4% was non-white.<sup>30</sup>
- **29.5 median age.** The median age of Center was 29.5 years old in 2020. The population grew younger since 2010, when the median age was 48.<sup>30</sup>

Figure CNT.3: Center’s Population Pyramid



The figure above shows Center’s population percentage broken down by sex and five-year age groups. Center’s population is bottom heavy, suggesting future population increase as older generations are replaced by more younger residents. The largest population groups in the village are between 15 to 19 and 35 to 39.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Center’s population has:

- **55.7% of people live below the poverty line.** The poverty rate (55.7%) in the Village of Center was higher than the state (6.6%) and county’s (5.8%) poverty rate in 2020.<sup>31</sup>
- **\$42,500 median household income.** Center’s median household income in 2020 (\$42,500) was \$20,515 lower than the state (\$63,015) and \$11,153 lower than Knox County (\$53,653).<sup>31</sup>

30 United States Census Bureau. “2020 Census Bureau American Community Survey: S0101: Age and Sex.” <https://data.census.gov/cedsci/>.

31 United States Census Bureau. “2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics.” <https://data.census.gov/cedsci/>.

- **19.2% unemployment rate.** In 2020 Center has a higher unemployment rate (19.2%) when compared to the state (3.4%) and county (3.5%).<sup>31</sup>
- **5.3% of workers commuted 30 minutes or more to work.** Fewer workers in Center commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (5.3% compared to 49.2%).<sup>32</sup>

### Major Employers

The main major employer in the Village of Center is the Knox County Courthouse. According to the local planning team, many people travel to other communities for employment including Bloomfield, Creighton, Norfolk, and out of state to Yankton, SD.

### Broadband Access

Internet access or access to broadband has become a critical resource to share and receive information regarding hazardous events. Wi-Fi, internet, and cell coverage are the primary methods of dissemination and retrieval of key hazard related information including storm warnings, evacuation orders, or weather updates. Rural communities often struggle to have adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many residents worked from home or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription is 88.2%.

### Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Those houses and vacant housing may be more vulnerable to hazard events if they are poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The Village of Center has two mobile homes in the community, one is vacant. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards. Center's housing stock has:

- **89.9% of housing was built prior to 1970.** Center has a larger share of housing built prior to 1970 than the state and county (89.9% compared to 45.5% and 55.7%).<sup>33</sup>
- **43.3% of housing units are vacant.** Center has a higher vacancy rate 43.3% compared to the rest of the state (9.2%) and a lower rate than Knox County (27.0%).<sup>33</sup>
- **10% mobile and manufacture housing.** The Village of Center has a larger share of mobile and manufactured housing (10%) compared to the state and county (3.3% and 6.7%).<sup>33</sup>
- **17.6% renter occupied.** The rental rate of Center was 17.6% in 2020. This is lower than the state and county rates of 33.8% and 25.9% respectively.<sup>33</sup>

32 United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov/cedsci/>.

33 United States Census Bureau. "20 Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/cedsci/>.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Center is governed by a village chairperson and village board; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Village Clerk/Treasurer
- Village Chair
- Floodplain Administrator
- Attorney

## Capability Assessment

The Village of Center's annual budget is currently limited to maintaining current facilities and systems. A large portion of the village's municipal funds are already dedicated to projects for the streets, water, and sewer systems. Municipal funds have decreased over recent years.

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table CNT.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Local Emergency Operations Plan	County LEOP
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	National Flood Insurance Program	Yes
	Floodplain Ordinance	No
	Building Codes	Yes – 2018 IRC
	Community Rating System	No
Other (if any)	Capital Improvement Plan	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Community-wide Internet or broadband access	~88.2%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table CNT.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Moderate
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

### Social Vulnerability

According to FEMA's National Risk Index, the overall Risk Index for Knox County, which includes the Village of Center, is Relatively Low (12.62).<sup>34</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively Moderate (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively High (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

<sup>34</sup> FEMA National Risk Index. Accessed September 2022. <https://hazards.fema.gov/nri/map>.

An additional tool developed by Headwaters Economics evaluated communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding, fulfill reporting requirements, and design, build, and maintain infrastructure products over the long term. Communities which lack local capacity often have the greatest need for infrastructure investments, particularly rural communities and communities of color. To help identify communities with limited capacity, Headwaters Economics created a new Rural Capacity Index on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the community compared to the county.

**Table CNT.4: Center’s Rural Capacity Index**

Components of Index	CENTER	Knox County
County is metropolitan?	No	No
Has head of planning?	Yes	Yes
Has college or university?	No	No
Adults with higher education	3%	22%
Families below poverty level:	25%	5%
Households with broadband	74%	75%
People without health insurance	3%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	-8	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>53</b>	<b>67 out of 100</b>

Source: Headwaters Economics<sup>35</sup>

## Plans and Studies

Communities have various planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Building Codes

Center has adopted the 2018 International Building and Residential Codes. The code integrates hazard mitigation in the following ways: requires elevation of structures in the floodplain, requires mechanical systems to be elevated for structures in the floodplain, requires onsite storm water detention for commercial structures, encourages the use of permeable surfaces, and requires a safe room in multiple dwelling units. The village will continue to comply with and adopt the newest version of the IBC as applicable.

### Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the city would like to pursue. The Village of Center’s Capital Improvement Plan typically includes projects for streets, drainage, and water/sewer improvements. The village is in need of drainage structure improvements such as ditch cleaning and rebuilding dikes. The Community Building is also in need of a new generator. There is no specific date as to when the current plan update will be completed.

<sup>35</sup> Headwaters Economics. Accessed September 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

## Ordinances and Regulations

The village's floodplain ordinance place limits on development in the floodplain. There are no plans to update the floodplain ordinance. For Center, the floodplain is based on Knox County's countywide FEMA DFIRM maps.

## Knox County Local Emergency Operations Plan

The Village of Center is an annex in the Knox County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

## Missouri River Northeast Community Wildfire Protection Plan

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. No specific areas of concern were identified for the Village of Center in the Missouri River Northeast CWPP. This document is updated every five years.

## Future Development Trends

The Village of Center has not experienced any large-scale changes in housing or businesses over the past five years. The planning team did not note any new roads or areas of improvement that have occurred or are planned to occur within the next five years. No new areas of development have been identified in the coming years; however, the village should continue to consider areas of concern and overall building resilience for any new constructions.

## Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



### Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. Center’s law enforcement is provided by the Knox County Sheriff’s office. No additional safety and security lifelines were identified for the village.

### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Identified Water and Shelter Lifelines for the Village of Center are included in the table below.

**Table CNT.5: Food, Water, and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	-	None Identified	-	-	
	Water	1	Village Well	Y	N	Located in Floodplain
	Shelters	2	Community Hall	N	Y	

### Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. No medical and health facilities are located within the community.

### Energy

Energy Lifeline components include power, the power grid, and fuel. No Energy Lifelines were identified for Center.

### Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. No Communication Lifelines for the Village of Center have been identified.

### Transportation

Components include interstates, highways, major roadways, mass transit, railway, and aviation. Center’s major transportation corridor is State Highway 84 with an average of 460 vehicles daily, 35 of which are trucks.<sup>36</sup> The local planning team has identified the township road to the west of town being a route of concern, along with a large bridge running across Bazile Creek that is at risk of flooding. Additionally, the county road east of town experiences bridges and culverts washing out due to flooding. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

36 Nebraska Department of Roads. 2021. “Interactive Statewide Traffic Counts Map.” [map].  
<https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

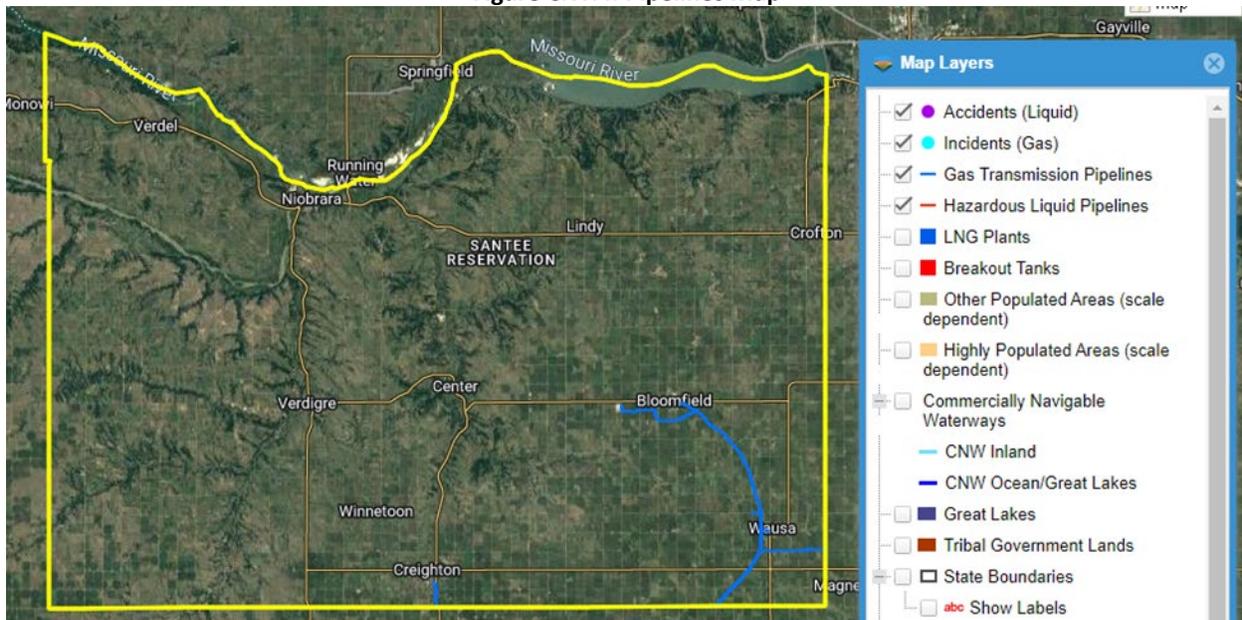
Table CNT.6: Transportation Lifelines

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	-	None	-	-	
	Railroads	-	None	-	-	
	Highways	-	NE-84	-	-	

### Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical sites within or near Center which house hazardous materials. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident and the nearest HAZMAT team is located in Norfolk, roughly 50 miles south of Center. The local planning team did not report any significant transportation events having occurred locally. There are no gas transmission pipelines that travel through or near the community as seen in the image below.

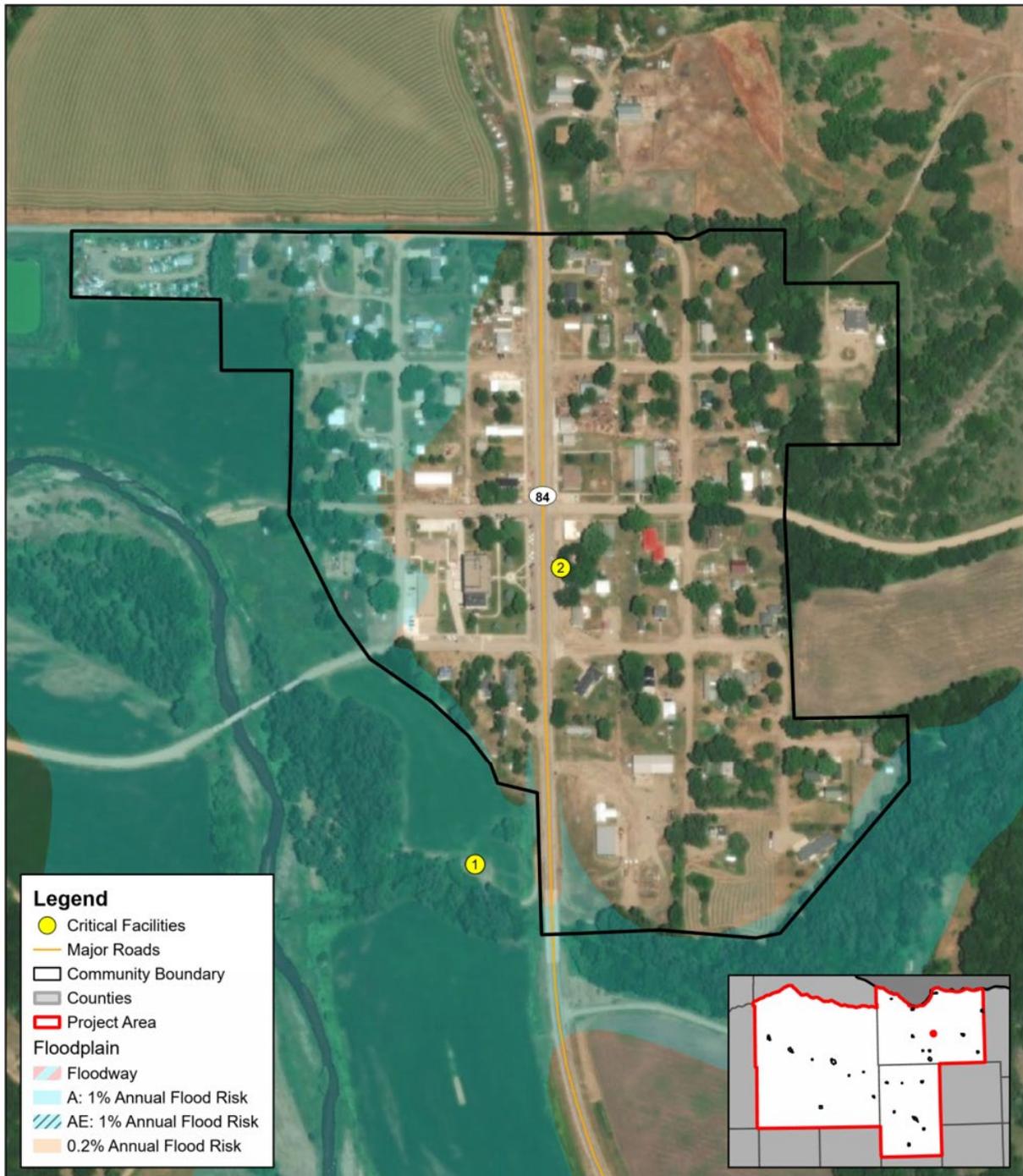
Figure CNT.4: Pipelines Map



Source: National Pipeline Mapping System<sup>37</sup>

<sup>37</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed September 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Figure CNT.5: Community Lifelines



Created By: AK  
 Date: 2/27/2023  
 Software: ArcGIS Pro 3.0.3  
 File Name: TriCounty.aprx

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# Village of Center

## Critical Facilities

0 275 550 Feet

## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. A summary of the results of this analysis is provided in the following table. Several structures in Center have been removed from the floodplain via LOMA. A summary of LOMAs identified for Center can be found in the table below.

**Table CNT.7: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
62	\$1,603,360	21	\$555,685	34%

Source: County Assessor, 2022

**Table CNT.8: Center Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMR	06-07-B004X-310519	02/03/2006	Reissues September 26 LOMR based on new flood hazard information. No revision to the Flood Insurance Study Report made.

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Center which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Village of Center. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
	Wind				
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Extreme Heat

Extreme heat is a hazard of concern for the Village of Center due to the blackouts caused by stress on the power grid and the lack of cooling facilities within the community. The NCEI database provides information on excessive heat events at the county level. Within Knox County, there have been eight Heat or Excessive Heat events from 1996 to 2021. These events did not result in any deaths, injuries, or property damages. According to the local planning team, the community has experienced a few short-term blackouts over the past few years. To avoid full scale blackouts, the North Central PPD performed rolling blackouts to relieve the stress on the power grid during extreme heat events. The local planning team would like to provide a location where citizens of Center may go for air conditioning, lights, and food preparation during these power outages. The Town Hall could be used for this purpose if the building had a generator to provide electricity during the blackouts.

### Mitigation Actions:

MITIGATION ACTION	Backup Generators
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies and other critical facilities and shelters.
<b>Hazard(s) Addressed</b>	Extreme Heat, Severe Thunderstorm, Severe Winter Storm, Tornado and High Winds
<b>Estimated Cost</b>	\$20,000 to \$35,000/generator
<b>Potential Funding</b>	Hazard Mitigation Assistance Grant Programs
<b>Lead Agency</b>	Center Administration (Village Board), Public Works, and/or Emergency Management Departments
<b>Timeline</b>	2-5 Years
<b>Priority</b>	High
<b>Status Description</b>	This mitigation action was identified in the 2017 HMP update and has not been started yet.

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	Village Board, Village Clerk/Treasurer
<b>Status</b>	This is a new mitigation action.

### Hazard: Flooding

The local planning team has identified flooding as a top hazard of concern for the Village of Center due to the Bazile Creek that runs along the west of town and stormwater drainage from the hills east of town. The local planning team indicated the town experienced two or three high water events from hard rains during the summer over the last five years. The flooding of March 2019 also impacted the community and destroyed a security fence around the sewer lagoon. To help reduce the impact of flooding on the town, the town cleans out drainage ditches and small dikes when funds permit.

#### NFIP Information

Center has two NFIP policies in-force for \$72,000. There are no repetitive flood loss properties in Center. The village will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances.

#### Mitigation Actions:

MITIGATION ACTION	Drainage Assessment for Bridge and Culvert Improvements
<b>Description</b>	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding.
<b>Hazard(s) Addressed</b>	Flooding, Severe Thunderstorms
<b>Estimated Cost</b>	\$10,000 to \$100,000+
<b>Potential Funding</b>	Hazard Mitigation Assistance Grant Programs, Community Development Block Grant, Natural Resources Districts
<b>Lead Agency</b>	Center Administration (Village Board)
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Status Description</b>	This mitigation action is currently in the works.

MITIGATION ACTION	STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
<b>Description</b>	Repair/improve stormwater culverts and drainage ditches to reduce stormwater flooding.
<b>Hazard(s)</b>	Flooding, Severe Thunderstorms
<b>Estimated Cost</b>	\$50,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Center Administration (Village Board)
<b>Status</b>	This is a new mitigation action. Minor repairs have been completed by the village.

MITIGATION ACTION	Stream Bank Stabilization
<b>Description</b>	Stream bank/bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, i-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance and provide flooding benefits. Flood protection for critical and/or highly vulnerable facilities, areas, populations, and infrastructure is key.
<b>Hazard(s) Addressed</b>	Flooding
<b>Estimated Cost</b>	\$50,000 to \$100,000+
<b>Potential Funding</b>	Hazard Mitigation Assistance Grant Programs, Natural Resources Districts
<b>Lead Agency</b>	Center Public Works, Utility, and/or Floodplain Management Department, and Lower Niobrara Natural Resources District
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Status Description</b>	This mitigation action was identified in the 2017 HMP update and has not been started yet.

### Hazard: Severe Winter Storm

Severe winter storms were identified as a top hazard of concern by the Village of Center due to the stress on the electrical grid and potential for power outages. Additionally, the local planning team is concerned about the lack of safe shelter for citizens of Center to go during a big storm for heat, lights, and food preparation. During the winter of 2020, ice accumulated on the electrical lines and left the community without power for 10 to 12 hours. The village's power is provided by North Central PPD who was responsible for making necessary repairs to poles and wires damaged by the ice. The local planning team indicated a generator being installed at Town Hall would help reduce the risk of power outages.

#### Mitigation Actions:

See the "Backup Generators" and "Public Awareness and Education" mitigation actions to address this hazard of top concern.

### Hazard: Tornadoes and High Winds

Like severe winter storms, the village is concerned about the potential damage caused by tornadoes and high winds, particularly the risk of damage to the power lines and power outages. One tornado event was listed in the NCEI database as having occurred within Center in 2007 when an EF0 tornado tracked through the northeast portion of Center, destroying a machine shed and overturning a trailer. This tornado killed six head of cattle and caused \$10,000 in property damage. Additionally, 18 high wind events occurred within Knox County and caused \$53,000 in property damages. The local planning team reported a high wind event on May 12, 2022, caused significant damage to power lines and knocked out the power for over 30 hours. The village does not have a generator to help provide power when a high wind event or tornado takes down power lines. The local planning team would like to install a generator at the Town Hall to provide shelter for residents.

#### Mitigation Actions:

See the “Backup Generators” and “Public Awareness and Education” mitigation actions to address this hazard of top concern.

### Updating Past Mitigation Strategies

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#### Removed Mitigation Actions

OBJECTIVE	Alert and Warning Sirens
<b>Description</b>	Perform an evaluation of existing alert sirens to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
<b>Status Description</b>	Mitigation action was removed by the planning team.

OBJECTIVE	Participate or Maintain Good Standing in the National Flood Insurance Program
<b>Description</b>	Participate in the National Flood Insurance Program (NFIP) or maintain good standing with the NFIP including floodplain management practices/requirements and regulation enforcements and updates.
<b>Status Description</b>	Mitigation action was removed by the planning team.

OBJECTIVE	Storm Shelter and Safe Rooms
<b>Description</b>	Assess, design, and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
<b>Status Description</b>	Mitigation action was removed by the planning team.

OBJECTIVE	Weather Radios
<b>Description</b>	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
<b>Status Description</b>	Mitigation action was removed by the planning team.

## **Plan Maintenance**

---

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The Village Board of Center will annually review the Center profile. The Board will notify the public of the plan review by posting a meeting notice in three public places and including a notice in the Village Board minutes.

# Community Profile

## City of Creighton

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The City of Creighton’s local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table CRG.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Lindsay Nelson	City Administrator/Clerk Treasurer	City of Creighton	Attended Round 1 and Round 2 Meetings

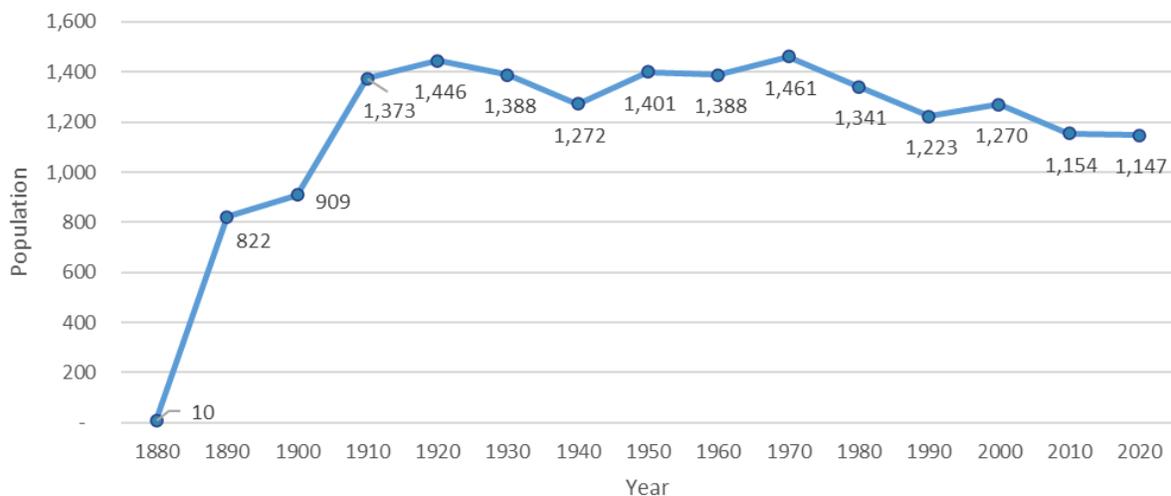
## Location and Geography

The City of Creighton is located in the southern central portion of Knox County and covers an area of 525 acres. The Bazile Creek runs along the eastern side of the city. Creighton is the most populated city within Knox County.

