

Table of Contents

Table of Contents	1
Frontier County	2
City of Curtis.....	27
Village of Maywood.....	45
Village of Moorefield	61
Village of Stockville	76

County Profile

Frontier County

Hayes, Hitchcock, and Frontier Counties Hazard Mitigation Plan

2023

Local Planning Team

Frontier County’s local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All participant worksheets were filled out and returned by members of the local planning team.

Table FCO.1: Frontier County Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Roger Powell	Emergency Manager	Frontier County	Curtis	Curtis
Dan Rupp	(Former) Sheriff / Deputy Emergency Manager	Frontier County	Curtis	-

Location, Geography, and Climate

Frontier County is located in southwestern Nebraska and is bordered by Dawson, Furnas, Gosper, Hayes, Hitchcock, Lincoln, and Red Willow Counties. There are five incorporated communities in the county, City of Curtis, Village of Eustis, Village of Maywood, Village of Moorefield, and Village of Stockville. The Village of Stockville serves as county seat. The total area of Frontier County is 980 square miles. Major bodies of water in the county include Medicine Creek, Fox Creek, Muddy Creek, Deer Creek, Red Willow Creek, Bushy Creek Hugh Butler Lake, and Harry Strunk Lake. Topographic regions in the county include sand hills, dissected plains, valleys, and large reservoirs.¹

Climate

Frontier 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 Frontier County for the month of July is 91.4 degrees Fahrenheit and the average low temperature for the month of January is 13.5 degrees Fahrenheit. On average, Frontier County receives over 21 inches of rain and 28 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.

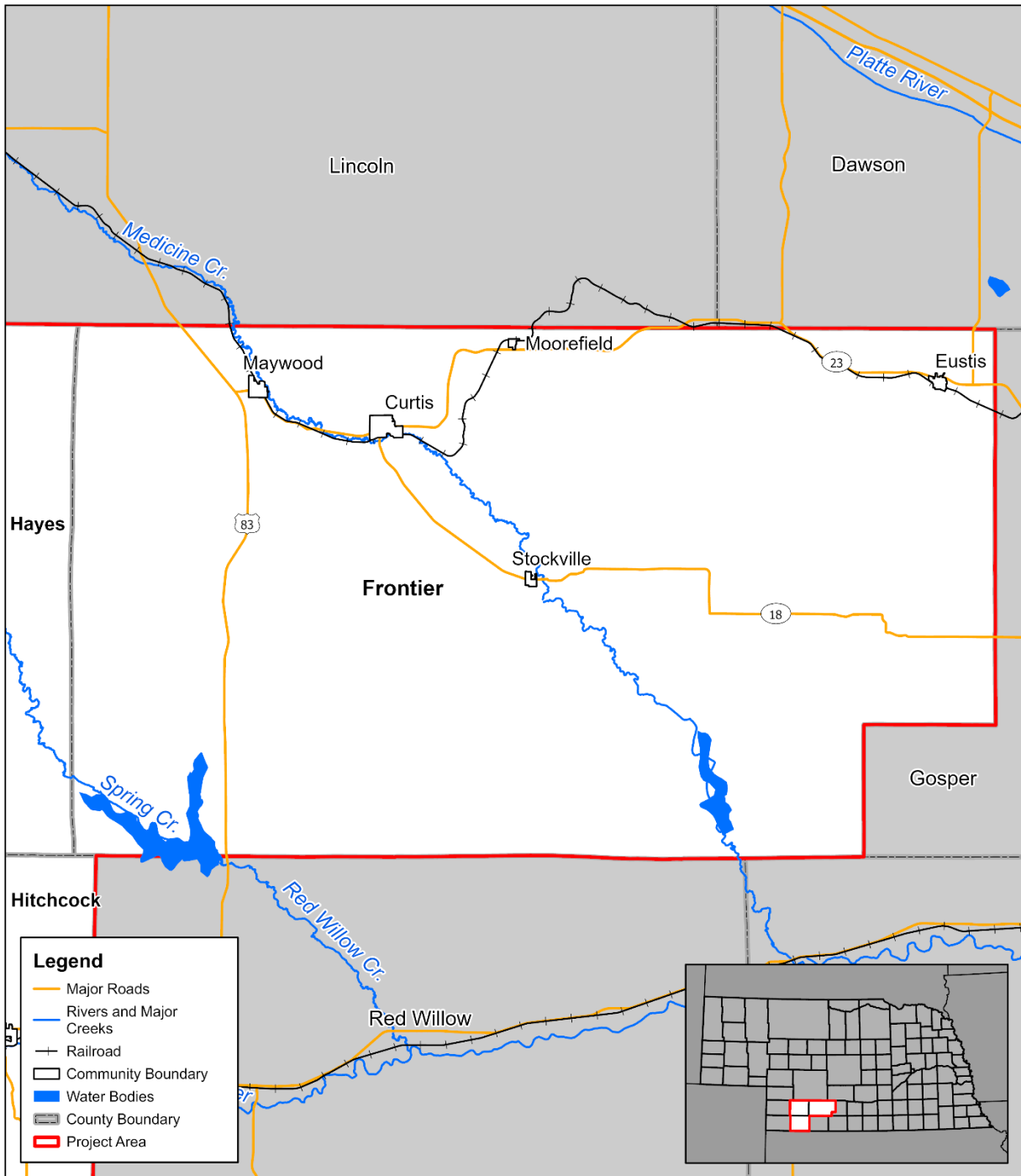
Table FCO.2: Frontier County Climate

	Frontier County	State of Nebraska
July Normal High Temp	91.4°F	87.3°F
January Normal Low Temp	13.5°F	13.9°F
Annual Normal Precipitation	21.3"	24.2"
Annual Normal Snowfall	28.1"	25.9"

Source: NCEI 1991-2020 Climate Normals²
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 FCO.1: Frontier County



Created By: NL
 Date: 5/31/2022
 Software: ArcGIS Pro 2.8
 File: HHF HMP.aprx

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Frontier County

Boundary Map



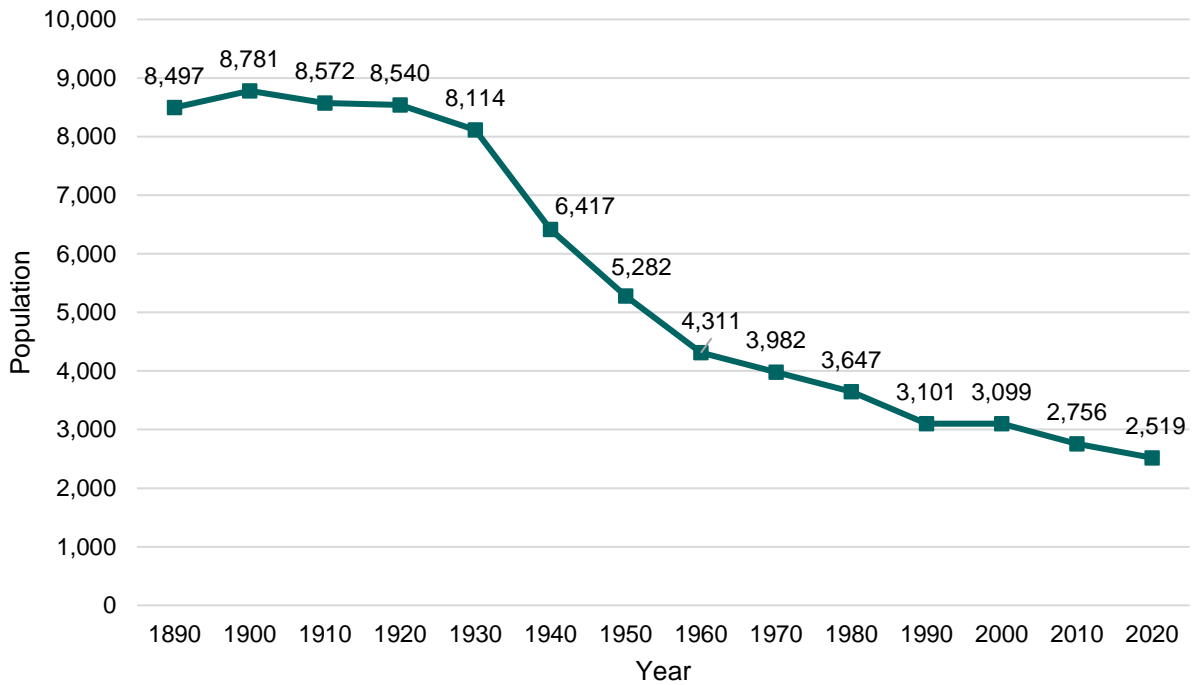
0 2 4 Miles



Demographics

The following figure displays the historical population trend from 1890 to 2020. This figure indicates that the population of Frontier County has been decreasing since 1900 to 2,519 people in 2020. A declining population can lead to more unoccupied and unmaintained housing that is then at risk to 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. Frontier County’s population accounted for 0.12% of Nebraska’s population in 2020.³