## Demographics

The following figure displays the historical population trend for the City of Creighton. This figure indicates that the population of Creighton has been declining since 1970 to 1,154 people in 2010 before increasing slightly to 1,253 people in 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Creighton’s population accounted for 14% of Knox County’s population in 2020.<sup>38</sup>

**Figure CRG.1: Population 1880 - 2020**



Source: U.S. Census Bureau

38 United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure CRG.2: City of Creighton



Created By: NL  
 Date: 6/6/2022  
 Software: ArcGIS Pro 2.8  
 File Name: TriCountyV2.aprx

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plot.

**City of Creighton**

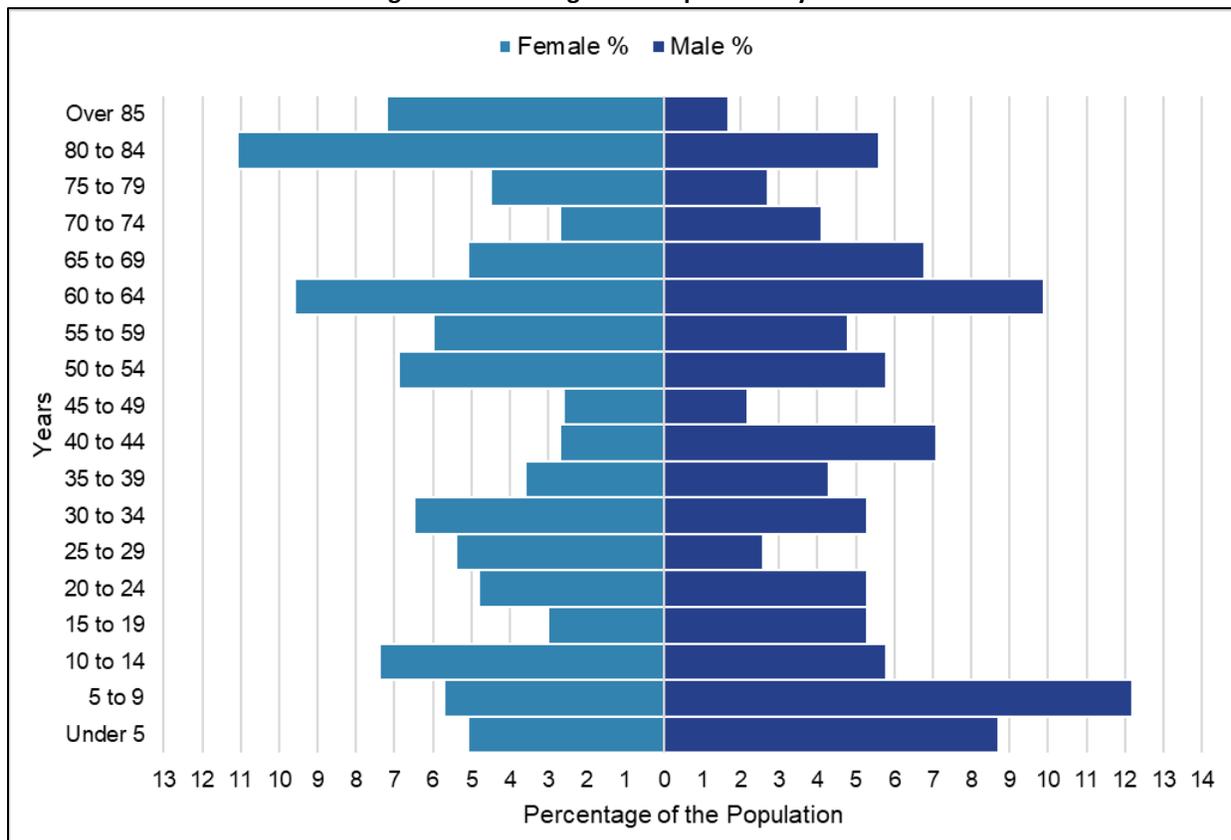
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Creighton’s population:

- **3.1% is non-white.** Since 2010, Creighton has become slightly less ethnically diverse. In 2010, 3.5% of the city’s population was non-white. By 2020, 3.1% was non-white.<sup>39</sup>
- **45.3 median age.** The median age of Creighton was 45.3 years in old 2020. The population grew older since 2010, when the median age was 40.8.<sup>39</sup>

**Figure CRG.3: Creighton’s Population Pyramid**



The figure above shows Creighton’s population percentage broken down by sex and five-year age groups. Creighton’s population is dispersed evenly across the age groups with the largest population being under 5 years old. This suggests the future population will remain stable with a slight increase as the older generation is replaced by an equal number of younger populations.

### Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Creighton’s population has:

- **7.5% of people living below the poverty line.** The poverty rate (7.5%) in the City of Creighton was higher than both the state (6.6%) and the county (5.8%) poverty rate in 2020.<sup>40</sup>

39 United States Census Bureau. “2020 Census Bureau American Community Survey: S0101: Age and Sex.” <https://data.census.gov/cedsci/>.

40 United States Census Bureau. “2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics.” <https://data.census.gov/cedsci/>.

- **\$58,750 median household income.** Creighton’s median household income in 2020 (\$58,750) was \$4,265 lower than the state (\$63,015) and \$5,097 higher than Knox County (\$53,653).<sup>40</sup>
- **0.7% unemployment rate.** In 2020 Creighton has a lower unemployment rate (0.7%) when compared to the state (3.4%) and county (3.5%).<sup>40</sup>
- **17.6% of workers commuted 30 minutes or more to work.** Fewer workers in Creighton commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (17.6% compared to 55.8%).<sup>41</sup>

### Major Employers

The major employers in the City of Creighton include Avera Hospital and North Central Public Power District. The local planning team reports many people travel to other communities for employment including Norfolk, Plainview, Wausa, Verdigre, and out of state to Yankton, SD.

### Broadband Access

Internet access or access to broadband has become a critical resource to share and receive information regarding hazardous events. Wi-Fi, internet, and cell coverage are the primary methods of dissemination and retrieval of key hazard related information including storm warnings, evacuation orders, or weather updates. Rural communities often struggle to have adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many residents worked from home or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription is 75.9%.

### Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Those houses and vacant housing may be more vulnerable to hazard events if they are poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team did not report any large cluster of mobile homes located within the city. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards. Creighton’s housing stock has:

- **64.4% of housing built prior to 1970.** Creighton has a larger share of housing built prior to 1970 than the state and county (64.4% compared to 45.5% and 55.7%).<sup>42</sup>
- **16.2% of housing units vacant.** Creighton has a higher vacancy rate 16.2% compared to the rest of the state (9.2%) and a lower rate than Knox County (27.0%).<sup>42</sup>
- **1.8% mobile and manufacture housing.** The City of Creighton has a smaller share of mobile and manufactured housing (1.8%) compared to the state and county (3.3% and 6.7%).<sup>42</sup>
- **22.8% renter occupied.** The rental rate of Bloomfield was 22.8% in 2020. This is lower than the state’s rate of 33.8% and the county’s rates of 25.9%.<sup>42</sup>

<sup>41</sup> United States Census Bureau. “2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics.” <https://data.census.gov/cedsci/>.

<sup>42</sup> United States Census Bureau. “20 Bureau American Community Survey: DP04: Selected Housing Characteristics.” <https://data.census.gov/cedsci/>.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The City of Creighton is governed by a mayor and city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- City Administrator
- Deputy Clerk
- City Treasurer
- Mayor
- City Administrator
- City Attorney
- Chief of Police
- Fire Chief
- Utility Superintendent

## Capability Assessment

The City of Creighton's annual budget is sufficient to pursue new capital projects. According to the local planning team, municipal funds have remained the same over recent years. A large portion of the city's municipal funds are dedicated to specific projects including community center updates and a new fire hall.

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table CRG.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Local Emergency Operations Plan	Yes
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IRC
	Community Rating System	No
Other (if any)	Capital Improvement Plan	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)		
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Community-wide Internet or broadband access	~75.9%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table CRG.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
<b>Financial resources to implement mitigation projects</b>	Limited
<b>Staff/expertise to implement projects</b>	Limited
<b>Public support to implement projects</b>	Limited
<b>Time to devote to hazard mitigation</b>	Limited
<b>Ability to expand and improve the identified capabilities to achieve mitigation</b>	Limited

### Social Vulnerability

According to FEMA's National Risk Index, the overall Risk Index for Knox County, which includes the City of Creighton, is Relatively Low (12.62).<sup>43</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively Moderate (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.

<sup>43</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

- Community Resilience - Communities in Knox County, NE have a Relatively High (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics evaluated communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding, fulfill reporting requirements, and design, build, and maintain infrastructure products over the long term. Communities which lack local capacity often have the greatest need for infrastructure investments, particularly rural communities and communities of color. To help identify communities with limited capacity, Headwaters Economics created a new Rural Capacity Index on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the community compared to the county.

**Table CRG.4: Creighton’s Rural Capacity Index**

Components of Index	CREIGHTON	Knox County
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	26%	22%
Families below poverty level:	2%	5%
Households with broadband	74%	75%
People without health insurance	6%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	-45	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>48</b>	<b>67 out of 100</b>

Source: Headwaters Economics<sup>44</sup>

## Plans and Studies

Communities have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Comprehensive Plan

The comprehensive plan is designed to promote orderly growth and development for the city, provide policy guidelines, and enable citizens and elected officials to make informed decisions about the future of the city. Creighton’s comprehensive plan will be updated in 2026 for a 10-year timeframe of 2027-2037. The City’s plan limits development in areas adjacent to known hazardous areas such as Bazile Creek and the airport east of town. The information from this Hazard Mitigation Plan will be incorporated into the updated Comprehensive Plan by having a copy provided before the start of the plan update.

<sup>44</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

### **Capital Improvement Plan**

The capital improvement plan outlines large purchases and projects that the city would like to pursue. The City of Creighton’s plan is in need of an update. The current version of Creighton’s Capital Improvement Plan focuses on stormwater upgrades and the installation of curbs and gutters.

### **Ordinances and Regulations**

The city’s current zoning ordinances and regulations were implemented in 2007 and the city does not have a plan or timeline to update the ordinances. The city’s floodplain ordinance was established in 2005. Future updates in the city’s ordinance and regulations will include limiting development in the floodplain and the wildland urban interface.

### **Building Codes**

Creighton has adopted the 2018 International Building and Residential Codes. The code integrates hazard mitigation in the following ways: requires elevation of structures in the floodplain, requires mechanical systems to be elevated for structures in the floodplain, requires onsite storm water detention for commercial structures, encourages the use of permeable surfaces, and requires a safe room in multiple dwelling units.

### **Knox County Local Emergency Operations Plan**

The City of Creighton is an annex in the Knox County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

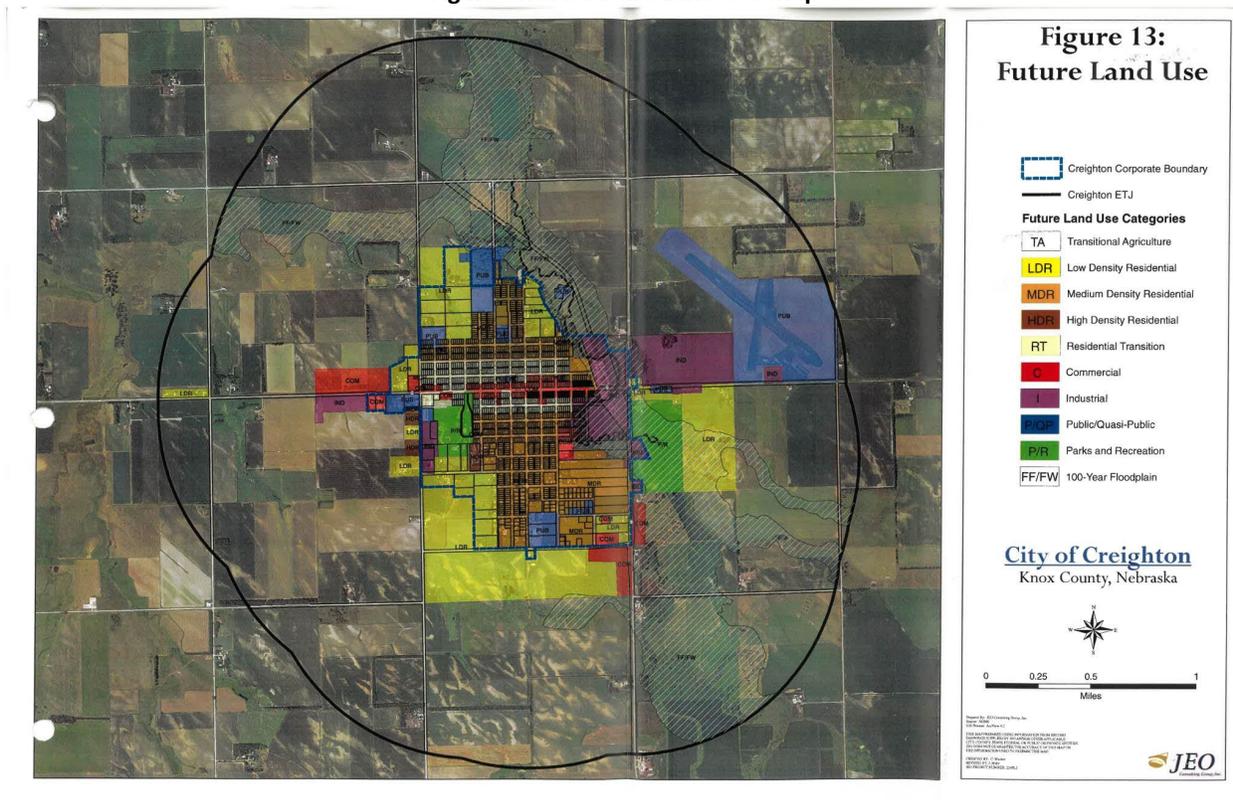
### **Missouri River Northeast Community Wildfire Protection Plan**

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

### **Future Development Trends**

Over the last five years, the City of Creighton has experienced a new building and a new fire hall, both were built within the floodplain. The city has not experienced any demolition or improvements either. According to the local planning team, the city would like to have a new housing development or new business development located on Henstler Avenue on the south side of town. The city’s future land use map is displayed below.

Figure CRG.4: Future Land Use Map



## Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



### Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Creighton.

**Table CRG.5: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	1	Police Department	N	N	
	Fire Service	2	Creighton Volunteer Fire Department	N	N	
	Search and Rescue	-	None Identified	-	-	
	Government Service	3	Creighton City Hall	N	N	
	Community Safety	4	Creighton Housing Authority	N	Y=N	

### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the City of Creighton are included in the table below.

**Table CRG.6: Food, Water, and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	5	Gragert's Grocery	N	N	
		6	Dollar General	N	N	
	Water	7	Water Treatment Plant	Y	N	Located in floodplain
Shelters	-	None Identified	-	-		

### Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the community.

**Table CRG.7: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	8	Avera Creighton Hospital	Y	Y	
		9	Avera Creighton Care Centre	Y	Y	
	Fatality Management	-	None Identified	-	-	
Public Health	-	None Identified	-	-		

Source: Nebraska Department of Health and Human Services<sup>45,46,47,48</sup>

45 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities."

<https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.

46 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals."

<https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.

47 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities."

<https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.

48 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic."

[https://dhhs.ne.gov/licensure/Documents/RHC\\_Roster.pdf](https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf).

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Creighton.

**Table CRG.8: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Power Grid	10	Nebraska Public Power District	Y	N	
		11	North Central Public Power District 1	Y	N	
		-	Black Hills Energy*	Y	N	
Fuel	12	C Mart	N	N		
	13	Pronto Market	N	N		

\*not mapped

## Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. Communication Lifelines for the City of Creighton are included in the table below.

**Table CRG.9: Communications Lifelines**

COMMUNICATIONS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Infrastructure	14	Great Plains Communications	N	N	
		15	Great Plains Underground Cable	-	N	
Alerts, Warning, and Messages/911 and Dispatch	-	None Identified	-	-		

## Transportation

Components include interstates, highways, major roadways, mass transit, railway, and aviation. Creighton's major transportation corridor is State Highways 59 and 13. The most trafficked corridor is State Highway 59 with an average of 2,660 vehicles daily, 195 of which are trucks.<sup>49</sup> Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table CRG.10: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	16	Creighton Community Municipal Airport	N	N	
	Railroads	-	None Identified	-	-	
	Highways	-	NE-59	-	-	
-		NE-13	-	-		

49 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

### Hazardous Materials

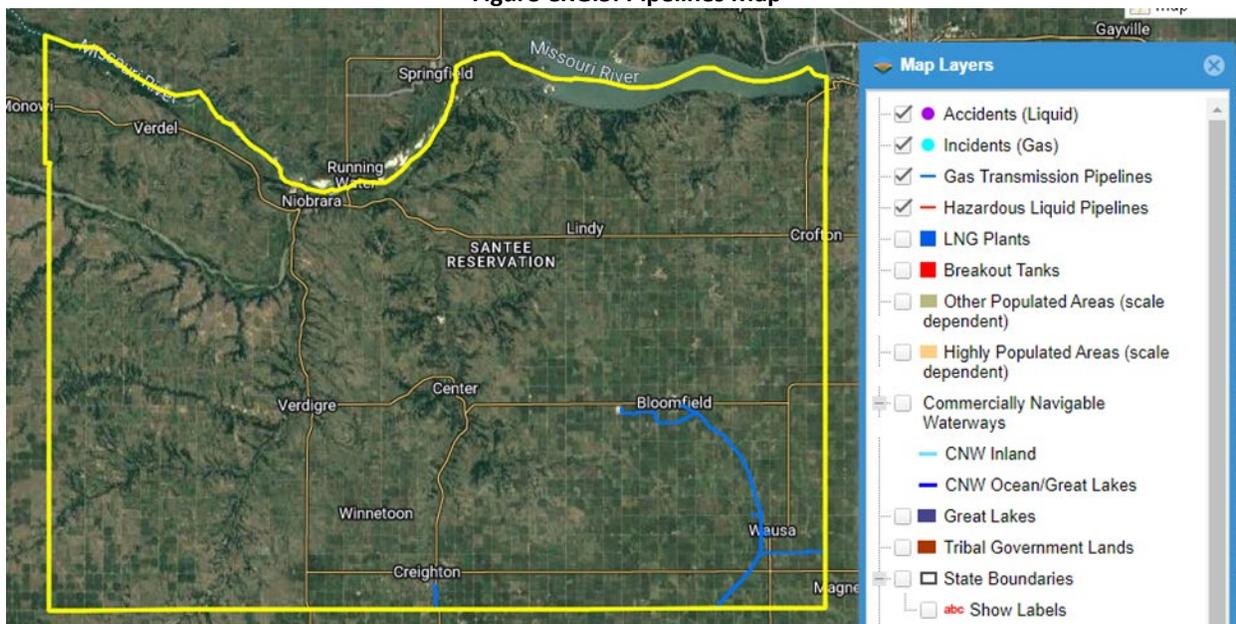
The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical site within or near Creighton which houses hazardous materials (listed below). In the event of a chemical spill, the local volunteer fire department and emergency response may be the first to respond to the incident. There is a gas transmission pipeline that travels into the southeastern corner of the community and can be seen in the figure below.

**Table CRG.11: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Facilities	-	N & B Gas Co.	-	-	
HAZMAT, Pollutants, Contaminants	-	None Identified	-	-		

Source: Nebraska Department of Environment and Energy<sup>50</sup>

**Figure CRG.5: Pipelines Map**

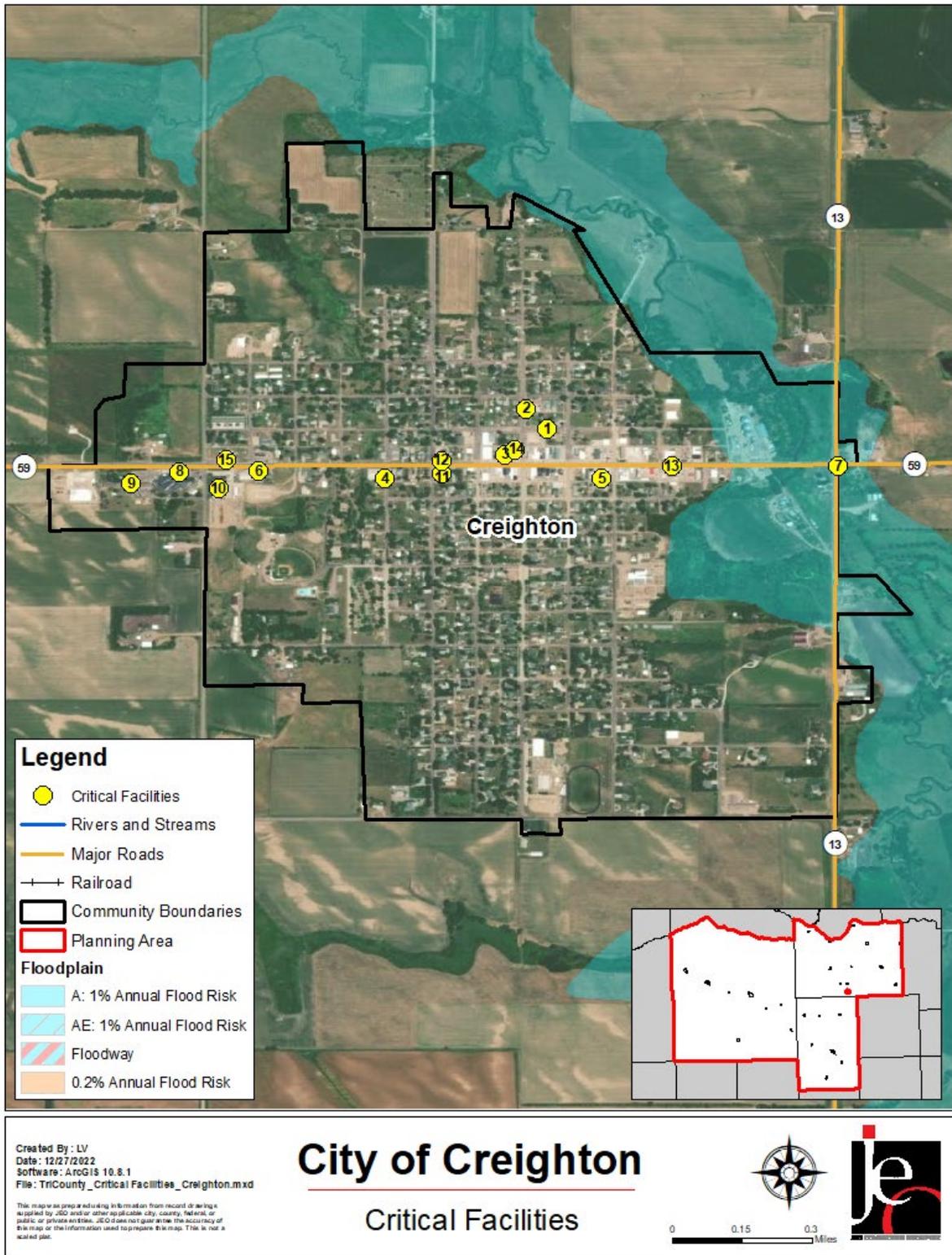


Source: National Pipeline Mapping System<sup>51</sup>

50 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2022.