Figure FCO.2: Population 1890 - 2020

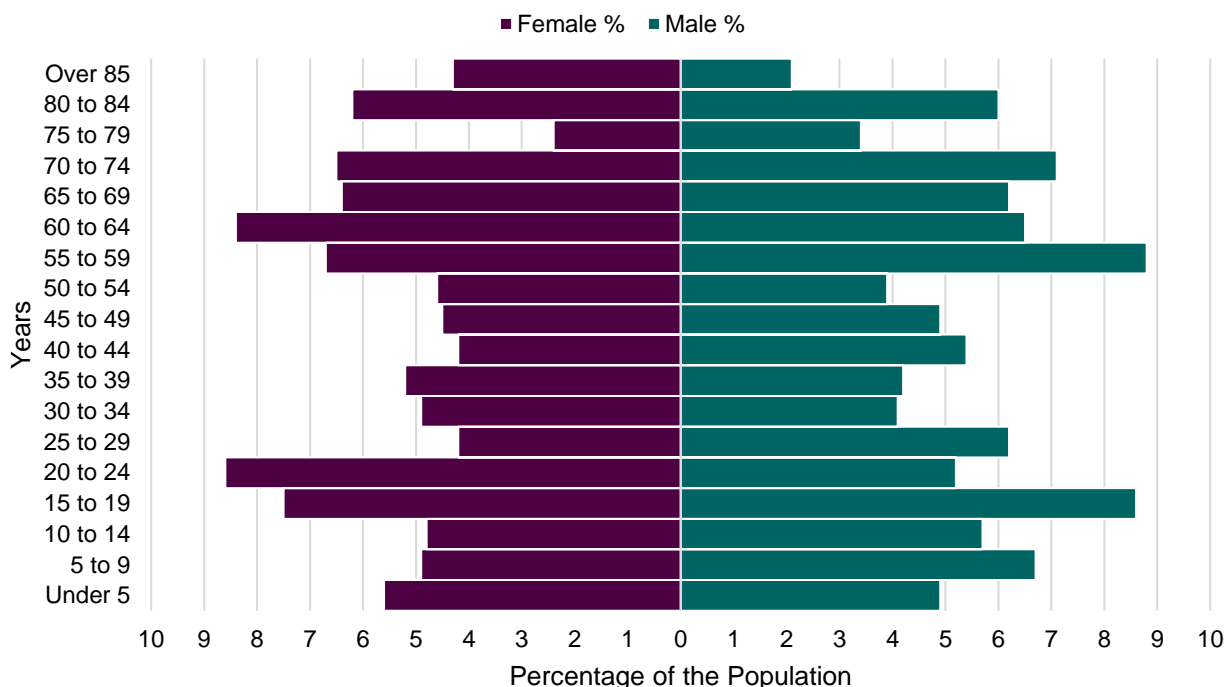


The young and elderly populations may be at greater risk from hazards than other age groups. The following figure shows Frontier County’s population percentage broken down by sex and five-year age groups.⁴ Frontier County’s population is equally spread out between different age groups. This indicates 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*.

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

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

Figure FCO.3: Frontier County’s Population Pyramid



Economics and 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 FCO.3: Housing and Income

	Frontier County	State of Nebraska
Median Household Income	\$59,250	\$63,015
Per Capita Income	\$29,043	\$33,205
Median Home Value	\$111,100	\$164,000
Median Rent	\$607	\$857

Source: U.S. Census Bureau^{5,6}

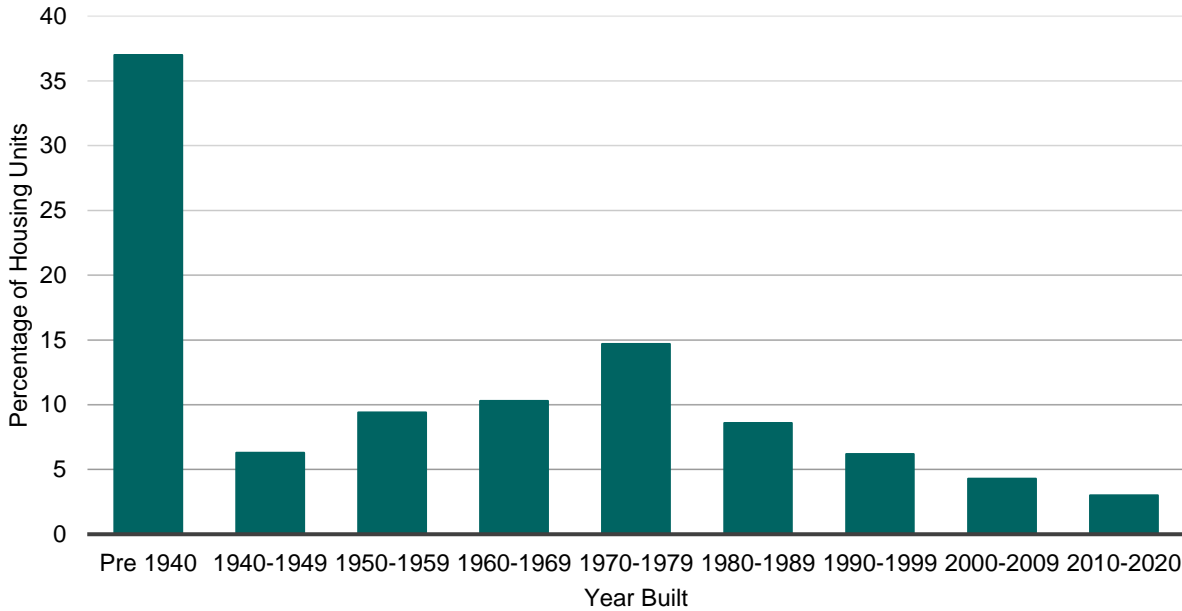
The following figure indicates that most of the housing in Frontier County was built between prior to 1940 (37%). Housing age can serve as an indicator of risk, as structures built prior to the development of state building codes may be at greater risk. The State of Nebraska first adopted building codes 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 1,569 housing units with 72.4% of those units occupied. There are approximately 190 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. Renters are particularly vulnerable, as renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disaster.

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/>.

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 FCO.4: Housing Units by Year Built



Source: U.S. Census Bureau⁵

Table FCO.4: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Frontier County	1,136	72.4%	433	27.6%	785	69.1%	351	30.9%
Nebraska	766,663	90.8%	77,585	9.2%	507,291	66.2%	259,372	33.8%

Source: U.S. Census Bureau⁵

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.

- **74.3% of households have a broadband internet subscription.** Frontier County has a smaller share of households with broadband (74.3%) compared to the state (85.6%).⁷

Employment

According to 2020 Business Patterns Census Data, Frontier County had 69 business establishments. The following table presents the number of businesses, number of paid employees, and the annual payroll in thousands of dollars.

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

Table FCO.5: Business in Frontier County

	Total Businesses	Number of Paid Employees	Annual Payroll (In Thousands)
Total for All Sectors	69	419	\$15,097

Source: U.S Census Bureau⁸

Agriculture is the backbone of Nebraska’s economy. Frontier County’s 371 farms cover 484,194 acres of land about 77.2% 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 FCO.6: Agricultural Inventory

	Agricultural Inventory
Number of Farms with Harvested Cropland	371
Acres of Harvested Cropland	484,194

Source: USDA Census of Agriculture, 2017⁹

Governance

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

- County Assessor
- County Attorney
- County Clerk
- Emergency Manager
- Highway Superintendent
- Planning/Zoning
- Sheriff
- Treasurer
- Floodplain Administrator
- 4H Extension

Capability Assessment

The planning team assessed Frontier 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. The county plans to improve existing plans by going through a Local Emergency Operations Plan rewrite and the hazard mitigation plan update.

County funds are limited to maintaining current facilities and systems with a large portion already dedicated to a courthouse addition and remodel project. Funds have increased over recent years.

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

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

Table FCO.7: Capability Assessment

Capability/Planning Mechanism		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes (State)
	National Flood Insurance Program	Yes
	Community Rating System	No
	Regional Community Wildfire Protection Plan	Yes
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	Yes
	Local staff who can assess county's vulnerability to hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	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	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	-
Education & Outreach Capability	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

Capability/Planning Mechanism	Yes/No
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
Natural disaster or safety related school programs	Yes
StormReady Certification	No
Other (if any)	-

Table FCO.8: Overall Capability

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Moderate
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited

Social Vulnerability

FEMA’s National Risk Index is a new mapping tool that analyzes a county’s risk to natural hazards on a scale of 0 (lowest possible value) to 100 (highest possible value). The overall risk for Frontier County is Very Low (6.86). The average for the State of Nebraska is 9.43.¹⁰

- **Social Vulnerability:** Social groups in Frontier County have a Relatively Moderate (37.92) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- **Community Resilience:** Communities in Frontier County have a Relatively Moderate (53.95) ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruption 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). 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 Frontier County.

Table FCO.9: Rural Capacity Index

Components of Index	Frontier County
County is Metropolitan?	No
Has a Head of Planning?	Yes
Has a College or University?	Yes
Adults with Higher Education:	22%
Families Below Poverty Level:	8%
Households with Broadband:	73%
People without Health Insurance:	10%
Voter Turnout:	77%

¹⁰ Federal Emergency Management Agency. “National Risk Index”. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

Components of Index	Frontier County
Income Stability Score (0 to 100):	42
Population Change (2000 to 2019):	-472
Overall Rural Capacity Index Score	75

Source: Headwaters Economics¹¹

National Flood Insurance Program (NFIP)

Frontier County is a member of the NFIP having joined on 4/2/2008, and the county’s Floodplain Administrator (Darla Walther) oversees the commitments and requirements of the NFIP including enforcement of the floodplain management regulations. The initial FIRM for the county was delineated in 4/2/2008 and the current effective map date is 4/2/2008, which has been adopted and incorporated into the county’s floodplain regulations in 2008. As of August 31, 2021, there are no NFIP policies in-force. Frontier County does not currently have any repetitive loss or severe repetitive loss structures. Frontier County requires zoning or building permits for any development in the floodplain. After a flood event, the county implements substantial improvement and substantial damage provisions as outlined in the Substation Damage Assessment Handbook from the Nebraska Department of Natural Resources, which can be found here: https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/floodplain/resources/20220301_eSDA_Handbook_FINAL.pdf. The local planning team has said Frontier County will remain in good standing and will continue involvement with the NFIP in the future.

Plans and Studies

Frontier County has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the county updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update.