51 National Pipeline Mapping System. 2022. "Public Viewer." Accessed September 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Figure CRG.6: Community Lifelines



## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. A summary of the results of this analysis is provided in the following table. Several structures in Creighton have been removed from the floodplain via LOMA. A summary of LOMAs identified for Bloomfield can be found in the table below.

**Table CRG.12: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
678	\$38,472,960	31	\$1,323,855	5%

Source: County Assessor, 2022

**Table CRG.13: Bloomfield Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	19-07-1648A-310360	09/17/2019	Portion of property removed from SFHA

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Creighton which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the City of Creighton. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
	Wind				
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

The local planning team has identified flooding as a top hazard of concern for the City of Creighton. The NCEI reports that the community experienced four flash flood events from 1996 to 2021. The most destructive flash flood event occurred in 2017 when heavy rains caused flooding along Highway 13 south/southwest of Creighton and caused \$30,000 in property damages and \$10,000 in crop damages. The local planning team provided additional information on a flood event that occurred in March 2019 when the Bazile Mill Creek overflowed. Community streets overflowed and the local sewer plant was flooded. After the 2019 flood the city received funding from FEMA for some street repairs, culvert repairs, and to help replace some equipment at the sewer plant.

### NFIP Information

Creighton has one NFIP policy in-force for \$59,000. The city has no repetitive flood loss properties. The city will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances.

Mitigation Actions:

MITIGATION ACTION	FLOODPLAIN DEVELOPMENT ORDINANCE ENFORCEMENT
<b>Description</b>	Continue to improve and enforce local floodplain regulations for structures located in the 100-year floodplain. Strict enforcement of the type of development and elevations of structures should be considered through issuance of floodplain development permits by any community or County. Continued education of building inspectors or Certified Floodplain Managers. Encourage building regulations for storm resistance structures.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$5,000
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Administrator
<b>Status</b>	This mitigation is in the works.

MITIGATION ACTION	DRAINAGE ASSESSMENT FOR BRIDGE AND CULVERT IMPROVEMENTS
<b>Description</b>	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be conducted to perform a community-wide stormwater evaluation, identifying multiple problem areas and potential drainage improvements.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$10,000 to \$100,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Board
<b>Status</b>	This mitigation action is currently in the works as the city continues to perform drainage improvement projects during their 1-and-6-year plans.

MITIGATION ACTION	STREAM BANK STABILIZATION
<b>Description</b>	Stream bank/bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, i-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance, and provide flooding benefits. Flood protection for critical and/or highly vulnerable facilities, areas, populations, and infrastructure is key.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$50,000 to \$100,000+
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Public Works, Utility, and/or Floodplain Management Department
<b>Status</b>	This mitigation action has not been started.

### Hazard: Tornadoes and High Winds

The local planning team identified tornadoes and high winds as a top hazard due to their prevalence in the area and potential for damage to homes, cars, and powerlines. Tornadoes and high winds are common across the planning area and can cause severe damage to the town. Two past occurrences of tornadic events are reported by the NCEI. One F0 tornado occurred in 1999 and caused \$10,000 in property damages when the tornado downed multiple power lines and power poles. The second event occurred in 2013 and was an EF3 tornado that touched down approximately two miles southeast of Creighton traveling north over Highway 59 towards the eastern side of the city. Damages included roof and siding damage to the garage at 3 of the Creighton Municipal Airport hangers. Additionally, a storage building at the airport lost a room and the airport beacon was lost. High Winds are reported by the NCEI at a county level, but the local planning team also reported that a major high winds event occurred in February 2020. The community experienced many downed trees and a recycle trailer tipping over twice. The local planning team was concerned the high winds would cause the recycle trailer to damage buildings and vehicles nearby. The community would like to encourage residents to trim trees. The power line companies come into town to trim trees of overhanging powerlines and the recycling trailer has since been anchored down.

**Mitigation Actions:**

MITIGATION ACTION	STORM SHELTER
<b>Description</b>	Assess, design, and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
<b>Hazard(s)</b>	Severe Thunderstorm, Severe Winter Storm, Tornado and High Winds
<b>Estimated Cost</b>	\$400 to \$500/square foot (stand-alone), \$350 to \$400/square foot (addition/retrofit).
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Creighton Administration, Planning, and/or Emergency Management Departments
<b>Status</b>	Not yet started.

**Other Mitigation Actions**

OBJECTIVE	PUBLIC AWARENESS AND EDUCATION CAMPAIGNS
<b>Description</b>	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. In addition, educate citizens on erosion control and water conservation methods.
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$1,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Creighton City Council
<b>Status</b>	This mitigation action has not yet started.

**Completed 2017 HMP Mitigation Actions**

OBJECTIVE	ALERT AND WARNING SIRENS
<b>Description</b>	Perform an evaluation of existing alert sirens to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
<b>Hazard(s) Addressed</b>	Severe Thunderstorm, Tornado and High Winds
<b>Status Description</b>	This mitigation action has been completed with the upgrade of the city sirens.

**Removed 2017 HMP Mitigation Actions**

OBJECTIVE	BACKUP GENERATORS
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies for existing wells and City office.
<b>Hazard(s) Addressed</b>	Severe Thunderstorm, Severe Winter Storm, Tornado and High Winds
<b>Status</b>	Removed by local planning team due to unlikelihood of pursuit.

OBJECTIVE	PARTICIPATE OR MAINTAIN GOOD STANDING IN THE NATIONAL FLOOD INSURANCE PROGRAM
<b>Description</b>	Participate in the National Flood Insurance Program (NFIP) or maintain good standing with the NFIP including floodplain management practices/requirements and regulation enforcements and updates.
<b>Hazard(s) Addressed</b>	Flooding
<b>Status</b>	Removed. FEMA no longer considers this a mitigation action.

**Plan Maintenance**

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The City Clerk is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The plan will be reviewed annually. The public will be notified of the plan review and revision through an announcement at City Council meetings.

# Community Profile

## City of Crofton

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The City of Crofton’s local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table CFT.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Michael T Chase	Planning and Zoning Administrator	City of Crofton	Attended Round 1 and Round 2 Meetings

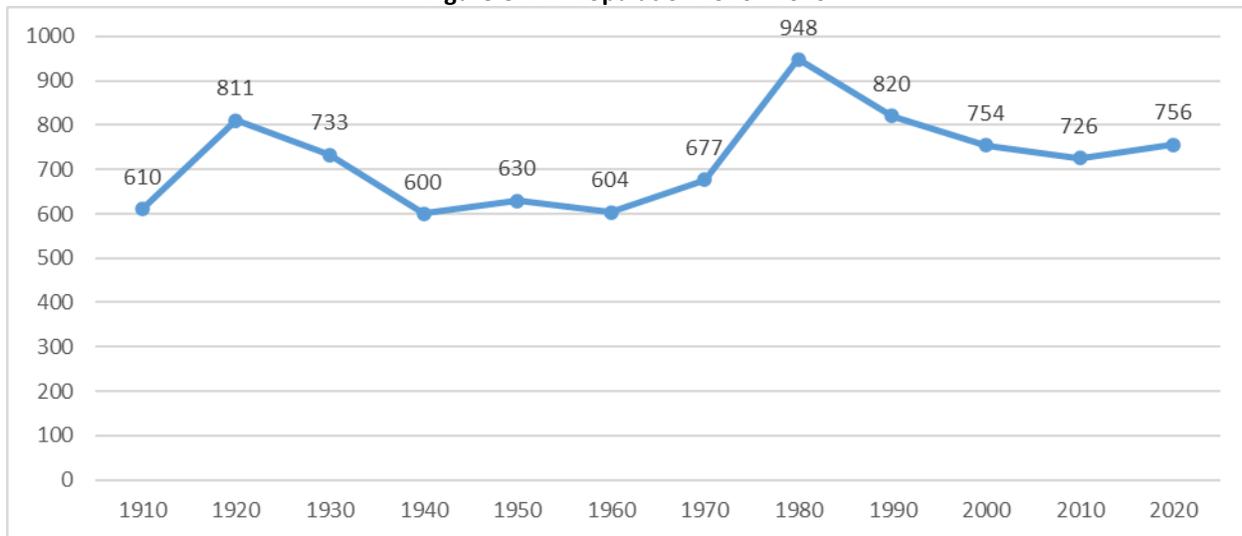
## Location and Geography

The City of Crofton is in northeastern Knox County and covers an area of 410 acres. Crofton was the tenth community platted in Knox County in 1892.

## Demographics

The following figure displays the historical population trend for the City of Crofton. This figure indicates that the population of Crofton has been increasing since 2010 to 898 people in 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Crofton’s population accounted for 9% of Knox County’s population in 2020.<sup>52</sup>

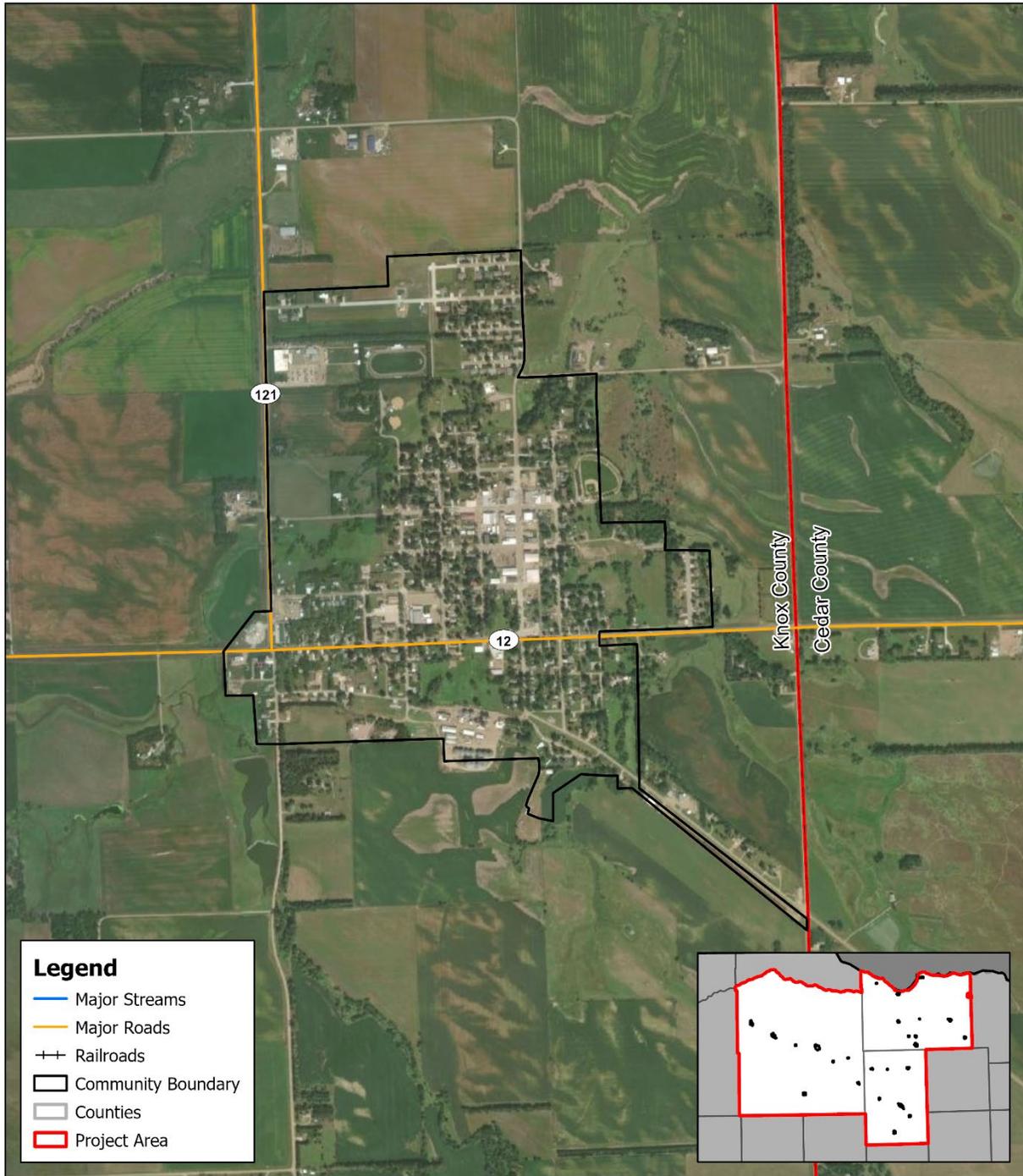
**Figure CFT.1: Population 1910 - 2020**



Source: U.S. Census Bureau

52 United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure CFT.2: City of Crofton

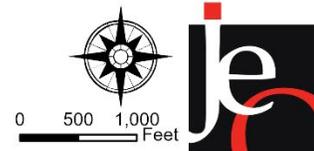


Created By: NL  
Date: 6/6/2022  
Software: ArcGIS Pro 2.8  
File Name: TriCountyV2.aprx

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plat.

# City of Crofton

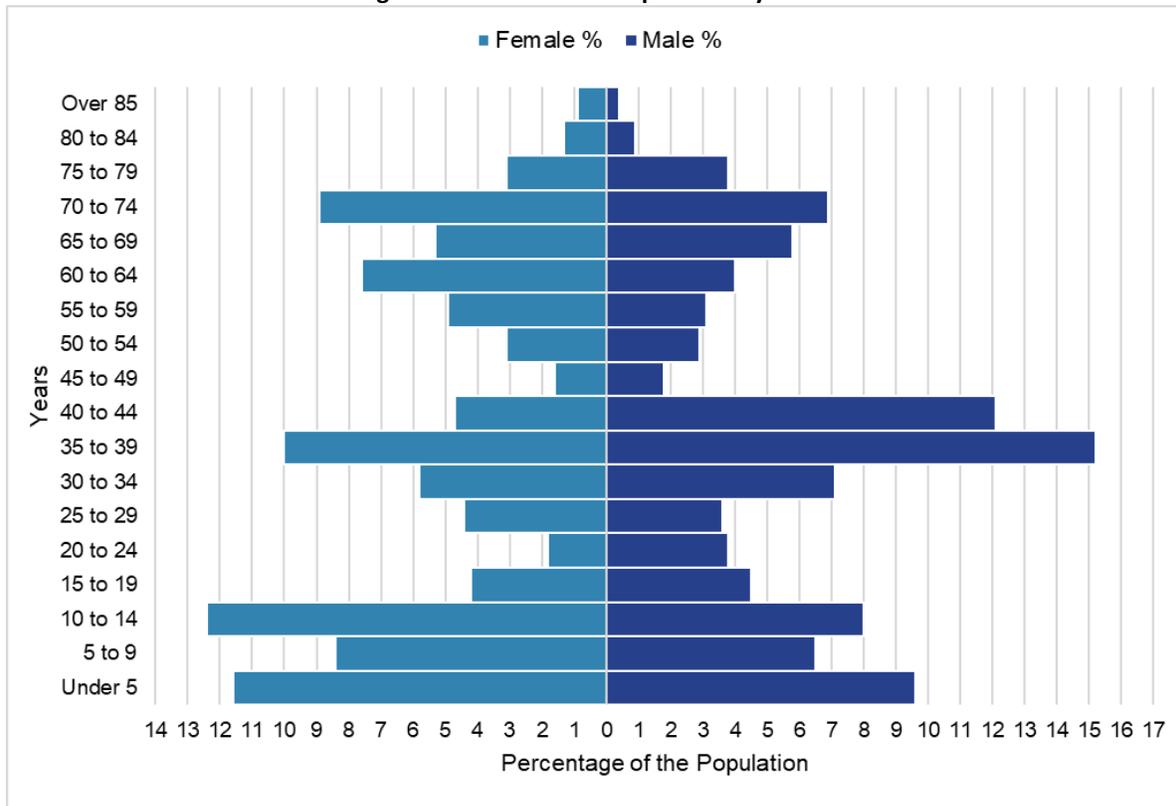
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Crofton's population:

- **10% is non-white.** Since 2010, Crofton has grown more ethnically diverse. In 2010, 1.9% of the city's population was non-white. By 2020, 10% was non-white.<sup>53</sup>
- **36.3 median age.** The median age of Crofton was 36.3 years in old 2020. The population grew younger since 2010, when the median age was 41.3.<sup>53</sup>

**Figure CFT.3: Crofton's Population Pyramid**



The figure above shows Crofton's population percentage broken down by sex and five-year age groups. Crofton's population is bottom heavy, suggesting future population increase as older generations are replaced by more younger residents. The largest population groups in the city are under 5 years old and 35 to 39.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Crofton's population has:

- **7.4% of people are living below the poverty line.** The poverty rate (7.4%) in the City of Crofton was higher than the state (6.6%) and county (5.8%) poverty rates in 2020.<sup>54</sup>

<sup>53</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov/cedsci/>.

<sup>54</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov/cedsci/>.

- **\$66,771 median household income.** Crofton’s median household income in 2020 (\$66,771) was \$3,756 higher than the state (\$63,015) and \$13,118 higher than Knox County (\$53,653).<sup>54</sup>
- **0% unemployment rate.** In 2020 Crofton has a lower unemployment rate (0%) when compared to the state (3.4%) and county (3.5%).<sup>54</sup>
- **15.8% of workers commuted 30 minutes or more to work.** Fewer workers in Crofton commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (15.8% compared to 36.1%).<sup>55</sup>

### Major Employers

Major employers in the City of Crofton include Crofton Public Schools, Peoples Grocery Store, Wiebelhaus Recreation, Crofton Elevator Inc., Kayton International Inc, Farmers and Merchants State Bank, Crofton Senior Center, Subway Crofton, 402 Collision and Towing, and the City of Crofton. Additional major employers include Crofton Lumber Co., Saint Rose School, Wiebelhaus Collision, Steffens Service, Lewis and Clark Mini Mart, and Gavins Point Veterinary Services. The local planning team indicated that many people travel to other communities for employment, including Hastings, Fordyce, Randolph, Bloomfield, Niobrara, and out of state to Yankton, SD.

### Broadband Access

Internet access or access to broadband has become a critical resource to share and receive information regarding hazardous events. Wi-Fi, internet, and cell coverage are the primary methods of dissemination and retrieval of key hazard related information including storm warnings, evacuation orders, or weather updates. Rural communities often struggle to have adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many residents worked from home or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription is 80.1%. This estimation is 5% higher than Headwaters Economics’ estimate in their Rural Capacity Index.

### Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Those houses and vacant housing may be more vulnerable to hazard events if they are poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards. Crofton’s housing stock has:

- **47.8% of housing was built prior to 1970.** Crofton has a larger share of housing built prior to 1970 than the state, but a lower share than the county (86.2% compared to 45.5% and 55.7% respectively).<sup>56</sup>
- **3.3% of housing units are vacant.** Crofton has a lower vacancy rate of 3.3% compared to the rest of the state (9.2%) and Knox County (27.0%).<sup>56</sup>

<sup>55</sup> United States Census Bureau. “2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics.” <https://data.census.gov/cedsci/>.

<sup>56</sup> United States Census Bureau. “20 Bureau American Community Survey: DP04: Selected Housing Characteristics.” <https://data.census.gov/cedsci/>.

- **5% mobile and manufacture housing.** The City of Crofton has a smaller share of mobile and manufactured housing (5%) compared to the state (3.3%), but a lower share than the county (6.7%).<sup>56</sup> According to the local planning team, Crofton has approximately 10 mobile homes located on Knox Avenue.
- **22.7% renter occupied.** The rental rate of Crofton was 22.7% in 2020. This is lower than the state’s rate of 33.8% and the county’s rates of 25.9%.<sup>56</sup>

## Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The City of Crofton is governed by a mayor and city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- City Clerk
- Treasurer
- Mayor
- Attorney
- Planning and Zoning Administrator
- Water and Sewer Director
- Economic Development Director
- Chief of Police
- Health and Safety Director
- Utility Superintendent

## Capability Assessment

The City of Crofton’s annual budget is currently limited to maintaining current facilities and systems. City municipal funds have increased over recent years. A large portion of municipal funds have been dedicated to a new sewer lagoon, water and sewer pipes, and street repairs.

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community’s planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table CFT.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Local Emergency Operations Plan	Knox County
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes (2021)
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IRC
	Community Rating System	No
	Other (if any)	Capital Improvement Plan

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	Knox County
	Chief Building Official	No
	Civil Engineering	JEO is local Engineer
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes – Safety Coordinator
	Grant Manager	No
	Mutual Aid Agreement	Yes – Fire Department
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes – CBDG Housing
	Awarded a grant in the past	Yes – CBDG Housing
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Community-wide Internet or broadband access	~80.1%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	

Table CFT.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

## Social Vulnerability

According to FEMA’s National Risk Index, the overall Risk Index for Knox County which includes the City of Crofton is Relatively Low (12.62).<sup>57</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively Moderate (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively High (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics evaluated communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding, fulfill reporting requirements, and design, build, and maintain infrastructure products over the long term. Communities which lack local capacity often have the greatest need for infrastructure investments, particularly rural communities, and communities of color. To help identify communities with limited capacity, Headwaters Economics created a new Rural Capacity Index on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the community compared to the county.