Comprehensive Plan (2014)

The comprehensive plan is designed to guide the future actions and growth of the county. Data from the hazard mitigation plan has been shared with the comprehensive plan. However, due to the age, it is likely out of date. The comprehensive plan contains goals aimed at safe growth, directs development away from the floodplain, directs housing away from chemical storage facilities, and encourages elevation of structure located in the floodplain. In addition, water, fire, and climate change are directly discussed. The comprehensive plan will be updated in 2024.

Floodplain Regulations (2008), Zoning Ordinance (2014), and Subdivision Regulations (2014)

The county’s floodplain regulations, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. Data from the hazard mitigation plan has been shared with the zoning ordinance and subdivision regulations. However, due to the age, it is likely out of date. These documents restrict development in known hazardous areas, prohibit development in the floodplain, discourage housing and vulnerable populations near chemical storage sites, restrict the subdivision of land within the floodplain, and include well setback requirements. These documents will be reviewed and updated in 2024.

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

Frontier County Local Emergency Operations Plan (2022)

The Frontier County Local Emergency Operations Plan (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. The hazard mitigation plan has not been integrated with this plan. Flooding, dam failure, and mass shelter information from the LEOP was used to inform hazard prioritization and community lifelines.

Loess Canyons Region Community Wildfire Protection Plan (2021)

The purpose of the Loess Canyons Region Community Wildfire Protection Plan (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. Wildfire projects and concerns from the 2018 HMP were included in the CWPP and wildfire projects in the current HMP will be included during the next CWPP update. Projects identified in the CWPP were reviewed for inclusion in this county profile. This document is updated every five years.

Future Development Trends

Over the past five years, there have been new housing and businesses built in Frontier County. This likely increases the county’s vulnerability to hazards as there are more buildings that could be damaged. However, that vulnerability is minimized as none of the new structures were built in the floodplain or other known hazardous areas. Additionally, several buildings have been demolished. This decreases the county’s vulnerability to hazards because the structure were more likely to be damaged in a storm event. In the next five years, it is not known if there will be any new housing or commercial developments. However, with the projected population stability, there will likely be minimal developments.

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 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 safety. The table below lists Safety and Security Lifelines for Frontier County.

Table FCO.10: Safety and Security Lifelines

CF Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
1	County Courthouse	-	N
2	Curtis Fire Hall	-	N
3	Eustis Fire Hall	G	N
4	Maywood Fire Hall	-	N
5	Sheriff’s Office	G	N

Food, Water, Shelter

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

Table FCO.11: Food, Water, and Shelter Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
6	Berean Bible Church	S	N
7	Eustis Public School	S	N
8	Maywood Schools	S	N
9	Med Valley Schools	S	N
10	Methodist Church	S	N
11	Nebraska School of Technical Agriculture	S	N

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 FCO.12: Health and Medical Lifelines

CL Number	Name	Type of Facility	Number of Beds	Generator (G) Shelter (S)	Floodplain (Y/N)
12	Curtis Medical Center	Rural Health Clinic	0	-	N
13	Eustis Community Medical Clinic	Rural Health Clinic	0	-	N
14	Senior Living Choices at Curtis	Assisted Living	20	-	N

Source: Nebraska Department of Health and Human Services^{12,13,14,15}

Energy

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

Table FCO.13: Energy Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
15	Curtis Power Plant	-	N

Communications

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

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

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

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

15 Department of Health and Human Services. 2022. "State of Nebraska Roster: Rural Health Clinic." https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

Table FCO.14: Communications Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
16	Communication Tower	-	N

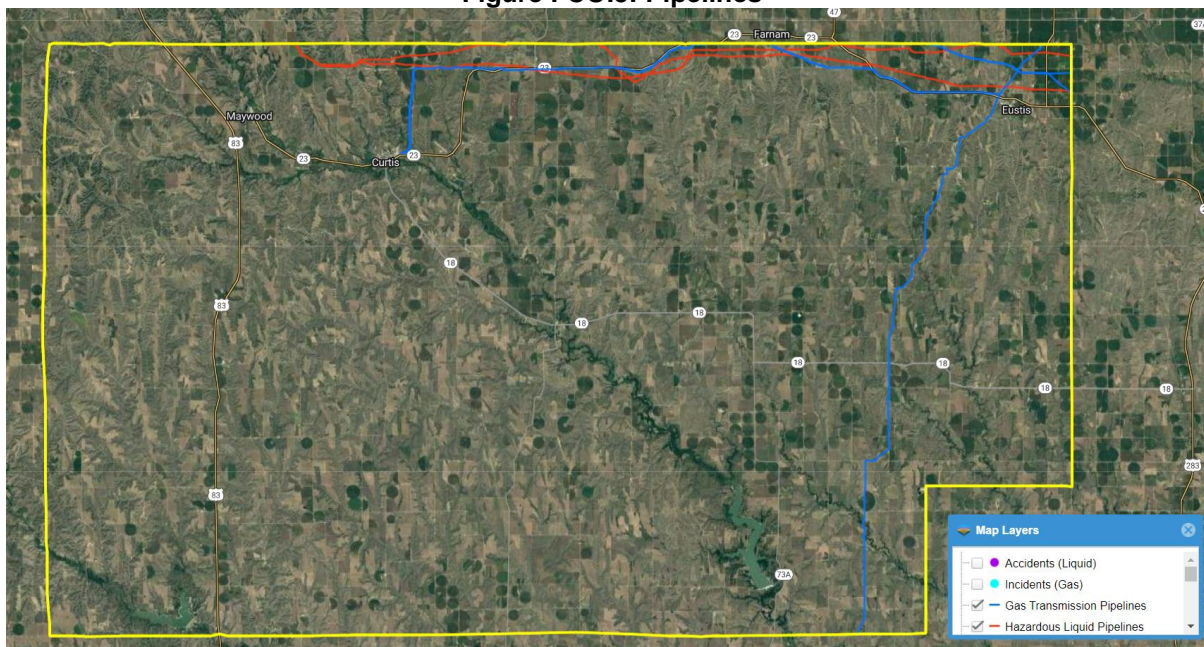
Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Frontier County’s major transportation corridors include US Highway 83 and Nebraska State Highways 18, 21, and 23. The most traveled route is Highway 83 with an average of 1,945 vehicles daily, 360 of which are trucks.¹⁶ One Nebraska Kansas Colorado Railway line runs east to west through the northern portion of the county. The county also has two airports one private near Maywood and one public near Curtis. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors, as well as areas more at risk of transportation incidents. Fuels, oils, and agricultural chemicals are all transported along these transportation routes. No significant transportation events have occurred in the county.

Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. There are several gas transmission and hazardous liquid pipelines that travel through the county and can be seen on the figure below.

Figure FCO.5: Pipelines



Source: National Pipeline Mapping System¹⁷

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there 10 chemical storage sites throughout Frontier County which house hazardous materials.

16 Nebraska Department of Transportation. 2021. “Annual Average Daily Traffic Flow.” Accessed July 2022. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

17 National Pipeline Mapping System. 2022. “Public Viewer.” Accessed July 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

Table FCO.15: Chemical Storage Sites

CL Number	Name	Generator (G)	Floodplain (Y/N)
17	Ag Valley Co-op Non Stock	-	N
18	Ag Valley Co-op Non Stock	-	N
19	Bed Canyon Field – Quick Lease	-	N
20	Country Partners Cooperative	-	N
21	Country Partners Cooperative	-	N
22	Consolidated Telephone Co	-	N
23	Kock Trust #1-26	-	N
24	Mentzer Oil Co Bulk Plant	-	N
25	Moorefield Station	-	N
26	NDOT Maywood Yard	-	N

Source: Nebraska Department of Environment and Energy¹⁸

Other Community Lifelines

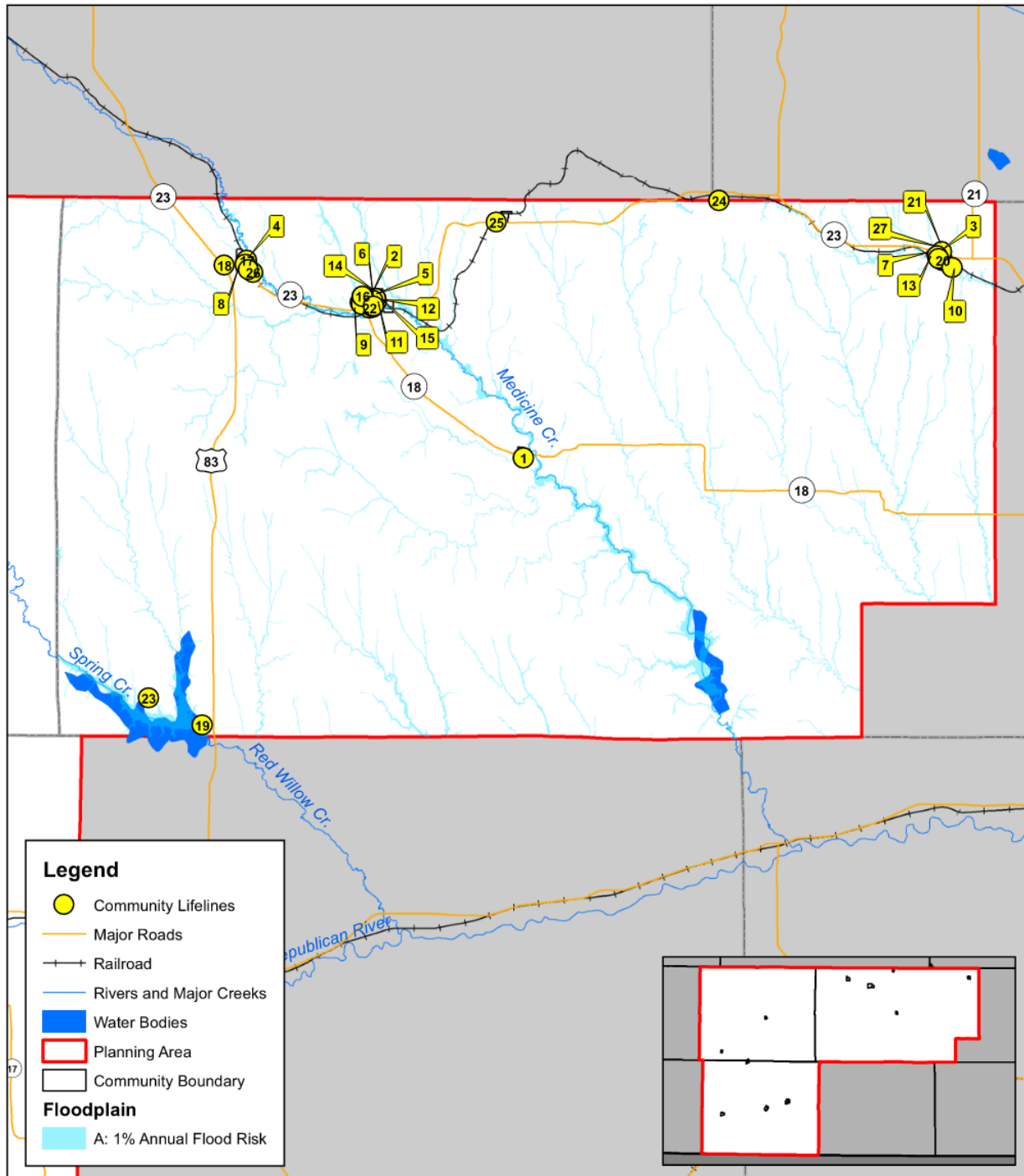
Frontier County identified lifelines that did not fit into the previous seven FEMA lifeline categories but are considered lifelines by the county. The other community lifelines are listed in the table below.