**Table CFT.4: Crofton’s Rural Capacity Index**

Components of Index	CROFTON	Knox County
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	21%	22%
Families below poverty level:	1%	5%
Households with broadband	75%	75%
People without health insurance	4%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	114	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>48</b>	<b>67 out of 100</b>

Source: Headwaters Economics<sup>58</sup>

## Plans and Studies

Communities have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Building Codes

Crofton has adopted the 2018 International Building and Residential Codes. The code integrates hazard mitigation in the following ways: requires elevation of structures in the floodplain, requires mechanical systems to be elevated for structures in the floodplain, requires onsite storm water detention for

<sup>57</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

<sup>58</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

commercial structures, encourages the use of permeable surfaces, and requires a safe room in multiple dwelling units. The city will continue to comply with and adopt the newest version of the IBC as applicable.

### **Comprehensive Plan**

The comprehensive plan is designed to guide the future actions and growth of the city. Crofton's comprehensive plan is updated on an as needed basis. The current plan does not limit development in areas adjacent to known hazardous areas. The local planning team indicates the information from this hazard mitigation plan will be incorporated into the next comprehensive plan update by placing limits on hazardous areas.

### **Capital Improvement Plan**

The capital improvement plan outlines large purchases and projects that the city would like to pursue. The City of Crofton's Capital Improvement Plan will be updated in December 2023. The main project outlined in the plan is an update project to the sewer lagoon, this project is currently in the planning stage.

### **Ordinances and Regulations**

The city's local zoning ordinance, floodplain ordinance, and subdivision regulation have been recently updated. The zoning ordinance was last updated in 2014 and the subdivision regulations were updated in 2021. The ordinances place regulation limits on development within the floodplain, limits development in the wildland urban interface for fuel and wildfire concerns, and limits development in the ETJ. For Crofton the Base Flood Elevation is based on countywide NeDNR digital FIRM maps available for Knox County.

### **Knox County Local Emergency Operations Plan**

The City of Crofton is an annex in the Knox County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

### **Missouri River Northeast Community Wildfire Protection Plan**

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

The areas most at-risk from wildfire are in the WUI surrounding municipalities and in the canyons and bluffs along the Missouri River, where there are heavy fuels, rough terrain, and limited access. Homes and other structures in these locations are at increased risk due to these factors. Locations of special concern identified by local VFDs include residential and recreational developments along the Missouri River. The Crofton fire chief noted the Devils Nest and the Lewis and Clark Lake area as a particular concern due to multiple structures, difficult access, rough terrain, one way in/out, heavy fuels, and lack of water within effective distance. The 2015 CWPP noted that Crofton Fire Department's forested area is concentrated along the Missouri River, with 91% of the forested acres and 45% of the shrub acres north of Beaver Creek. The topography and continuing increase in the number of homes, both vacation and full-time residential,

among the ERC-encroached riparian forest is a high concern. Egress and road width issues in these areas impact firefighter access and safety, as well as evacuation and wildland fire suppression.

### Future Development Trends

The City of Crofton has experienced growth in the last five years, including six new homes, a six-unit Senior Housing Development, and eight new businesses being added to the city’s inventory. None of the new structures are located within the floodplain or other hazardous area. The local planning team indicated a new senior housing development on Luella Street is set to be built within the next five years. The community does not have a future land use map.

### Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



#### Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Crofton.

**Table CFT.5: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	1	Crofton Police Department	N	Y	Basement Shelter
	Fire Service and Rescue	2	Crofton Fire and Rescue Station	Y	N	Fire, Tornado, Accidents
	Government Service	3	Crofton City Office	N	Y	Basement Shelter
	Community Safety	4	Crofton Housing Authority	N	N	

#### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the City of Crofton are included in the table below.

**Table CFT.6: Food, Water, and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Shelters	5	American Legion/Senior Center	N	Y	Basement
	Food	6	People's Grocery Store	N	Y	Basement Shelter
	Water	7*	Cedar Knox Rural Water	N	N	
8		Crofton City Water and Sewer	Y	N	Needs new generator	

\*Not Displayed on Map

## Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the community.

**Table CFT.7: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	9	Avera Medical Group-Crofton	N	N	
	Fatality Management	-	None	-	-	
	Public Health	-	None	-	-	

Source: Nebraska Department of Health and Human Services<sup>59,60,61,62</sup>

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Crofton.

**Table CFT.8: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Power Grid	10*	Cedar Knox PPD	Y	N	
		11	CKPPD Power Substation	N	N	
	Fuel	12	Lewis & Clark Mini Mart	N	N	
		13	Steffen's Service Station	N	N	

\*Not Displayed on Map

59 Department of Health and Human Services. 2022. "State of Nebraska: Assisted Living Facilities."

<https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.

60 Department of Health and Human Services. 2022. "State of Nebraska Roster: Hospitals."

<https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.

61 Department of Health and Human Services. 2022. "State of Nebraska Roster: Long Term Care Facilities."

<https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.

62 Department of Health and Human Services. 2022. "State of Nebraska Roster: Rural Health Clinic."

[https://dhhs.ne.gov/licensure/Documents/RHC\\_Roster.pdf](https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf).

## Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. Communication Lifelines for the City of Crofton are included in the table below.

**Table CFT.9: Communications Lifelines**

COMMUNICATIONS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Infrastructure	14	Great Plains Communications	N	N	
Alerts, Warning, and Messages/911 and Dispatch	15*	Emergency Management Siren	Y	N	Located at Fire Station	

\*Not Displayed on Map

## Transportation

Components include interstates, highways, major roadways, mass transit, railway, and aviation. Crofton's major transportation corridors include State Highways 12 and 121. The most trafficked route is NE-12 with an average of 1,810 vehicles daily, 185 of which are trucks.<sup>63</sup> The local planning team did not identify other routes of concern. Additionally, the planning team reports that significant accidents have occurred at the intersection of Highway 12 and Highway 81. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table CFT.10: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	-	None	-	-	
Railroads	-	None	-	-		
Highways	-	NE-12	-	-		
	-	NE-121	-	-		

## Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical site within or near Crofton which houses hazardous materials (listed below). The local planning team indicated three additional locations with chemicals or other potentially hazardous materials, including J.E. Meuret Grail Company with crop and pest control chemicals, Black Hills Energy with natural gas, and CHS Crofton with propane. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. The nearest HAZMAT team is located in Norfolk, roughly 54 miles south of Crofton. No chemical spills have occurred locally. There are no gas transmission pipelines that travel through or near the community and can be seen in the figure below.

63 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

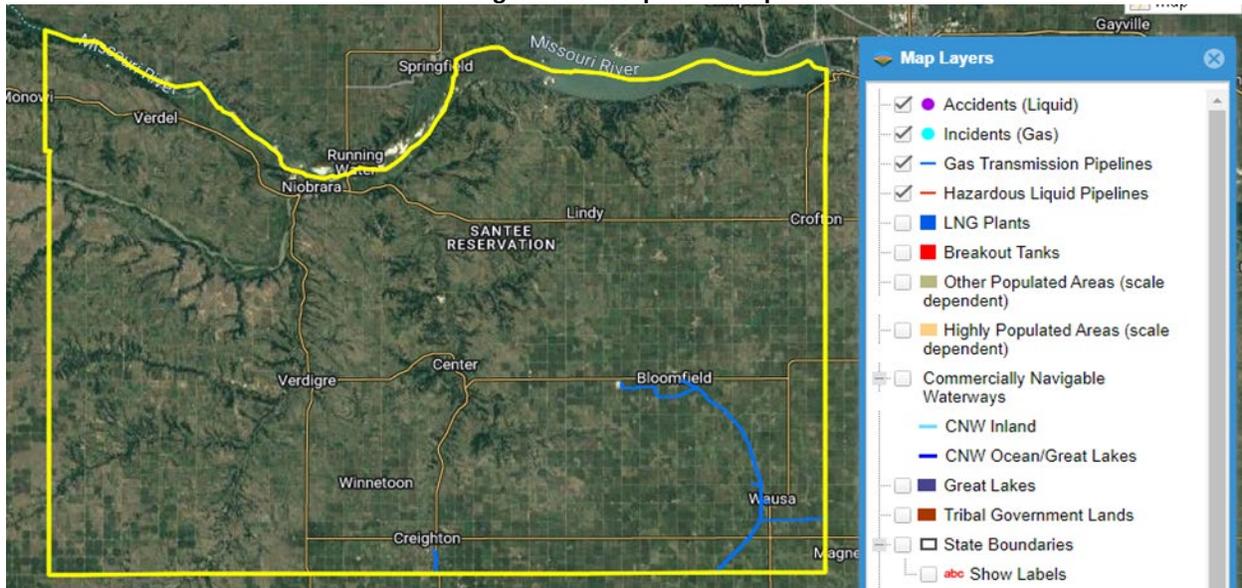
**Table CFT.11: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Facilities	16	Crofton Bluffs Wind Farm	Y	N	Energy
HAZMAT, Pollutants, Contaminants	-	J.E Meuret Grain Co.*	N	N	Crop and Pest Control Chemicals	
	-	Black Hills Energy*	N	N	Natural Gas	
	17	CHS Crofton	N	N	Propane	

\*Not Displayed on Map

Source: Nebraska Department of Environment and Energy<sup>64</sup>

**Figure CFT.4: Pipelines Map**



Source: National Pipeline Mapping System<sup>65</sup>

**Other Community Lifelines**

Crofton identified lifelines that did not fit into the previous seven lifeline categories developed by FEMA. Although they do not fit into the lifeline categories, the local planning team felt that they still met the definition of a community lifeline. These other community lifelines are listed in the table below.

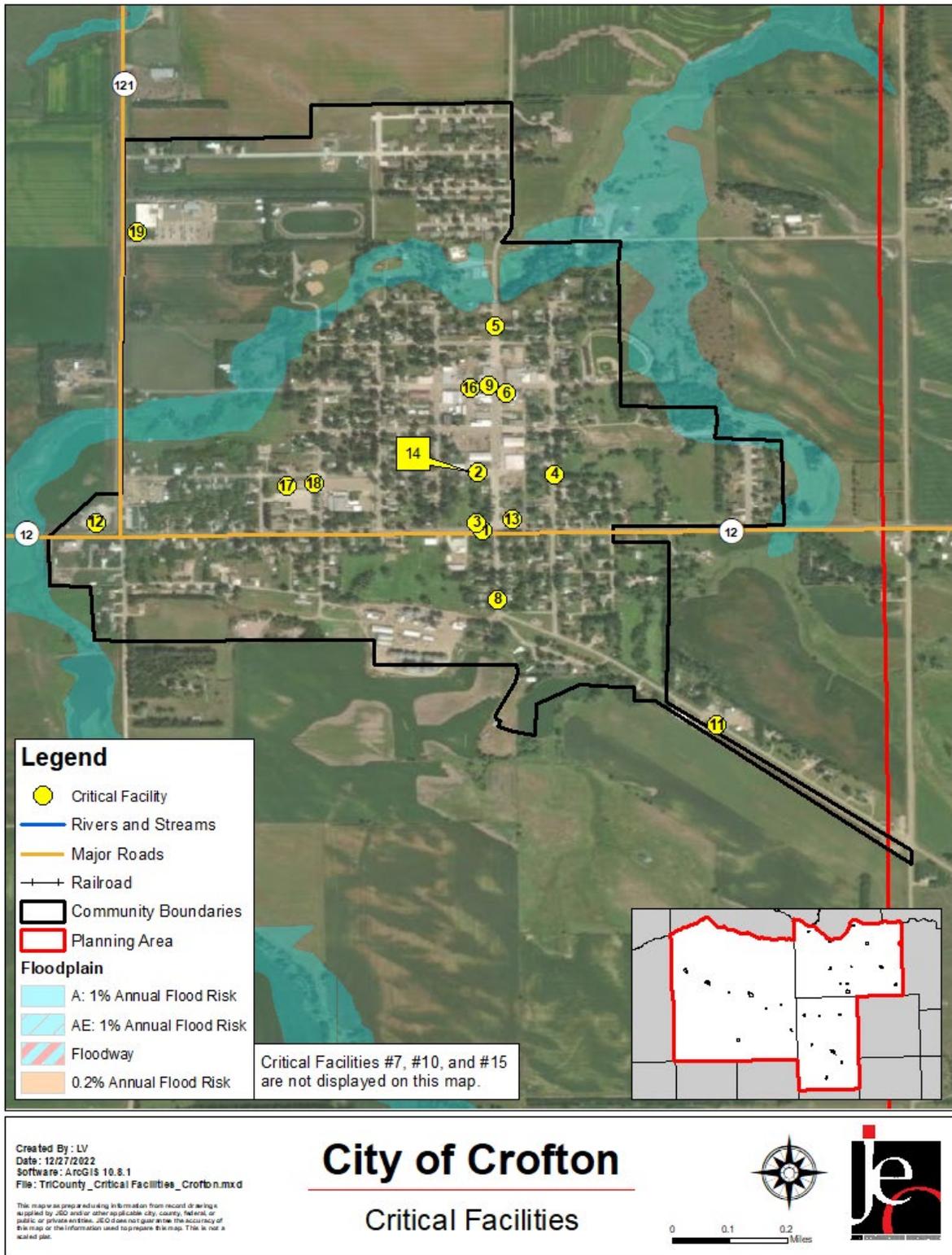
**Table CFT.12: Other Community Lifelines**

OTHER COMMUNITY LIFELINES	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	18	St. Rose School	N	Y	Concentration of People
	19	Crofton Elementary	N	Y	
	20	Crofton High School	Y	Y	

64 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2022.

65 National Pipeline Mapping System. 2022. "Public Viewer." Accessed September 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Figure CFT.5: Community Lifelines



## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. A summary of the results of this analysis is provided in the following table. Several structures in Crofton have been removed from the floodplain via LOMA. A summary of LOMAs identified for Crofton can be found in the table below.

**Table CFT.13: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
401	\$34,470,690	22	\$1,940,835	6%

Source: County Assessor, 2022

**Table CFT.14: Crofton Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	05-07-1265A-310361	12/29/2005	Structure removed from SFHA
LOMA	21-07-0578A-310361	03/11/2021	Structure removed from SFHA
LOMA	01-07-850A-310361	10/03/2001	Structure removed from SFHA
LOMA	02-07-604A-310361	04/24/2002	Structure removed from SFHA
LOMA	09-07-1833A-310361	10/30/2009	Structure removed from SFHA
LOMR	06-07-B004X-310361	02/03/2006	No revision to the Flood Insurance Study Report

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. However, during the planning process, the local planning team identified specific hazards of top concern for Crofton which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the City of Crofton. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000		
	Flood	23	\$1,555,000	\$195,618	

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Hazardous Materials	Fixed Site	4	\$0		
	Transportation	2	\$50,000	N/A	
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm Wind	88	\$5,900	N/A	
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

Flooding is a moderate risk or concern for the City of Crofton. Bear Creek runs through the northern portion of Crofton and along the eastern boundary of the city. The land adjacent to this creek is a 1% annual floodplain and includes buildings at the Northside Park, portions of properties along W 4<sup>th</sup> St, portions of properties north of Nebraska Street on W 2<sup>nd</sup> St., buildings along 814 Rd, and the two houses at the northern tip of E 4<sup>th</sup> St. The current effective FIRM panels are dated August 18, 2005. According to NOAA's storm events database, the city of Crofton has experienced two flash floods between 1996 and 2022. The first occurred in June of 2005 after rainfall caused water 4 inches deep to run across Highway 121. The second flash flooding event was in September 2010 when over 7 inches of rain fell in less than 24 hours causing streets and a park to flood. Two fence sections were taken out by the flood waters.

The local planning team identified a significant vulnerability to flooding at the city's mechanical sewage processing plant. The plant has been experiencing machinery breakdown and water leaching into tanks due to past flooding damages. The state of Nebraska has issued a requirement for the city to replace the plant or build a lagoon. Currently the city is in the process of acquiring property, developing plans, and allocating the funding for a new lagoon.

### NFIP Information

The City of Crofton is a participating community in the NFIP with a current effective map of October 2, 2015, and has one policy in force for \$280,000. There are no repetitive flood loss properties in Crofton. The city will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances.

Mitigation Actions:

Mitigation Action	New Lagoon
<b>Description</b>	Build a new sewer lagoon. Requires search for property, development of plans, and fundraising.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$3,000,000
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	High
<b>Lead Agency</b>	Miller Engineering, City Administrator
<b>Status</b>	This is a new mitigation action.

Mitigation Action	Public Awareness and Education
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Council, City Administrator
<b>Status</b>	This is a new mitigation action.

Other Mitigation Actions:

MITIGATION ACTION	ALERT/WARNING SIREN
<b>Description</b>	Install new alert/warning sirens for severe weather and tornado alerts.
<b>Hazard(s)</b>	Severe Thunderstorm, Tornadoes and High Winds
<b>Estimated Cost</b>	\$15,000+, Varies by scope
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	1 Year
<b>Priority</b>	High
<b>Lead Agency</b>	City Administrator
<b>Status</b>	This is a new mitigation action. NOI to be submitted to NEMA.

MITIGATION ACTION	STORM SHELTER
<b>Description</b>	Assess, design, and construct fully supplied safe rooms in highly vulnerable urban and rural areas. A new fire station may be added to the city in the coming years. Add a storm shelter to the new fire station or nearby.
<b>Hazard(s)</b>	Severe Thunderstorm, Severe Winter Storm, Tornado and High Winds
<b>Estimated Cost</b>	\$400 to \$500/square foot (stand-alone), \$350 to \$400/square foot (addition/retrofit).
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Administrator, City Council
<b>Status</b>	This is a new mitigation action.

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The City Clerk, Zoning Administrator, and Mayor will review the city's profile bi-annually and update as needed. The public will be notified of the plan review and revision through the Crofton Journal Newspaper and the City of Crofton Water Bills.

# Community Profile

## Village of Niobrara

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The Village of Niobrara local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table NBR.1 Local Planning Team**

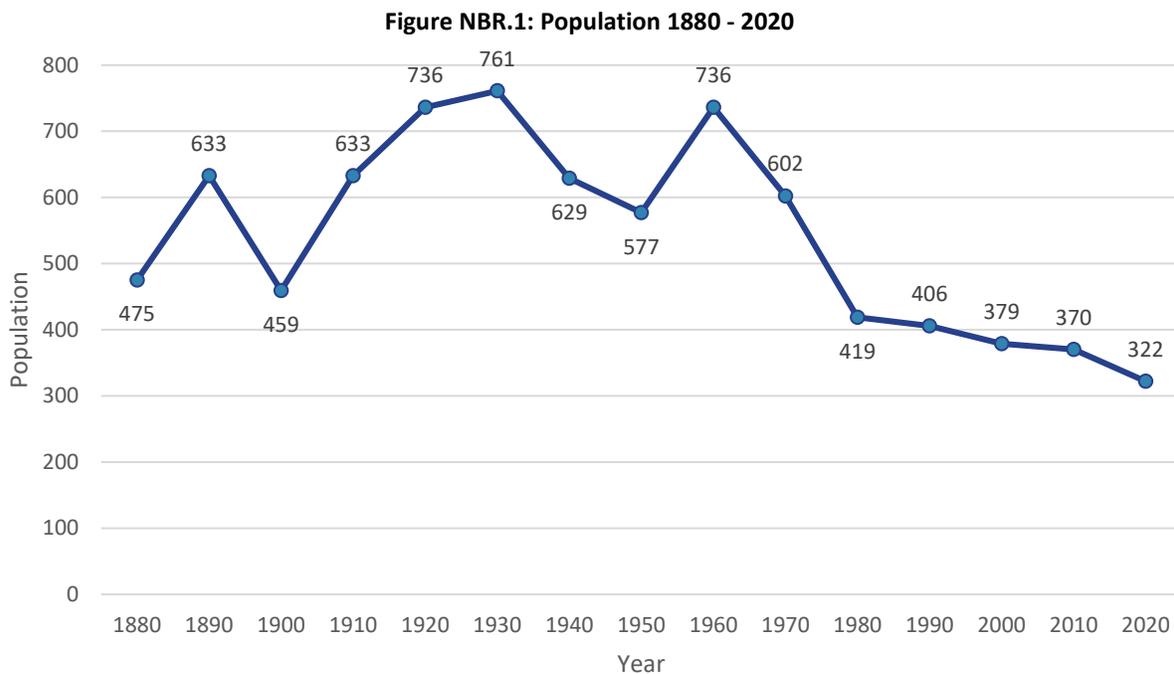
NAME	TITLE	JURISDICTION	PARTICIPATION
Mona Weatherwax	Clerk/Treasurer	Village of Niobrara	Attended Round 1 and Round 2 meetings
Jacob Schaible	Maintenance Supervisor	Village of Niobrara	Assisted with plan development

## Location and Geography

The Village of Niobrara is in northern Knox County and covers an area of 0.73 square miles. Niobrara lies at the confluence of the Niobrara River and the Missouri River.