Table FCO.16: Other Community Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
27	Eustis Wastewater	G	N

¹⁸ Nebraska Department of Environment and Energy. “Search Tier II Data.” Accessed May 2022.

Figure FCO.6: Community Lifelines



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 Date: 10/26/2022
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Frontier County

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 FCO.17: 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
1,638	\$147,278,641	462	\$43,450,383	28.2%

Source: County Assessor, 2021

Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 through February 2022) should be considered only as broad estimates. Crop damages reports come from the USDA Risk Management Agency for Frontier County between 2000 and 2021.

Table FCO.18: County Hazard Loss History

Hazard Type		Count	Property Damage	Crop Damage ²
Animal & Plant Disease	Animal Disease ¹	3	4 Animals	N/A
	Plant Disease ²	11	N/A	\$103,983
Dam Failure⁵		2	Railroad Damage	N/A
Drought⁶		446 out of 1,525 months Avg. 8 Days a Year	\$1,000,000	\$72,665,837
Extreme Heat⁷			N/A	\$8,303,246
Flooding⁸	Flash Flood	24	\$755,000	\$64,427
	Flood	1	\$0	
Grass/Wildfires⁹		114	\$15,650	\$20,550
Hazardous Materials Release	Fixed Site ³	5	\$0	N/A
	Transportation ⁴	4	\$49,131	N/A
Public Health Emergency		2	N/A	N/A
Severe Thunderstorms⁸	Hail Range: 0.75 – 4.5 in. Average: 1.27 in.	283	\$4,097,200	\$1,951,530
	Thunderstorm Wind Range: 49 – 104 mph Average: 64 mph	82	\$6,775,100	
	Heavy Rain	1	\$0	
	Lightning	1	\$8,000	
	Blizzard	6	\$32,000	
Severe Winter Storms⁸	Extreme Cold/Wind Chill	3	\$0	\$5,697,920
	Heavy Snow	6	\$0	
	Ice Storm	1	\$0	
	Winter Storm	28	\$60,000	
	Winter Weather	0	\$0	

Hazard Type		Count	Property Damage	Crop Damage ²
Terrorism and Cyber Security¹⁰		0	\$0	N/A
Tornadoes and High Winds⁸	High Winds Range: 40 – 76 mph Average: 56 mph	35	\$6,000	\$1,561,321
	Tornadoes Range: EF0 – EF3 Average: EF1	19	\$758,000	\$2,150
Total		631	\$13,556,081	\$111,456,810

N/A: Data not available
 1 - NDA, 2014 – 2021
 2 - USDA RMA, 2000 – 2021
 3 - NRC, 1990 – 2021
 4 - PHSMA, 1971 – April 2022
 5 – DNR Communication, June 2022
 6 - NOAA, 1895 – May 2022
 7 – High Plains Regional Climate Center, 1905 – May 2022
 8 - NCEI, 1996 - February 2022
 9 - NFS, 2000 - 2020
 10 - University of Maryland, 1970-2019

Hazard Prioritization

The Hayes, Hitchcock, and Frontier Counties 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 Frontier 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 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*.