## Demographics

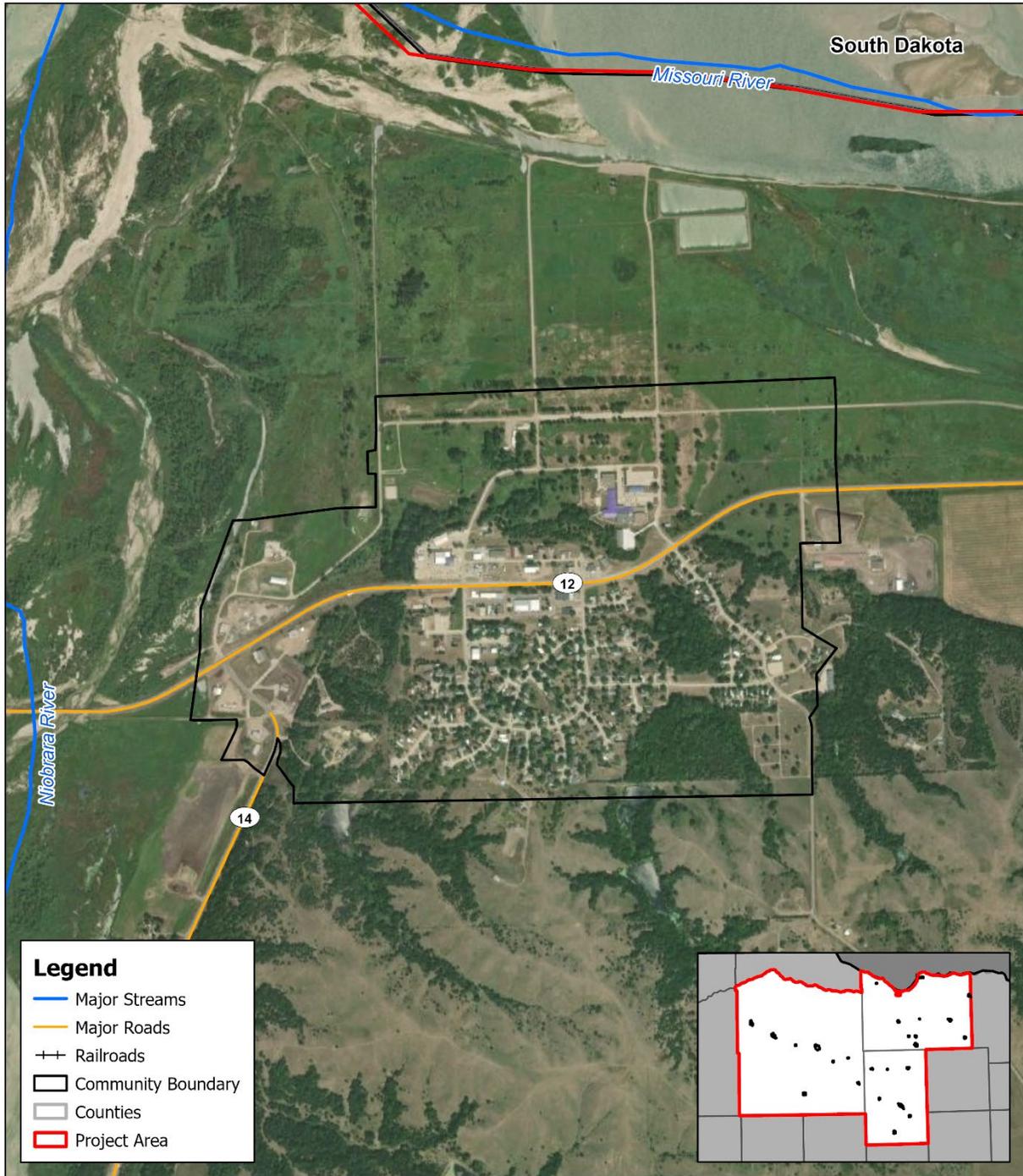
The following figure displays the historical population trend for the Village of Niobrara. This figure indicates that the population of Niobrara has been declining since 1960 to 322 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Niobrara’s population accounted for 3.83% of Knox County’s population in 2020.<sup>66</sup>



Source: U.S. Census Bureau

66 United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure NBR.2: Village of Niobrara

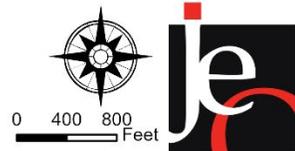


Created By: NL  
 Date: 6/6/2022  
 Software: ArcGIS Pro 2.8  
 File Name: TriCountyV2.aprx

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plat.

# Village of Niobrara

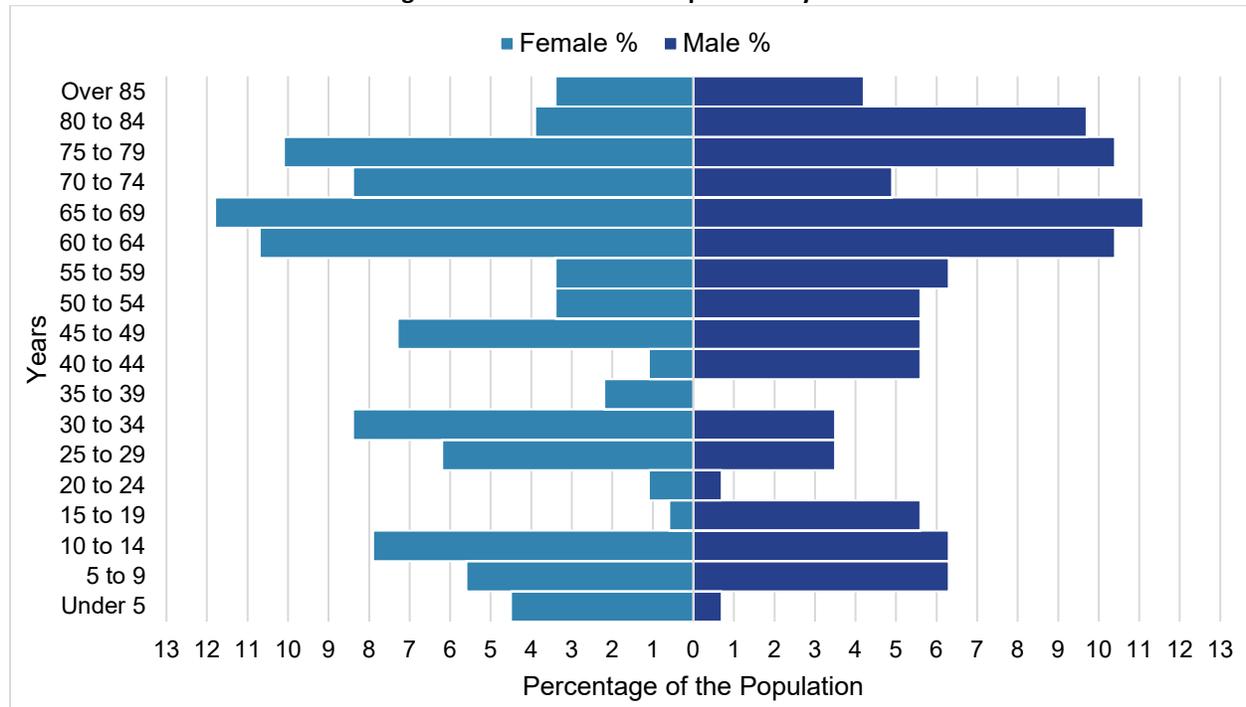
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Niobrara’s population:

- **90.4% is white.** Since 2010, Niobrara has grown less ethnically diverse. In 2010, 84.1% of the village’s population was white. By 2020, 90.4% was white.<sup>66</sup>
- **59.8 median age.** The median age of Niobrara was 59.8 years old in 2020. The population grew older since 2010, when the median age was 54.0.<sup>67</sup>

**Figure NBR.3: Niobrara’s Population Pyramid**



The figure above shows Niobrara’s population percentage broken down by sex and five-year age groups. Niobrara’s population is top heavy. This suggests future population decline as older generations are replaced by fewer younger residents.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Niobrara’s population has:

- **5.7% of people living below the poverty line.** The poverty rate (5.7%) in the Village of Niobrara was lower than the state (6.6%) and county (5.8%) poverty rate in 2020.<sup>68</sup>
- **\$36,875 median household income.** Niobrara’s median household income in 2020 (\$36,875) was \$26,140 lower than the state (\$63,015) and \$16,778 lower than Knox County (\$53,653).<sup>68</sup>

67 United States Census Bureau. “2019 Census Bureau American Community Survey: S0101: Age and Sex.” <https://data.census.gov/cedsci/>.

68 United States Census Bureau. “2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics.” <https://data.census.gov/cedsci/>.

- **2.0% unemployment rate.** In 2020 Niobrara has a lower unemployment rate (2.0%) when compared to the state (3.4%) and county (3.5%).<sup>68</sup>
- **7.4% of workers commuted 30 minutes or more to work.** Fewer workers in Niobrara commuted 30 minutes or more to work than compared to workers commuting less than 30 minutes (7.4% compared to 92.5%).<sup>69</sup>

### Major Employers

The major employers in the Village of Niobrara include Niobrara Public Schools, Moody Motor Company, the Ponca Tribe of Nebraska, Sportsmen’s Bar, Jimmy Dean’s Lounge, Country Café, Niobrara Trading Post, and Niobrara State Park. According to the local planning team, many residents travel to other communities for employment, including Santee, Verdigre, Norfolk, Lynch, and out of state to Yankton and Springfield, South Dakota.

### Broadband Access

Internet access or access—through Wi-Fi or cellphone coverage—is a critical means of sharing and receiving information regarding hazardous events, including storm warnings, evacuation orders, or weather updates. Rural communities often lack adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many people worked or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription in Niobrara is 79.0%.

### Housing

Multiple factors inform the vulnerability of housing units to hazard events. Housing age, for example, may indicate which housing units were built prior to the development of state building codes. Older houses and vacant housing are generally more vulnerable to hazards if poorly maintained. Additionally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The Village of Niobrara has 25 mobile homes located on Birch Lane and 21 lots at Bourn’s Trailer Court on Juniper Road. Renters are particularly vulnerable, as renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. Renters are less likely than homeowners to have flood insurance, have ready access to financial resources to evacuate, or to know their risks to flooding and other hazards. Niobrara’s housing stock has:

- **16.3% of housing built prior to 1970.** Niobrara has a smaller share of housing built prior to 1970 than the state and county (16.3% compared to 45.5% and 55.7%).<sup>70</sup>
- **32.1% of housing units vacant.** Niobrara has a higher vacancy rate (32.1%) compared to the rest of the state and county (9.2% and 27.0%).<sup>70</sup>
- **18.7% mobile and manufacture housing.** The Village of Niobrara has a larger share of mobile and manufactured housing (18.7%) compared to the state and county (3.3% and 6.7%).<sup>70</sup>
- **24.0% renter occupied.** The rental rate of Niobrara was 24.0% in 2020. This is lower than the state and county’s rates of 33.8% and 25.9% respectively.<sup>70</sup>

69 United States Census Bureau. “2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics.” <https://data.census.gov/cedsci/>.

70 United States Census Bureau. “2019 Bureau American Community Survey: DP04: Selected Housing Characteristics.” <https://data.census.gov/cedsci/>.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Niobrara is governed by a village board; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk
- Treasurer
- Floodplain Administrator
- Attorney
- Planning and Zoning Commission
- Utility Superintendent
- Village Board Chair and Trustees
- Fire Chief
- EMS Captain

## Capability Assessment

The Village of Niobrara's annual budget is limited to maintaining current facilities and systems and new capital projects would require borrowing or grant writing. Village municipal funds have increased over recent years along with the village's attempts to grow the budget and maintain a healthy cash reserve. A large portion of village funds are currently dedicated to multiple specific projects including the repair of the village sewage lagoons after they sustained damage in the 2019 flood, road projects, and the development of a new playground in downtown Niobrara to replace the playground lost in the 2019 flood.

The planning team assessed Niobrara's hazard mitigation capabilities by reviewing local existing policies, regulations, plans, and programs related to hazard mitigation. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table NBR.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes-1983
	Local Emergency Operations Plan	Knox County LEOP
	Economic Development Plan	Yes-Community Development Agency
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IBC
	Community Rating System	No

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
	Other (if any)	Capital Improvement Plan, Wellhead Protection Plan
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	JEO is local Engineer
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Community-wide Internet or broadband access	~79.0%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table NBR.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

## Social Vulnerability

According to FEMA’s National Risk Index, a new mapping tool that analyzes a community’s risk to natural hazards, the overall Risk Index for Knox County which includes the Village of Niobrara is Relatively Low (12.62).<sup>71</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively High (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively Moderate (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics, the Rural Capacity Index evaluates rural communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding and fulfill reporting requirements, as well as design, build, and maintain infrastructure products over the long term. Communities lacking local capacity often have the greatest need for infrastructure investments—particularly rural communities and communities of color. The Rural Capacity Index helps identify communities with limited capacity on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists the components and scores for the Village of Niobrara compared to the county.

**Table NBR.4: Niobrara’s Rural Capacity Index**

Components of Index	NIOBRARA	Knox County
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	28%	22%
Families below poverty level:	6%	5%
Households with broadband	76%	75%
People without health insurance	10%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	-86	-1,042
<b>Overall Rural Capacity Index Score</b>	46 out of 100	67 out of 100

Source: Headwaters Economics<sup>72</sup>

## Plans and Studies

Communities have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

<sup>71</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

<sup>72</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

### **Comprehensive Plan**

The comprehensive plan is designed to guide the future actions and growth of the city. The Village' plan limits development in areas adjacent to flood hazards, locations of which are outlined in Ordinance 200 5-1 of the village's zoning ordinances. The information from this Hazard Mitigation Plan will be incorporated into the next Comprehensive Plan updated through planning to move the village sewage lagoons and wells outside the floodplain.

### **Capital Improvement Plan**

The capital improvement plan outlines large purchases and projects that the village would like to pursue. The Village of Niobrara reviews and updates their plan annually. The current version of Niobrara's Capital Improvement Plan includes improvements to the village's sewer system and wells.

### **Ordinances and regulations**

The village's current local Floodplain Ordinance limit development in the floodplain and adheres to the Knox County guideline that requires structures in the floodplain to be built at least 1 foot above Base Flood Elevation. For Niobrara the Base Flood Elevation is based on Knox County's countywide DFIRM maps. The village's current zoning ordinance and subdivision regulations also limit development in the ETJ, and the village follows County and Village Guidelines for subdivisions and expansion of industry. There are no current plans or timelines for updating the village's ordinances or regulations.

### **Building Codes**

Niobrara has adopted the 2018 International Building and Residential Codes. The code integrates hazard mitigation in the following ways: requires elevation of structures in the floodplain, requires mechanical systems to be elevated for structures in the floodplain, requires onsite storm water detention for commercial structures, encourages the use of permeable surfaces, and requires a safe room in multiple dwelling units.

### **Wellhead Protection Plan**

The purpose of wellhead protection plans is to protect the public drinking water supply wells from contamination. It includes identifying potential sources of groundwater contamination in the area.

### **Knox County Local Emergency Operations Plan**

The Village of Niobrara is an annex in the Knox County Local Emergency Operations Plan (LEOP). Niobrara utilized the LEOP often, especially for the Evacuation Plan to ensure the safe relocation of residents during a hazard event. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

### **Missouri River Northeast Community Wildfire Protection Plan**

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

The 2015 Missouri River Northeast CWPP noted that the Yankton Volunteer Fire Department listed the area along Lewis & Clark Lake and the Missouri River as having difficult access, rough terrain, one way in/out, and heavy fuels. High home density, infrastructure, and populated areas along Lewis & Clark Lake increases this concern.

### Future Development Trends

Over the last five years, the Village of Niobrara has experienced the demolition or relocation of several buildings after the 2019 Flood, including the West Hodson Cement Plant, Nielsen Grain, Ponca Tribe Agriculture Building, and Vic’s Service. The Sage Memorial Ballfields were abandoned, including the playground and picnic shelter. The village experienced new developments including a new RV Campground for 20 campers and the establishment of Rough Country Rentals. In the next five years, the Niobrara Development Corporation is discussing the development of elder housing near Apple Street and possible worker housing along Highway 12 in downtown Niobrara. The village does not have a future land use map.

### Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



#### Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Niobrara.

**Table NBR.5: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	1	Knox County Sheriff's Office	N	N	
	Fire Service	2	Niobrara Fire Station	N	N	
	Community Safety	-	None Identified	-	-	
	Government Service	3	Niobrara Village Civic Center	N	N	
4		Ponca Tribe of Nebraska Tribal Headquarters	N	N		

### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the Village of Niobrara are included in the table below.

**Table NBR.6: Food Water and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	5	Niobrara Market	N	N	
	Water	-	None Identified	-	-	
	Shelters	-	None Identified	-	-	

### Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the community.

**Table NBR.7: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	6	Avera Medical Group-Niobrara	N	N	
	Public Health	-	None Identified	-	-	

Source: Nebraska Department of Health and Human Services<sup>73,74,75,76</sup>

73 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities." <https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.

74 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals." <https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.

75 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities." <https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.

76 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic." [https://dhhs.ne.gov/licensure/Documents/RHC\\_Roster.pdf](https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf).

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Niobrara.

**Table NBR.8: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
		Power Grid	-	NCPPD	-	-
	Fuel	7	Niobrara Trading Post	N	N	
		8	Vic's Service	N	N	
		9	N-B Gas Co.	N	N	
		10	J & K Auto	N	N	

## Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. No Communication Lifelines were identified for the Village of Niobrara.

## Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Niobrara's major transportation corridors include State Highways 12 and Highway 14. According to the local planning team, the 2019 floods destroyed the Mormon Canal Bridge and damaged the Niobrara River Bridge and the Highway 14 Bridge South of Niobrara. During the 2011 flood, access to Standing Brea Bridge was affected. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table NBR.9: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
		Airports	-	None Identified	-	-
	Railroads	-	None Identified	-	-	
	Highways	-	NE-12	-	-	
		-	NE-14	-	-	

## Hazardous Materials

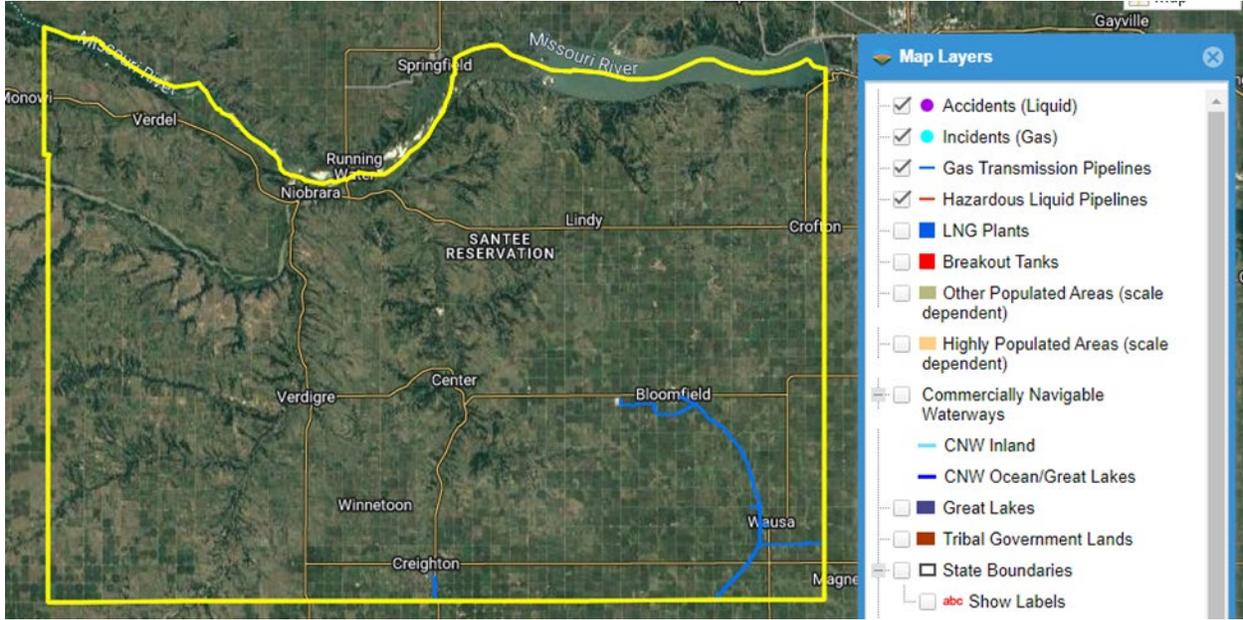
The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there are two chemical sites within or near Niobrara which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. If HAZMAT response is required, the closest team is in Norfolk, approximately 74 miles southeast of Niobrara, and is reached by contacting State Patrol. No chemical spill events have occurred locally, according to the planning team. There are no gas transmission pipelines that travel through the community.

**Table NBR.10: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Facilities	10	N & B Gas Co	N	N	Propane Tanks
		11	NDOT Niobrara Yard	N	N	
HAZMAT, Pollutants, Contaminants	-	None Identified	-	-		

Source: Nebraska Department of Environment and Energy<sup>77</sup>

**Figure NBR.4: Pipelines Map**

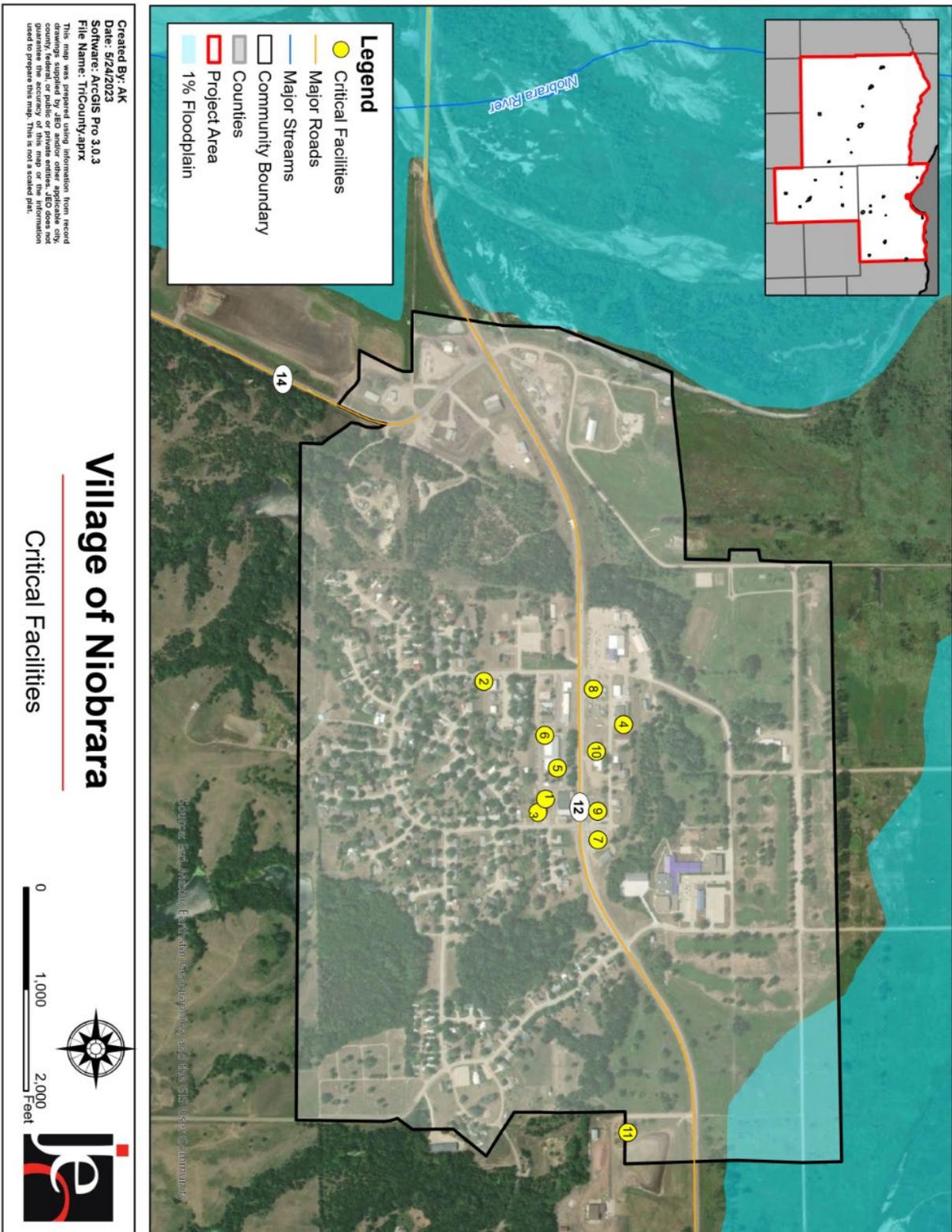


Source: National Pipeline Mapping System<sup>78</sup>

77 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021.

78 National Pipeline Mapping System. 2022. "Public Viewer." Accessed January 2022. <https://pvnpmns.phmsa.dot.gov/PublicViewer/>.

Figure NBR.5: Community Lifelines



## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table NBR.11: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
<b>232</b>	<b>\$13,422,365</b>	<b>0</b>	<b>-</b>	<b>-</b>

Source: County Assessor, 2022

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Niobrara which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. The following section expands on the hazards of top concern identified by the Village of Niobrara. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
	Wind				
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0		\$691,005
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

Flooding is a major concern for the Village of Niobrara’s local planning team. The community is located near the confluence of two major rivers with the Niobrara River running along the west and the Missouri River to the north. In addition to the Niobrara and Missouri Rivers, the community also has Verdigre Creek and Bazile Creek nearby as well as many acres of wetland growing yearly. The town has experienced numerous floods throughout its history since the 1800s, some naturally caused by ice jams and spring flooding, and some caused by the failure of the Spencer Dam. According to the local planning team, the two most recent floods experienced by the community were the 2011 flood and 2019 flood. The 2011 flood resulted in the town being inaccessible from three sides for months due to standing water. This blockage occurred during the summer tourist season, an important economical time for the community. The flood also caused damage to multiple streets and the golf course. Niobrara was also cut off after the 2019 flood when access to the western trade area and Niobrara State Park was blocked by flood waters. The 2019 flood caused extensive damage to the northwest portion of town, requiring major repairs and/or rebuilding to the golf course, roads, streets, lift stations, the sewer lagoon, and water mains. Three businesses in the northwestern portion of town were damaged and needed to relocate or rebuild. Many of the community’s local walking trails, boat docks, and river frontage were impacted as well. The village’s sports complex for baseball and football and the rodeo arena are becoming wetland and are no longer usable. The 2019 flood occurred during tourism season, causing businesses to see significant reduction of income.

The local planning team’s major concern regarding flooding is the frequency of flood events, the financial devastation caused by the floods, and the amount of time required to recover from a flood. Additionally, the local planning team is concerned about the northern portion of the old townsite that is leased from the Army Corps of Engineers and is ineligible for FEMA funding. To help reduce the impact of floods, berms have been rebuilt on the west bank of the Niobrara in 2019 and some rocking and clearing of sand was performed on the boat dock area in 2020. This work was done by Niobrara and paid for with FEMA money, donations, and taxes. According to the local planning team the village is currently working on a project with the sewer lagoons consisting of dirt work and rip rapping. The local planning team hopes to eventually move water wells and sewer lagoons outside of the floodplain and establish an emergency incident command center to be used in future disasters.

### NFIP Information

Niobrara has six NFIP policies in-force for \$1,473,000. There are no repetitive flood loss properties in Niobrara. According to the local planning team, Ordinance 2005-1 titled National Flood Insurance Program was set up to meet the State and Federal requirements for the National Flood Insurance Program, however until the newest floodplain designations were released, only a small amount of the Village was within a floodplain. The Village Clerk participated in two webinars on Floodplain Administration and applied the concepts to one project. The village will continue to comply with NFIP regulations by upholding the Passage of Ordinance 2005-1 and keeping the Village Clerk up to date on any additional informational

materials, adopting the most current and effective flood risk products and complying with permitting requirements for new developments in flood risk hazard areas.

*Mitigation Actions:*

MITIGATION ACTION	INCIDENT COMMAND CENTER
<b>Description</b>	Remodel the community hall for use as an incident command center. Updates needed include new windows, updated kitchen, and making bathrooms ADA accessible.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$150,000
<b>Local Funding Source</b>	Taxes, Niobrara Foundation, Niobrara Promoters Fundraising, NENEDD
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Clerk, Village of Niobrara
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	NEW WELLS
<b>Description</b>	Drill two new wells located outside of the floodplain.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$100,000-\$125,000
<b>Local Funding Source</b>	Taxes, General Funds
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Clerk, Village of Niobrara
<b>Status</b>	This is a new mitigation action. Possible locations are being looked at and cost is being estimated.

MITIGATION ACTION	NEW LAGOON
<b>Description</b>	Move sewer lagoon outside of floodplain. This will likely require a new lift station.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	TBD
<b>Local Funding Source</b>	Taxes, General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Clerk, Village of Niobrara
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	Village Board, Village Clerk/Treasurer
<b>Status</b>	This is a new mitigation action.

### Hazard: Severe Winter Storms

Severe Winter Storms include extreme cold, blizzards, ice accumulation, heavy snow, and winter storms and are a regular part of the climate and weather for Niobrara. According to the local planning team, some of the past severe winter storms of note are the 1975 Blizzard, 1991 Halloween Blizzard, 2005-2006 winter, and 2009-2010 winter. During these events, Niobrara experienced power outages that lasted multiple days. The NCEI Storm Events database lists Severe Winter Storms by county, with 85 severe winter storm events being reported for Knox County from 1996-2021. Of these 85, six report specific occurrences in Niobrara, including nine inches of heavy snow fall in 2001, ¼ to ½ inch of ice accumulation and 12 inches of snow accumulation in 2005, a winter storm in March 2006 with 6-15 inches of snowfall, the winter storm of December 2006 that left 6 inches of snow, and 6 inches of heavy snow fall in 2012. The 2005 and 2006 winter storms caused approximately \$3,500,000 in property damages across Knox County.

The main concern for the local planning team is the growing severity of winter storms and winter power outages. The village does have some backup generators to provide power during winter storms, including a US Forestry generator for their wells and a small generator for office use. However, the generator used for a larger lift station is from 1976. To increase the village's resilience to severe winter storms, the local planning team reported that the replacement of the 1976 generator needs to be replaced soon as the lift station cannot go more than 48 hours without power.

### Mitigation Actions:

MITIGATION ACTION	BACKUP GENERATOR
<b>Description</b>	Purchase a new backup generator for the village's larger lift station to provide power during prolonged power outages.
<b>Hazard(s)</b>	Severe Thunderstorm, Severe Winter Storm, Tornadoes and High Winds
<b>Estimated Cost</b>	\$20,000
<b>Local Funding Source</b>	Taxes, General Funds, Grants
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Maintenance Supervisor
<b>Status</b>	This is a new mitigation action.

### Hazard: Tornadoes and High Winds

The local planning team identified tornadoes and high winds as a top hazard due to the prevalence in the area and increase in violent nature of storms over the last few years. According to the local planning team, two small tornadoes have caused damage to the outskirts of the community in the last 30 years. Additionally, in May 2022 and in 1992-1993 the village experienced high winds that caused extensive tree and roof damage.

The local planning team's top concern for this hazard is the location of the Village of Niobrara. The village is located near two rivers which results in frequent rapid shifts of the wind due to the heating and cooling of the rivers at different rates than the land. The village is also located atop a hill, resulting in little shelter from the wind. To reduce the impacts of tornadoes and high winds on the village, the village installed an emergency siren in 2017 and the fire department provides storm spotters to provide early warnings for tornadoes. The emergency siren was updated with a tender for the batteries for longevity and the local planning team explored alternative ways to set the sirens off remotely. When high winds or a tornado occurs, the local church basement is opened as an emergency shelter. To further protect the citizens from tornadoes and high winds, the local planning team would like to have a NOAA Weather Radio installed at the Civic Center to ensure updated and accurate information is available,

#### Mitigation Actions:

MITIGATION ACTION	WEATHER RADIOS
<b>Description</b>	Purchase and install two NOAA Weather Radios.
<b>Hazard(s)</b>	Severe Thunderstorm, Severe Winter Storm, Tornadoes and High Winds
<b>Estimated Cost</b>	\$50-\$100/radio
<b>Local Funding Source</b>	Taxes, General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Maintenance
<b>Status</b>	This is a new mitigation action. Sources are being looked at.

MITIGATION ACTION	SHELTER IDENTIFICATION SIGNAGE
<b>Description</b>	Install public information signage to inform residents and visitors on location of storm shelters.
<b>Hazard(s)</b>	Severe Thunderstorm, Severe Winter Storm, Tornadoes and High Winds
<b>Estimated Cost</b>	\$50-\$100/sign
<b>Local Funding Source</b>	Taxes, Niobrara Foundation Money
<b>Timeline</b>	1 year
<b>Priority</b>	High
<b>Lead Agency</b>	Village Clerk, Village Maintenance
<b>Status</b>	This is a new mitigation action. Information about sirens is included in local newspapers during tourist season.

## Updating Past Mitigation Strategy

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### Completed 2017 HMP Mitigation Actions

OBJECTIVE	PARTICIPATE OR MAINTAIN GOOD STANDING IN THE NATIONAL FLOOD INSURANCE PROGRAM
Description	Participate in the National Flood Insurance Program (NFIP) or maintain good standing with the NFIP including floodplain management practices/requirements and regulation enforcements and updates.
Status	Completed. Niobrara is a current NFIP Participant.

OBJECTIVE	ALERT AND WARNING SIRENS
Description	Perform an evaluation of existing alert sirens to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Status	Completed. The community purchased and installed a new siren in 2017 and updated it with a tender for back-up batteries in 2022.

### Plan Maintenance

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Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the Clerk/Treasurer, Chair of Village Board, and Village Maintenance Supervisor. The plan will be reviewed annually, and the public will be notified of the review and potential update at Boars/County meetings and announcements on the community website.

# Community Profile

## Village of Verdel

Tri-County  
Hazard Mitigation Plan

2023

## Local Planning Team

The Village of Verdel’s local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table VRD.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPANTS
Christine Minarik	Village Clerk	Village of Verdel	Watched Round 1 recording, Attended Round 2 Meeting
Mary Eiler	Village Treasurer	Village of Verdel	Assisted with plan development

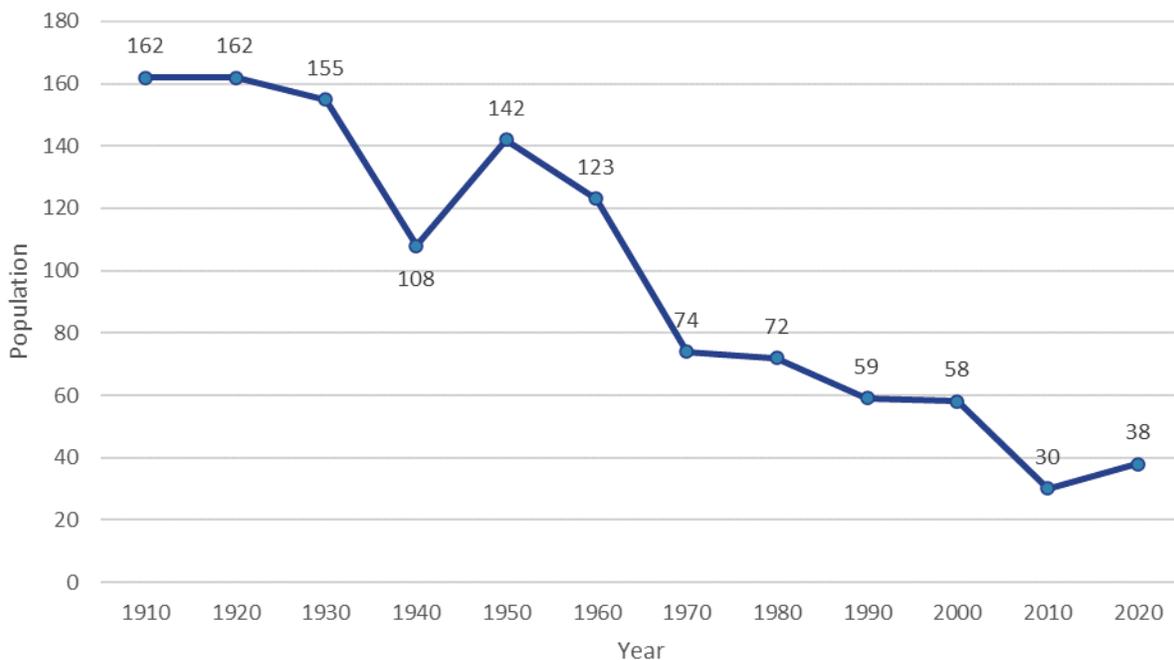
## Location and Geography

The Village of Verdel is in northwest Knox County and covers an area of 0.17 square miles. Verdel lies along the Missouri River, north of the Niobrara River.

## Demographics

The following figure displays the historical population trend for the Village of Verdel. This figure indicates that the population of Verdel has been declining since 1950 to 24 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Verdel’s population accounted for 0.45% of Knox County’s population in 2020.<sup>79</sup>

**Figure VRD.1: Population 1910 - 2020**



<sup>79</sup> United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Source: U.S. Census Bureau  
Figure VRD.2: Village of Verdel

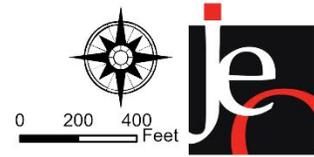


Created By: NL  
Date: 6/6/2022  
Software: ArcGIS Pro 2.8  
File Name: TriCountyV2.aprx

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plat.

## Village of Verdel

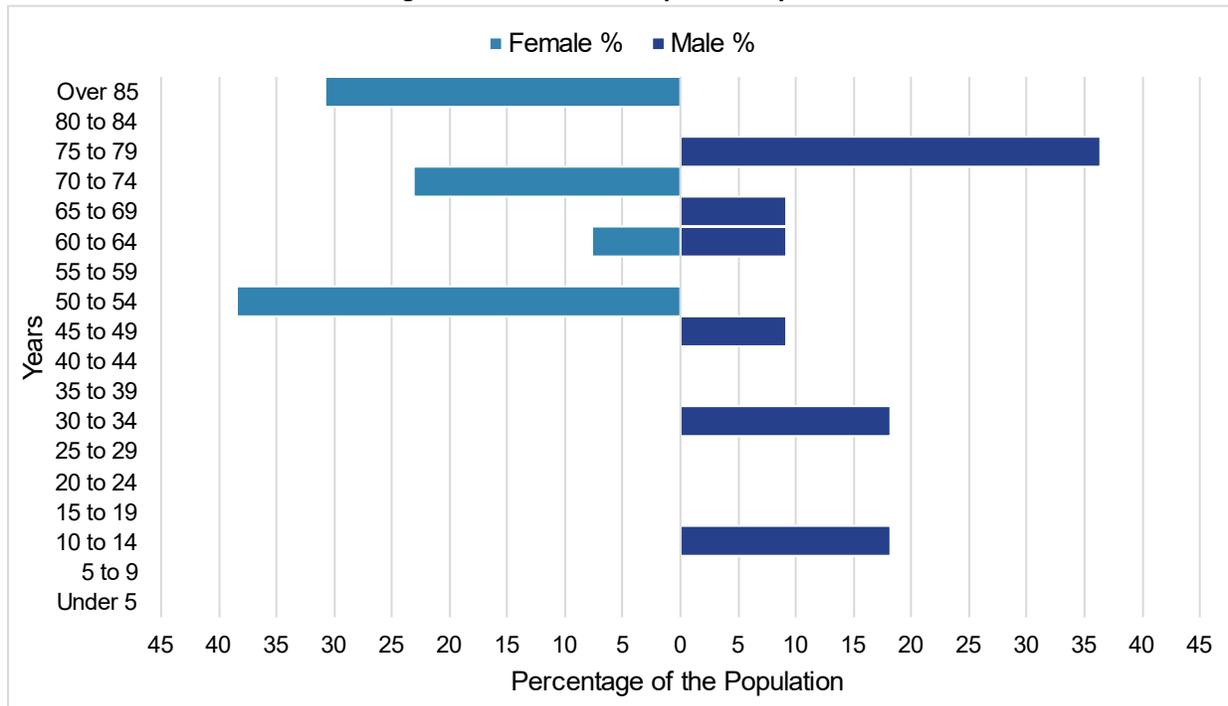
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Verdel’s population:

- **75% is white.** Verdel remained 100% white between 2010 and 2020.<sup>79</sup>
- **67.0 median age.** The median age of Verdel was 67.0 years old in 2020. The population grew older since 2010, when the median age was 48.5.<sup>80</sup>

Figure VRD.3: Verdel’s Population Pyramid



The figure above shows Verdel’s population percentage broken down by sex and five-year age groups. Verdel’s population is top heavy; it is concentrated within the 50- to 54-year-old range, the 75- to 79-year-old range, and the over 85 range, suggesting future population decline as older generations are replaced by fewer younger residents.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Verdel’s population has:

- **0.0% of people living below the poverty line.** The poverty rate (0%) in the Village of Verdel was lower than the state (6.6%) and county (5.8%) poverty rate in 2020.<sup>81</sup>
- **Median household income.** Verdel’s median household income in 2020 was not available. The Nebraska’s median household income was \$63,015 and Knox County was \$53,653.<sup>81</sup>
- **0.0% unemployment rate.** In 2020 Verdel has a lower unemployment rate (0.0%) when compared to the state (3.4%) and county (3.5%).<sup>81</sup>

80 United States Census Bureau. “2019 Census Bureau American Community Survey: S0101: Age and Sex.” <https://data.census.gov/cedsci/>.

81 United States Census Bureau. “2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics.” <https://data.census.gov/cedsci/>.

- **42.9% of workers commuted 30 minutes or more to work.** Fewer workers in Verdel commuted 30 minutes or more to work than compared to workers commuting less than 30 minutes (42.9% compared to 57.2%).<sup>82</sup>

### Major Employers

The major employers within the Village of Verdel are the Niobrara Public School and the Ponca Tribe of Nebraska. According to the local planning team, many residents travel to other communities such as Niobrara and Verdigre for employment.

### Broadband Access

Internet access or access—through Wi-Fi or cellphone coverage—is a critical means of sharing and receiving information regarding hazardous events, including storm warnings, evacuation orders, or weather updates. Rural communities often lack adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many people worked or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription in Verdel is 75.0%.

## Housing

Multiple factors inform the vulnerability of housing units to hazard events. Housing age, for example, may indicate which housing units were built prior to the development of state building codes. Older houses and vacant housing are generally more vulnerable to hazards if poorly maintained. Additionally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. There are no large number of mobile homes located within the village. Renters are particularly vulnerable, as renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. Renters are less likely than homeowners to have flood insurance, have ready access to financial resources to evacuate, or to know their risks to flooding and other hazards. Verdel's housing stock has:

- **76.2% of housing built prior to 1970.** Verdel has a larger share of housing built prior to 1970 than the state and county (76.2% compared to 45.5% and 55.7%).<sup>83</sup>
- **23.8% of housing units vacant.** Verdel's vacancy rate (23.8%) is higher than the rest of the state (9.2%) and lower than the rest of the county (27.0%).<sup>83</sup>
- **0% mobile and manufacture housing.** The Village of Verdel has a smaller share of mobile and manufactured housing (0%) compared to the state and county (3.3% and 6.7%).<sup>83</sup>
- **18.8% renter occupied.** The rental rate of Verdel was 18.8% in 2020. This is lower than the state and county's rates of 33.8% and 25.9% respectively.<sup>83</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Verdel is governed by a local board and employs a clerk and treasurer, which may be involved in implementing hazard mitigation initiatives.

<sup>82</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov/cedsci/>.

<sup>83</sup> United States Census Bureau. "2019 Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/cedsci/>.

## Capability Assessment

The Village of Verdel’s municipal funds are limited to maintaining current facilities and systems. The village has no large portions of funds dedicated to a specific project and the village municipal funds have remained the same over recent years.

The planning team assessed Verdel’s hazard mitigation capabilities by reviewing local existing policies, regulations, plans, and programs related to hazard mitigation. The following tables summarize the community’s planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table VRD.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	No
	Local Emergency Operations Plan	Knox County LEOP
	Economic Development Plan	No
	Floodplain Management Plan or Program	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IBC
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	JEO is local Engineer
	Local Staff Who Can Assess Community’s Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Community-wide Internet or broadband access	~75.0%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table VRD.3: Overall Capability

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
<b>Financial resources to implement mitigation projects</b>	Limited
<b>Staff/expertise to implement projects</b>	Limited
<b>Public support to implement projects</b>	Limited
<b>Time to devote to hazard mitigation</b>	Limited
<b>Ability to expand and improve the identified capabilities to achieve mitigation</b>	Limited

### Social Vulnerability

According to FEMA's National Risk Index, a new mapping tool that analyzes a community's risk to natural hazards, the overall Risk Index for Knox County which includes the Village of Verdel is Relatively Low (12.62).<sup>84</sup>

- Social Vulnerability - Social groups in Knox County, NE have a Relatively High (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively Moderate (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics, the Rural Capacity Index evaluates rural communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding and fulfill reporting requirements, as well as design, build, and maintain infrastructure products over the long term. Communities lacking local capacity often have the greatest need for infrastructure investments—particularly rural communities and communities of color. The Rural Capacity Index helps identify communities with limited capacity on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the Village of Verdel compared to the county.

<sup>84</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

**Table VRD.4: Verdel’s Rural Capacity Index**

COMPONENTS OF INDEX	VERDEL	KNOX COUNTY
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	38%	22%
Families below poverty level:	0%	5%
Households with broadband	87%	75%
People without health insurance	23%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	-32	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>44 out of 100</b>	<b>67 out of 100</b>

Source: *Headwaters Economics*<sup>85</sup>

## Plans and Studies

Communities may have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Ordinances and Regulations

The village’s floodplain ordinance place limits on development in the floodplain. There are currently no plans to update the floodplain ordinance. For Verdel, the floodplain is based on Knox County’s countywide FEMA DFIRM maps.

### Knox County Local Emergency Operations Plan

The Village of Verdel is an annex in the Knox County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

### Missouri River Northeast Community Wildfire Protection Plan

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

The 2015 The 2015 Missouri River Northeast CWPP noted that the Yankton Volunteer Fire Department listed the area along Lewis & Clark Lake and the Missouri River as having difficult access, rough terrain, one way in/out, and heavy fuels. High home density, infrastructure, and populated areas along Lewis &

<sup>85</sup> Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

Clark Lake increases this concern. The Missouri River Northeast CWPP noted that portions of the Creighton fire district along Bazile Creek in the north and the west side the Little Bazile Creek would have the highest probability of large fire growth in the hilly mixed fuels.

## Future Development Trends

Over the last five years, Verdel has demolished two houses that were in bad shape. No new businesses or houses have been built in recent years and there are no plans for new businesses, industries, or housing developments for the next five years.

## Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



### Safety and Security

The Safety and Security Lifeline includes law enforcement, security, fire services, search and rescue, government services, and community safety. The local planning team did not identify any Safety and Security Lifelines for Verdel.

### Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the Village of Verdel are included in the table below.

Table VRD.5: Food Water and Shelter Lifelines

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	-	None Identified	-	-	
	Water	1	Well	Y	N	
	Shelters	2	Community Hall	N	Y	

### Health and Medical

Health and Medical Lifeline components can include medical care, patient transport, public health, fatality management, and the medical supply chain. No medical and health facilities are located within the community.

## Energy

Energy Lifeline components include power, the power grid, and fuel. There were no Energy Lifelines identified for Verdel.

## Communications

Transportation Lifeline components of the Communication Lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. No Communication Lifelines for the Village of Verdel were identified by the local planning team.

## Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Verdel's major transportation corridors include State Highway 12. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table VRD.6: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	-	None Identified	-	-	
	Railroads	-	None Identified	-	-	
	Highways	-	NE-12	N	N	

## Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical sites within or near Verdel which house hazardous materials (listed below). In the event of a chemical spill, the neighboring fire department and emergency response in Niobrara, NE may be the first to respond to the incident. The local planning team reports no significant chemical spills have occurred locally. The nearest HAZMAT team is located in Norfolk, roughly 77 minutes South of Verdel. There are no gas transmission pipelines that travel through the community.

Figure VRD.4: Community Lifelines

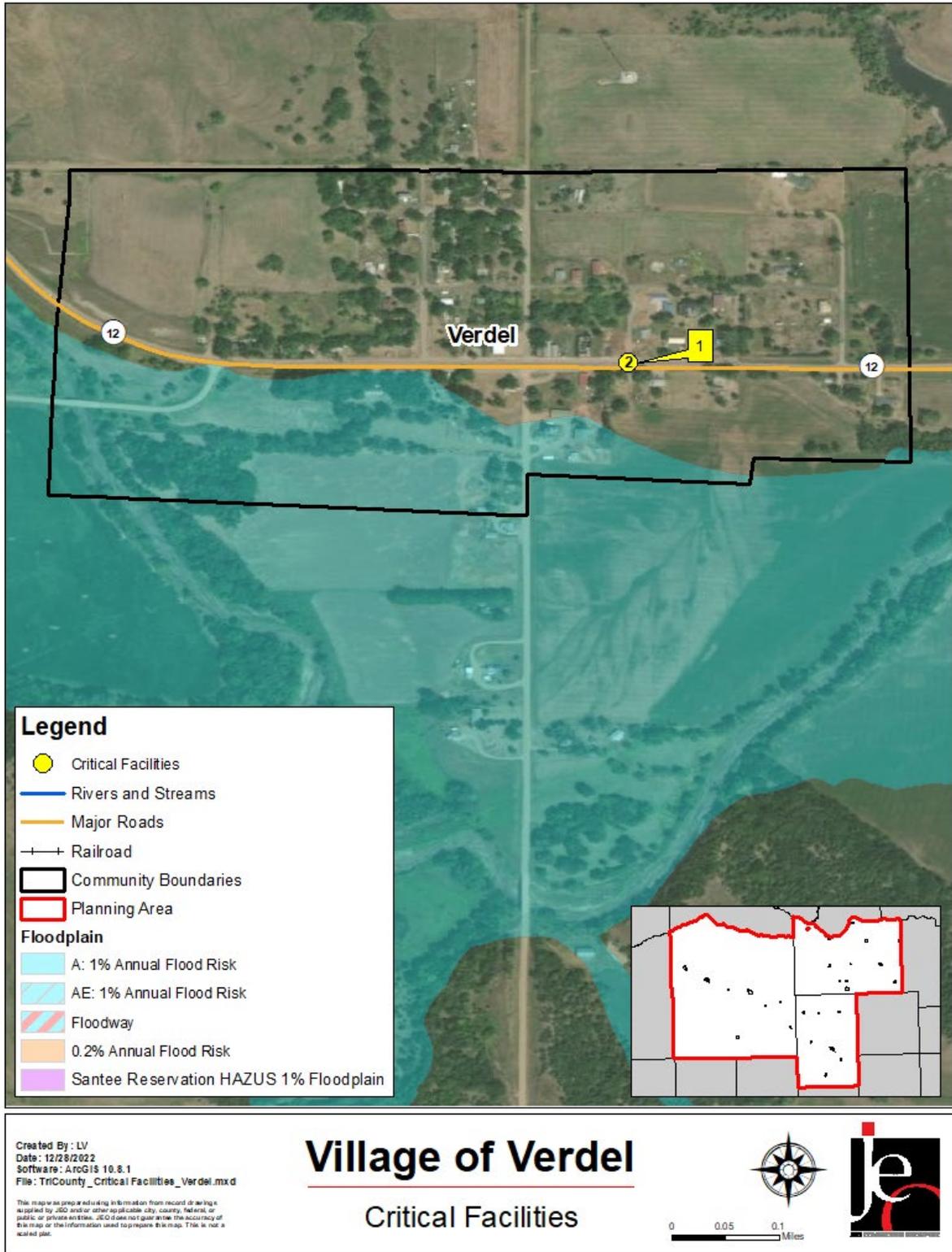
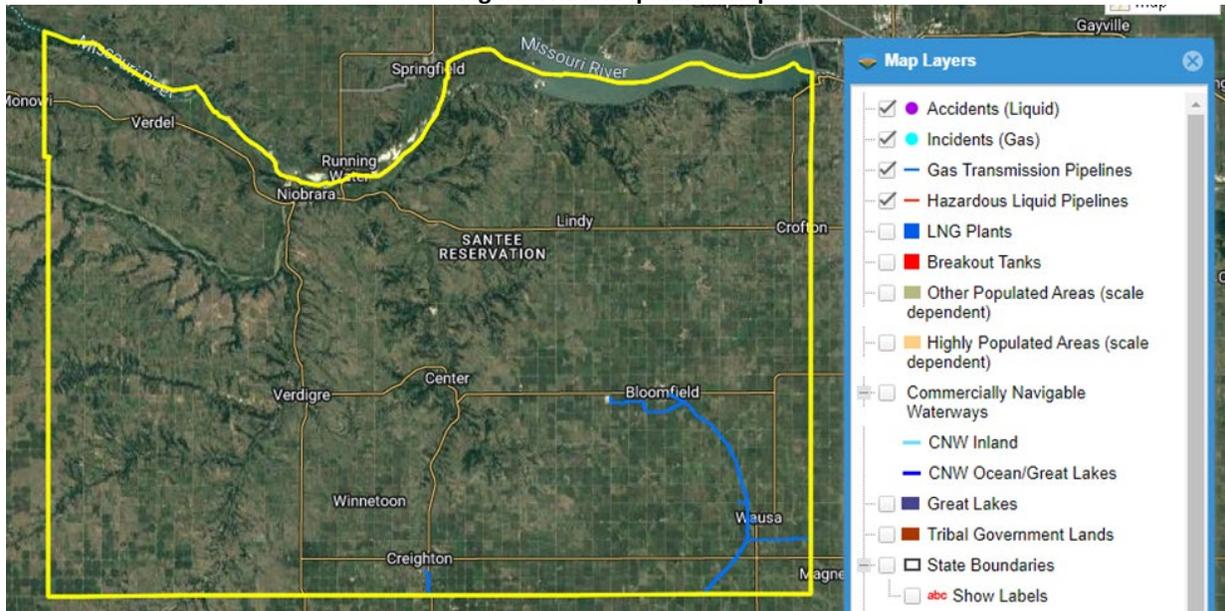


Figure VRD.5: Pipelines Map



Source: National Pipeline Mapping System<sup>86</sup>

### Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table VRD.7: Parcel Improvements and Value in the Floodplain

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
42	\$886,230	5	\$130,115	12%

Source: County Assessor, 2022

### Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Verdel which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Village of Verdel. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

<sup>86</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed January 2022. <https://pvnpmns.phmsa.dot.gov/PublicViewer/>.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days/year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
Tornadoes & High Winds	Winter Weather	7	\$0		
	High Winds	18	\$53,000	\$685,654	1 injury
Wildfire	Tornadoes	31	\$4,845,060	\$207	3 injuries
		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

The local planning team has identified flooding as a top hazard of concern for the Village of Verdel. The NCEI reports that the community has experienced 15 flood events from 1996 to 2021. These events caused \$1,545,000 in property damages but did not cause any deaths or injuries. The local planning team described an additional flooding event that occurred March 20, 2020, when Spencer Dam Broke causing Ponce Creek to flood its banks. The flooding damaged local county roads as well as some homes.

According to the local planning team, the main concern with flooding is the village's location near the Ponca Creek and the lack of good drainage structures within the community. The Ponca Creek runs along the western and southern borders of the village. To help reduce the impact of flooding on the town, the local planning team has reached out to JEO Consulting Group to clean out culvers to increase storm drainage and prevent flash flooding from creek runoff or heavy rains.

**NFIP Information**

Verdel does not have any NFIP policies in-force and there are no repetitive flood loss properties in the village. The village will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances.

***Mitigation Actions:***

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	Village Clerk
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	STORMWATER SYSTEM AND DRAINAGE IMPROVEMENTS
<b>Description</b>	Repair/improve stormwater culverts and clean out drainage ditches to reduce stormwater flooding.
<b>Hazard(s)</b>	Flooding, Severe Thunderstorms
<b>Estimated Cost</b>	\$100,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Clerk
<b>Status</b>	This is a new mitigation action.

**Hazard: Public Health Emergency**

The local planning team identified public health emergencies as a top hazard of concern due to the lack of backup water sources to provide water to residents. According to the local planning team when a well pump last went out, the village was without water pressure for 10 hours until the well company could replace the pump and restore water flow. Without clean water for drinking or washing, many people could become sick. The village has explored land purchasing options to install a backup well but has not proceeded further in the process due to lack of resources and experience.

**Mitigation Actions:**

MITIGATION ACTION	NEW WELL
<b>Description</b>	Drill new backup well to provide safe and clean drinking water to residents if current well or water source are damaged.
<b>Hazard(s)</b>	Public Health Emergency
<b>Estimated Cost</b>	\$500,000
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Board
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	IMPROVE WATER DISTRIBUTION SUPPLY
<b>Description</b>	Replace water lines with new piping to deliver safe drinking water to residents.
<b>Hazard(s)</b>	Public Health Emergency
<b>Estimated Cost</b>	\$400,000
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Board
<b>Status</b>	This is a new mitigation action.

**Plan Maintenance**

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the Village Clerk, Treasurer, and Board Chairperson. The plan will be reviewed annually at the Town Board meeting, and the public will be notified of the plan's review.

# Community Profile

## Village of Verdigre

**Tri-County  
Hazard Mitigation Plan**

**2023**

## Local Planning Team

The Village of Verdigre’s local planning team members for the hazard mitigation plan are listed in the table below along with the meetings attended. All applicable worksheets from meetings were filled out and returned by local planning team members.

**Table VDG.1 Local Planning Team**

NAME	TITLE	JURISDICTION	PARTICIPATION
Heidi Ruzicka	Clerk	Village of Verdigre	Attended Round 1 and Round 2 meetings
David Wickett	Chairperson	Village of Verdigre	Attended Round 1 and Round 2 meetings

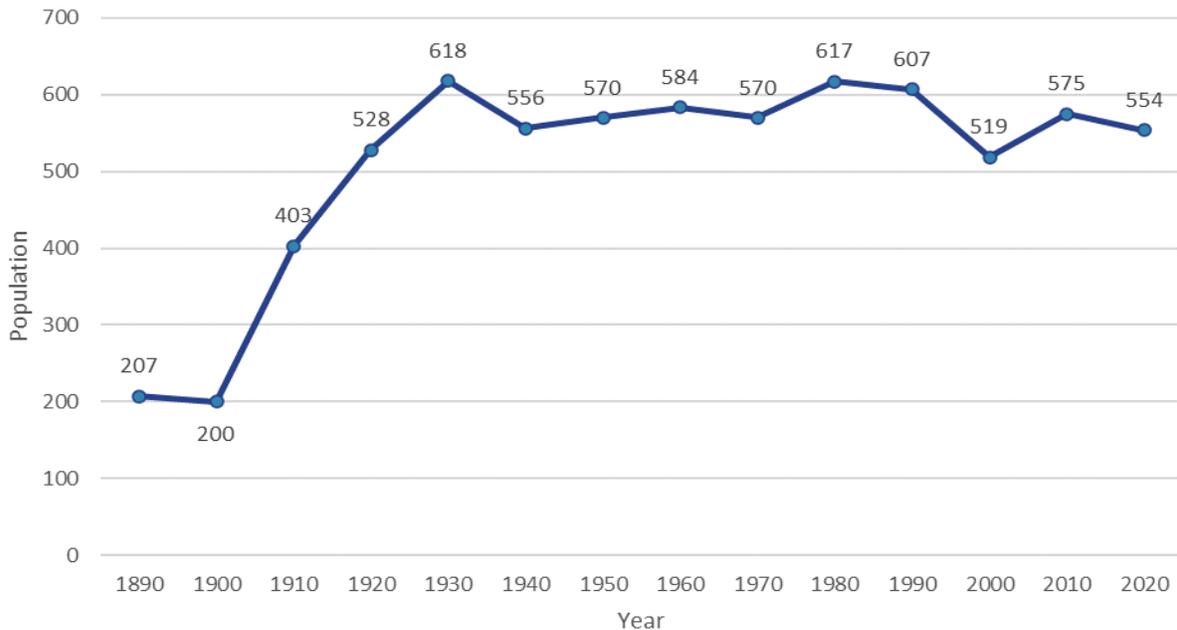
## Location and Geography

The Village of Verdigre is in western Knox County and covers an area of 0.59 square miles. Verdigre is bordered to the south by Verdigre Creek.

## Demographics

The following figure displays the historical population trend for the Village of Verdigre. This figure indicates that the population of Verdigre has been declining since 1980 to 553 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Verdigre’s population accounted for 6.6% of Knox County’s population in 2020.<sup>87</sup>

**Figure VDG.1: Population 1890 - 2020**



Source: U.S. Census Bureau

87 United States Census Bureau. “2020 Decennial Census: P1: DEC Redistricting Data.” <https://data.census.gov/cedsci/>.

Figure VDG.2: Village of Verdigre

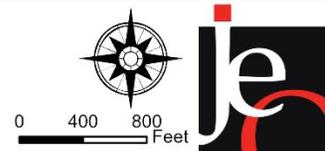


Created By: NL  
 Date: 6/6/2022  
 Software: ArcGIS Pro 2.8  
 File Name: TriCountyV2.aprx

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plat.

# Village of Verdigre

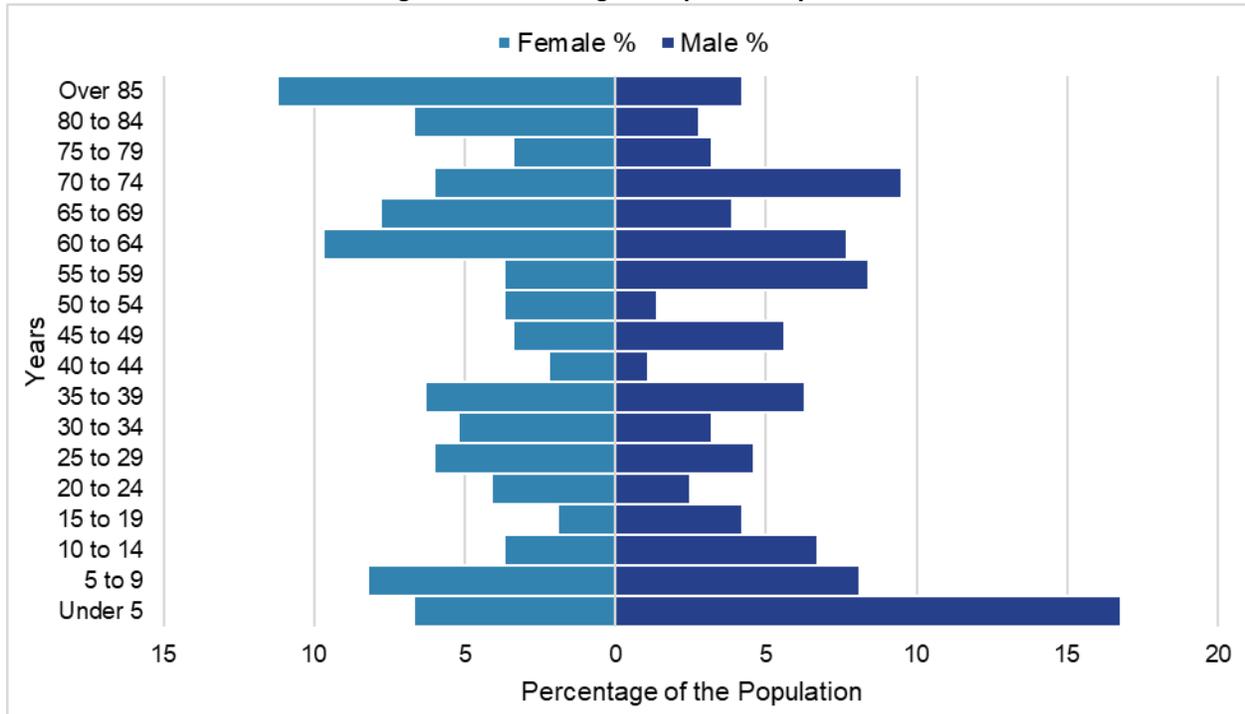
Community Boundary



The young, elderly, and minority populations may be more vulnerable to certain hazards than other groups. Looking at Verdigre’s population:

- **100% is white.** Verdigre remained 100% white between 2010 and 2020.<sup>87</sup>
- **46.5 median age.** The median age of Verdigre was 46.5 years old in 2020. The population grew younger since 2010, when the median age was 58.7.<sup>88</sup>

Figure VDG.3: Verdigre’s Population Pyramid



The figure above shows Verdigre’s population percentage broken down by sex and five-year age groups. Verdigre’s population is widely distributed, suggesting an uneven potential for population growth in the future.

## Employment and Economics

Low-income populations, long distance commuters, and the unemployed may be more vulnerable to certain hazards than other groups. Verdigre’s population has:

- **7.5% of people living below the poverty line.** The poverty rate (7.5%) in the Village of Verdigre was higher than the state (6.6%) and county (5.8%) poverty rate in 2020.<sup>89</sup>
- **\$47,679 median household income.** Verdigre’s median household income in 2020 (\$47,679) was \$15,336 lower than the state (\$63,015) and \$5,974 lower than Knox County (\$53,653).<sup>89</sup>
- **4.6% unemployment rate.** In 2020 Verdigre has a higher unemployment rate (4.6%) when compared to the state (3.4%) and county (3.5%).<sup>89</sup>

88 United States Census Bureau. “2019 Census Bureau American Community Survey: S0101: Age and Sex.” <https://data.census.gov/cedsci/>.

89 United States Census Bureau. “2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics.” <https://data.census.gov/cedsci/>.

- **22.2% of workers commuted 30 minutes or more to work.** Fewer workers in Verdigre commuted 30 minutes or more to work than compared to workers commuting less than 30 minutes (22.2% compared to 77.8%).<sup>90</sup>

### Major Employers

The major employers in the Village of Verdigre include Alpine Village, Herbert Feed and Grain, and Verdigre Public School. The local planning team confirms that many people travel to other communities for employment such as Norfolk, Plainview, Creighton, Niobrara, Neligh, O’Neill, Bloomfield, Center, Hartington, Winnetoon, Santee, Spence, and out of state to Springfield, SD.

### Broadband Access

Internet access or access—through Wi-Fi or cellphone coverage—is a critical means of sharing and receiving information regarding hazardous events, including storm warnings, evacuation orders, or weather updates. Rural communities often lack adequate internet or broadband access. However, internet access is as vital a utility as electricity, as seen through the COVID-19 pandemic when many people worked or attended school from home. According to the U.S. Census Bureau, the percentage of households with a broadband internet subscription in Verdigre is 72.6%.

## Housing

Multiple factors inform the vulnerability of housing units to hazard events. Housing age, for example, may indicate which housing units were built prior to the development of state building codes. Older houses and vacant housing are generally more vulnerable to hazards if poorly maintained. Additionally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The village has some mobile homes spread out including three on 2<sup>nd</sup> Avenue, one on Main Street, and two on Highway 14. Renters are particularly vulnerable, as renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. Renters are less likely than homeowners to have flood insurance, have ready access to financial resources to evacuate, or to know their risks to flooding and other hazards. Verdigre’s housing stock has:

- **71.0% of housing built prior to 1970.** Verdigre has a larger share of housing built prior to 1970 than the state and county (71.0% compared to 45.5% and 55.7%).<sup>91</sup>
- **14.9% of housing units vacant.** Verdigre’s vacancy rate (14.9%) is higher than the rest of the state (9.2%) and lower than the rest of the county (27.0%).<sup>91</sup>
- **0.8% mobile and manufacture housing.** The Village of Verdigre has a smaller share of mobile and manufactured housing (0.8%) compared to the state and county (3.3% and 6.7%).<sup>91</sup>
- **25.1% renter occupied.** The rental rate of Verdigre was 25.1% in 2020. This is lower than the state and county’s rates of 33.8% and 25.9% respectively.<sup>91</sup>

90 United States Census Bureau. “2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics.” <https://data.census.gov/cedsci/>.

91 United States Census Bureau. “2019 Bureau American Community Survey: DP04: Selected Housing Characteristics.” <https://data.census.gov/cedsci/>.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Verdigre is governed by a village board of trustees; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Village Clerk
- Treasurer
- Floodplain Administrator
- Village Maintenance
- Chief of Police
- Attorney
- Planning and Zoning
- Library Director
- Utility Superintendent
- Chairman
- Fire Chief
- Rescue Captain
- Emergency Manager
- Knox county Sheriff
- Game and Parks

## Capability Assessment

The Village of Verdigre's annual budget is currently limited to maintaining current facilities and municipal funds have remained the same over recent years. A large portion of the municipal funds is dedicated to specific projects including a new rescue ambulance unit, a new cot, and new personal protection equipment gear for fire fighters.

The planning team assessed Verdigre's hazard mitigation capabilities by reviewing local existing policies, regulations, plans, and programs related to hazard mitigation. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

**Table VDG.2: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Local Emergency Operations Plan	Knox County LEOP
	Economic Development Plan	No
	Floodplain Management Plan or Program	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	National Flood Insurance Program	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes – 2018 IBC
	Community Rating System	No
Other (if any)		
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No

SURVEY COMPONENTS/SUBCOMPONENTS		YES/NO
	Civil Engineering	JEO is local Engineer
	Local Staff Who Can Assess Community’s Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes – Fire Department, Rescue Department
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes – Fire Department
	Community-wide Internet or broadband access	~72.6%
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

**Table VDG.3: Overall Capability**

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

**Social Vulnerability**

According to FEMA’s National Risk Index, a new mapping tool that analyzes a community’s risk to natural hazards, the overall Risk Index for Knox County which includes the Village of Verdigre is Relatively Low (12.62).<sup>92</sup>

<sup>92</sup> FEMA National Risk Index. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

- Social Vulnerability - Social groups in Knox County, NE have a Relatively High (56.29) susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.
- Community Resilience - Communities in Knox County, NE have a Relatively Moderate (54.99) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.

An additional tool developed by Headwaters Economics, the Rural Capacity Index evaluates rural communities and counties across the country for local capacity. Capacity includes the staffing, resources, and expertise to both apply for funding and fulfill reporting requirements, as well as design, build, and maintain infrastructure products over the long term. Communities lacking local capacity often have the greatest need for infrastructure investments—particularly rural communities and communities of color. The Rural Capacity Index helps identify communities with limited capacity on a scale of 0 (low capacity) to 100 (high capacity). The Index is based on 10 variables that can function as proxies for community capacity. The following table lists out the components and scores for the Village of Verdigre compared to the county.

**Table VDG.4: Verdigre’s Rural Capacity Index**

COMPONENTS OF INDEX	VERDIGRE	KNOX COUNTY
County is metropolitan?	No	No
Has head of planning?	No	Yes
Has college or university?	No	No
Adults with higher education	23%	22%
Families below poverty level:	9%	5%
Households with broadband	62%	75%
People without health insurance	4%	8%
Voter turnout	84%	84%
Income stability score (0 to 100)	46	46
Population Change (2000 to 2019)	36	-1,042
<b>Overall Rural Capacity Index Score</b>	<b>46 out of 100</b>	<b>67 out of 100</b>

Source: Headwaters Economics<sup>93</sup>

## Plans and Studies

Communities have several planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Comprehensive Plan

The comprehensive plan is designed to guide the future actions and growth of the village. Verdigre’s comprehensive plan integrates hazard mitigation by limiting development in areas adjacent to known hazardous areas. In future updates of the village’s comprehensive plan, the information from the hazard mitigation plan will be incorporated by planning for a new fire hall.

93 Headwaters Economics. Accessed July 2022. “Rural Capacity Map.” <https://headwaterseconomics.org/equity/rural-capacity-map/>.

## Ordinances and Regulations

The village's local zoning ordinance, floodplain ordinance, and subdivision regulation will be updated on an as needed basis. The ordinances place limits on development within the floodplain. For Verdigre the Base Flood Elevation is based on the Knox County countywide DFIRM maps.

## Knox County Local Emergency Operations Plan

The Village of Verdigre is an annex in the Knox County Local Emergency Operations Plan (LEOP). Annex E of the LEOP is an evacuation plan used by the Village of Verdigre to ensure the safe removal of all residents during hazardous events. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

## Missouri River Northeast Community Wildfire Protection Plan

The Nebraska Forest Service updated the Missouri River Northeast Community Wildfire Protection Plan (CWPP), which includes Knox County in June 2022. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

The 2015 Missouri River Northeast CWPP noted that portions of the Creighton fire district along Bazile Creek in the north and the west side the Little Bazile Creek would have the highest probability of large fire growth in the hilly mixed fuels.

## Future Development Trends

The Village of Verdigre has experienced some changes over the past five years, including the demolition of two homes and the building of four new houses. None of the new structures were developed in the floodplain. There are no large housing or business developments planned for the next five years. However, the village and Verdigre Fire Department are currently working to identify a way to relocate the fire hall out of the flood risk hazard area.

## Community Lifelines

Each participating jurisdiction identified community lifelines that are vital for disaster response and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



## Safety and Security

Safety and Security Lifeline components include law enforcement, security, fire services, search and rescue, government services, and community safety. The table below lists Safety and Security Lifelines for Verdigre.

**Table VDG.5: Safety and Security Lifelines**

SAFETY AND SECURITY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Law Enforcement Security	-	None Identified	-	-	
	Fire Service	1	Verdigre Fire Department	Y	Y	Floodplain
	Search and Rescue	-	None Identified	-	-	
	Government Service	2	Verdigre Council Room	N	N	Floodplain
	Community Safety	3	Knox County Shed		N	Road Equipment

## Food, Water, Shelter

Components of this lifeline include food, water, shelter, and agriculture. Food, Water, Shelter Lifelines for the Village of Verdigre are included in the table below.

**Table VDG.6: Food Water and Shelter Lifelines**

FOOD, WATER, & SHELTER	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Food	4	Tom's Family Foods	N	N	
	Water	5	Lift Station	Y	N	
	Shelter	6	Catholic Church	N	Y	

## Health and Medical

Components can include medical care, patient movement, public health, fatality management, and the medical supply chain. The following medical and health facilities are located within the community.

**Table VDG.7: Health and Medical Lifelines**

HEALTH AND MEDICAL	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Medical Care Facilities	7	Avera Medical Group Verdigre	N	Y	
	Fatality Management	-	None Identified	-	-	
	Public Health	8	Alpine Village Assisted Living Center/Nursing Home	Y	Y	

Source: Nebraska Department of Health and Human Services<sup>94,95,96,97</sup>

## Energy

Energy Lifeline components include power, the power grid, and fuel. The table below lists Energy Lifelines for Verdigre.

**Table VDG.8: Energy Lifelines**

ENERGY	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Power Grid	9	Renewable Resources LLC	N	N	
	Fuel	10	Verdigre Farm Service	N	N	Fuel Source and Chemical Storage
		11	Bohemian One Stop	N	N	
		12	Herbert Feed and Grain	N	N	
		13	N&B Gas Co	N	N	

## Communications

Components of this lifeline include communication infrastructure, alerts or sirens, 911 dispatch, responder communications, and finance. Communication Lifelines for the Village of Verdigre are included in the table below.

**Table VDG.9: Communications Lifelines**

COMMUNICATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Infrastructure	14	Great Plains	Y	N	Phone and Internet
Alerts, Warning, and Messages/911 and Dispatch	-	None Identified	-	-		

94 Department of Health and Human Services. 2022. "State of Nebraska: Assisted Living Facilities." <https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.

95 Department of Health and Human Services. 2022. "State of Nebraska Roster: Hospitals." <https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.

96 Department of Health and Human Services. 2022. "State of Nebraska Roster: Long Term Care Facilities." <https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.

97 Department of Health and Human Services. 2022. "State of Nebraska Roster: Rural Health Clinic." [https://dhhs.ne.gov/licensure/Documents/RHC\\_Roster.pdf](https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf).

## Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Verdigre’s major transportation corridors include State Highway 14 and State Spur 54A. The most trafficked corridor is State Highway 14 with an average of 855 vehicles daily, 155 of which are trucks.<sup>98</sup> No other transportation routes were identified as being of concern by the local planning team. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

**Table VDG.10: Transportation Lifelines**

TRANSPORTATION	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Airports	-	None Identified	-	-	
	Railroads	-	None Identified	-	-	
	Highways	-	NE-14	N	N	

## Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical sites within or near Verdigre which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. The nearest HAZMAT team is located in Norfolk, NE. The local planning team reports some chemical spills have occurred locally, resulting in issues with clean up, evacuation, water supply, and impacts on the creeks and streams. There are no gas transmission pipelines that travel through the community.

**Table VDG.11: Hazardous Materials Lifelines**

HAZARDOUS MATERIALS	COMPONENTS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	Facilities	12	Herbert Feed and Grain Co.	N	N	Fuel and Chemicals Floodplain
		13	N & B Gas Co.	N	N	Propane Floodplain
		15	Verdigre Farm Service	N	N	Fuel Chemicals Floodplain
HAZMAT, Pollutants, Contaminants	-	None Identified	-	-		

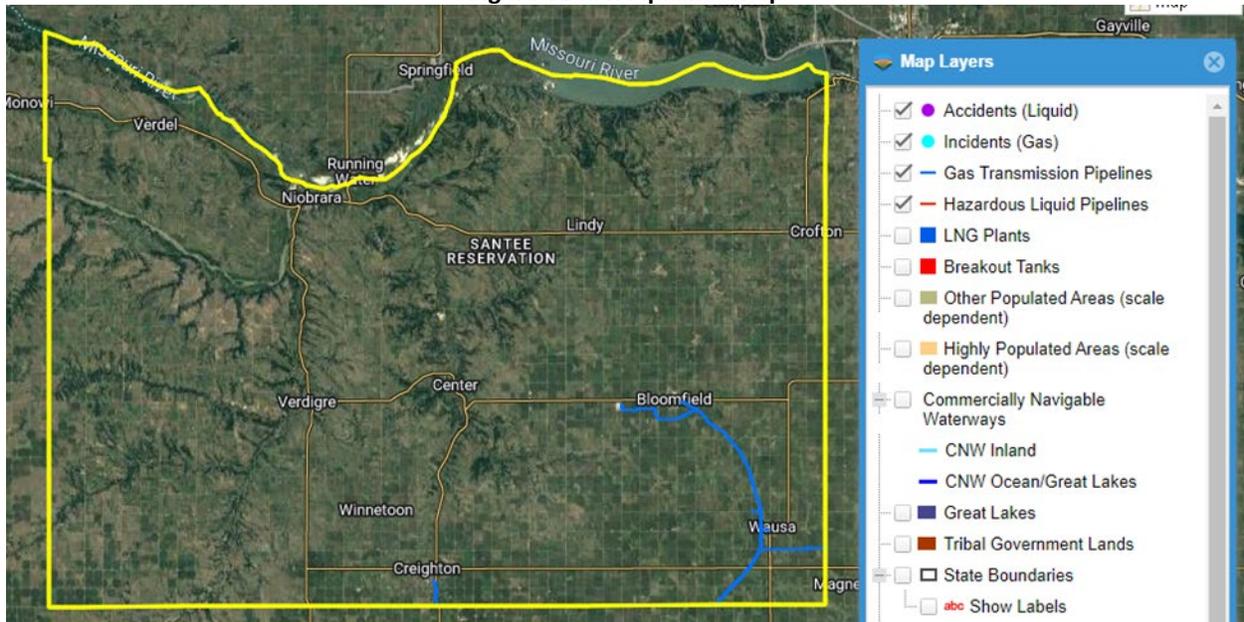
Source: Nebraska Department of Environment and Energy<sup>99</sup>

98 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map].

<https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

99 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021.

Figure VDG.4: Pipelines Map



Source: National Pipeline Mapping System<sup>100</sup>

**Other Community Lifelines**

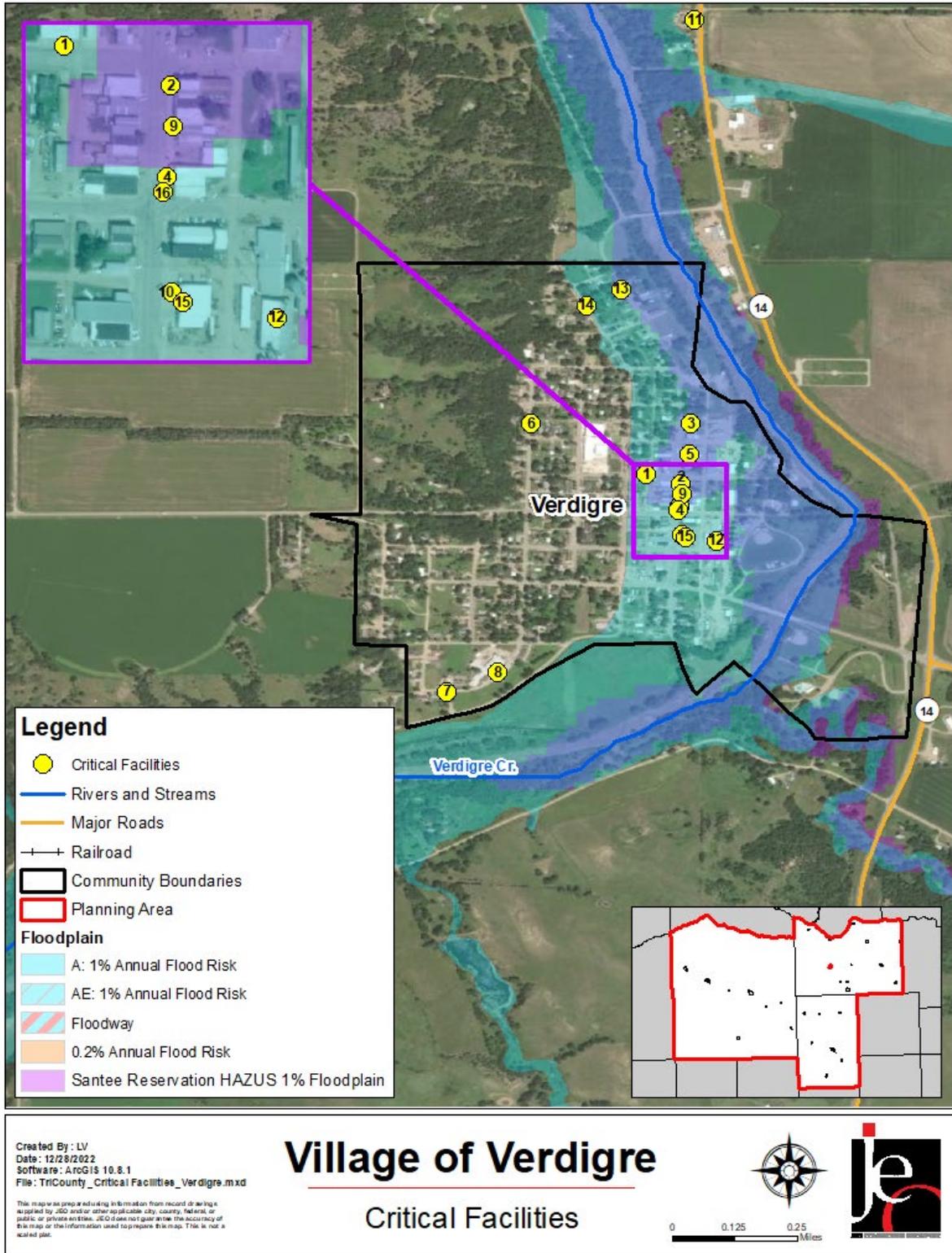
Verdigre identified lifelines that did not fit into the previous seven FEMA lifeline categories but are considered lifelines by the community. These other community lifelines are listed in the table below.

Table VDG.12: Other Community Lifelines

OTHER COMMUNITY LIFELINES	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	SHELTER (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	16	Hardware Hank	N	N	Hardware and Supplies

100 National Pipeline Mapping System. 2022. "Public Viewer." Accessed January 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Figure VDG.5: Community Lifelines



## Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g., buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table. Several structures in Verdigre have been removed from the floodplain via LOMA. A summary of LOMAs identified for Verdigre can be found in the table below.

**Table VDG.13: Parcel Improvements and Value in the Floodplain**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN
320	\$16,533,240	126	\$5,181,575	39%

Source: County Assessor, 2022

**Table VDG.14: Verdigre Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	14-07-2328A-310133	09/25/2014	Portion of Property is outside of the SFHA
LOMA	19-07-1193A-310133	05/13/2019	A structure (building) is removed from the SFHA.

Source: FEMA Flood Map Service Center

## Hazard Prioritization and Mitigation Strategy

The Tri-County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Verdigre which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Village of Verdigre. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Knox County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Agricultural Disease	Animal Disease	22	1,877 animals	N/A	
	Plant Disease	17	N/A	\$103,555	
Dam Failure		2	\$0	N/A	
Drought		483 out of 1,512 months	\$0	\$97,025,214	
Earthquakes		1	\$0	\$0	
Extreme Heat		Avg 3 days per year	\$0	\$16,885,534	
Flooding	Flash Flood	17	\$79,000	\$195,618	
	Flood	23	\$1,555,000		
Hazardous Materials	Fixed Site	4	\$0	N/A	
	Transportation	2	\$50,000		
Landslides		81	N/A	N/A	
Public Health Emergency		~2,378 cases	N/A	N/A	

HAZARD		COUNT	PROPERTY	CROP	OTHER IMPACTS
Severe Thunderstorms	Hail	234	\$1,575,000	\$5,468,531	
	Heavy Rain	3	\$0	\$1,620,841	
	Lightning	2	\$500	N/A	
	Thunderstorm	88	\$5,900	N/A	
	Wind				
Severe Winter Storms	Blizzards	16	\$0		
	Extreme Cold	8	\$0		
	Heavy Snow	13	\$0	\$691,005	
	Ice Storms	3	\$0		
	Winter Storms	46	\$3,500,000		
	Winter Weather	7	\$0		
Tornadoes & High Winds	High Winds	18	\$53,000	\$685,654	1 injury
	Tornadoes	31	\$4,845,060	\$207	3 injuries
Wildfire		252	8,438 acres	\$19,389	31 structures threatened; 1 structure destroyed
<b>Total</b>		<b>890</b>	<b>\$11,663,460</b>	<b>\$122,695,548</b>	

### Hazard: Flooding

Flooding is the primary hazard of top concern for the Village of Verdigre. The village has experienced significant impacts from flood events, specifically during the severe flood in 2019. Numerous homes were flooded and streets throughout town were significantly damaged. The village is unique in that half of the village is located in a lower basin (including most businesses, community buildings, and services) while many residential properties are located along the steep bluffs edging the community. The village has concerns for both riverine flooding from Verdigre Creek which runs along the eastern edge of the community and from insufficient stormwater drainage in town from undersized culverts. The Village and the Verdigre Fire/Rural Fire Board are currently working on a project to address vulnerabilities from flooding to the Verdigre Fire Hall. The primary concern for the facility is to remove it from the floodplain and/or floodproof the facility. There is a non-certified berm along Verdigre Creek which is not currently mapped to include flood risk reduction measures. The village is considering options to improve the berm for certification purposes; however, this project is currently technically and financially prohibitive and would take considerable time and effort.

The village (as well as portions of Knox County) are currently within a floodplain remapping effort with the Nebraska Department of Natural Resources. The current effective FIRM for Verdigre is from October 2015; however, significant changes to experienced flood heights have been noted by the community and the village has been working on new analyses to determine base flood elevations. As of March 2023, the NeDNR Silver Jackets were working in the village to evaluate local hydraulics and flood risk potential.

### NFIP Information

Verdigre has 12 NFIP policies in-force for \$670,000. There are no repetitive flood loss properties in Verdigre. The village will continue to comply with NFIP regulations by following regulatory guidance provided by the State. This includes adopting the most current and effective flood risk products, complying with permitting requirements for new developments in flood risk hazard areas, and reviewing or updating local ordinances. To maintain compliance with the National Flood Insurance Program, the village also requires the Floodplain Administrator to attend classes to maintain their knowledge of the regulations.

**Mitigation Actions:**

MITIGATION ACTION	IMPROVE/CERTIFY DIKE
<b>Description</b>	Upgrade the existing non-certified berm into a certified dike to help address flood risk issues.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$10,000,000+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	High
<b>Lead Agency</b>	Village Board
<b>Status</b>	This is a new mitigation action.

MITIGATION ACTION	PUBLIC AWARENESS AND EDUCATION
<b>Description</b>	Through activities such as outreach projects, distribution of maps, and environmental education increase public awareness of natural and manmade hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from the hazards
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	\$500+
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	Village Clerk
<b>Status</b>	This is a new mitigation action.

**Hazard: Tornadoes and High Winds**

According to NCEI data, there have been five F0 tornadoes that hit the village from 1996 to 2021. Two occurred in 1996, one in 1999, one in 204, and one in 2012. All five were brief touchdown events that did not result in any significant damage. The local planning team provided details on a tornado that occurred May 12, 2022, that resulted in downed trees throughout the town and a power outage. In response to the downed trees, the community has trimmed hazardous trees in the village.

**Mitigation Actions:**

MITIGATION ACTION	HAZARDOUS TREE REMOVAL
<b>Description</b>	Conduct tree inventory. Develop and implement tree maintenance and trimming program to remove hazardous limbs and trees
<b>Hazard(s)</b>	Tornadoes and High Winds
<b>Estimated Cost</b>	\$200/tree
<b>Local Funding Source</b>	General Fund
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Village Maintenance
<b>Status</b>	This is a new mitigation action.

**Hazard: Wildfire**

Local concerns regarding wildfires are the prevalence of rural terrain surrounding the village. The village is surrounded by grass and croplands which experienced a large wildfire in March 2022 that burned 3500 acres. During the March 2022 wildfire, extensive damage was caused to irrigation systems and fences. The community attempts to lessen the impacts of wildfires through performing controlled burns and landowners' clear trees. Of note, the village and the Verdigre Fire Departments are currently working to address major risks to the local fire department building which is currently in the floodplain.

**Mitigation Actions:**

See "Public Awareness and Education" mitigation actions to address this hazard of concern.

NEW MITIGATION ACTION	FIRE HALL
<b>Description</b>	Build a new fire hall that is located outside of the floodplain.
<b>Hazard(s)</b>	Wildfire
<b>Estimated Cost</b>	TBD
<b>Local Funding Source</b>	General Funds
<b>Timeline</b>	5+ years
<b>Priority</b>	High
<b>Lead Agency</b>	Verdigre Rural Fire District, Village of Verdigre
<b>Status</b>	This is a new mitigation action. This would need to be a joint project between the fire department and the village.

**Plan Maintenance**

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the Village Council, the Rural Fire District, and Verdigre Fire and Rescue. The plan will be reviewed bi-annually. The public will be notified of the plan review through social media posts, website updates, and announcements during board/council meetings.