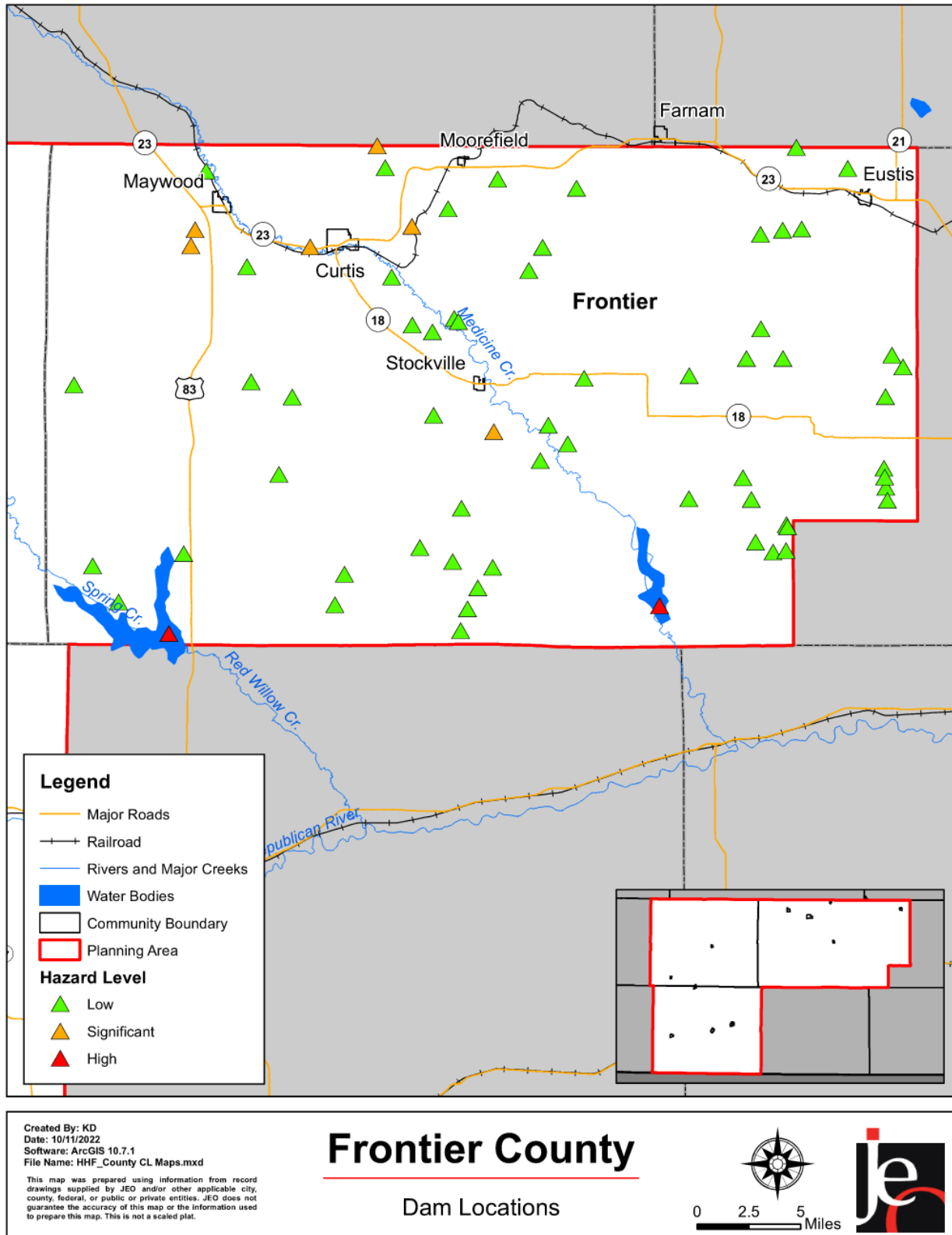
Dam Failure

While not identified as a hazard of top concern, there are two high hazard dams in the county. The Medicine Creek Dam is located along Medicine Creek and creates Harry Strunk Lake. Normal storage for the dam is 37,000 acre-feet. If the dam were to fail it would likely impact the City of Cambridge, Village of Holbrook, and City of Arapahoe. The other high hazard dam is the Red Willow Dam. This dam is located along Red Willow Creek and creates Hugh Butler Lake. The dam normally stores 37,700 acre-feet of water. If it were to fail, the City of Indianola, Village of Bartley, and City of Cambridge would likely be affected. The figure below shows the location of the dams in the county.

Drought

In 2012 the county experienced a severe drought and currently there is a prolonged drought in the county and region as whole that started in 2021. The current drought has led to an increased number of wildfires in the county due to dry vegetation. Frontier County is agriculturally based with a lot of the local economy depending on the farmers being able to grow crops to sell and use for feed. During times of drought, crop production decreases significantly which affects the local economy. Drought can also impact pastures for ranchers to be able to graze their cattle causing them to sell parts of their herd and increase food prices. In the future, better irrigation techniques and technology are needed to get water to crops more efficiently.

Figure FCO.7: Dam Locations



Flooding

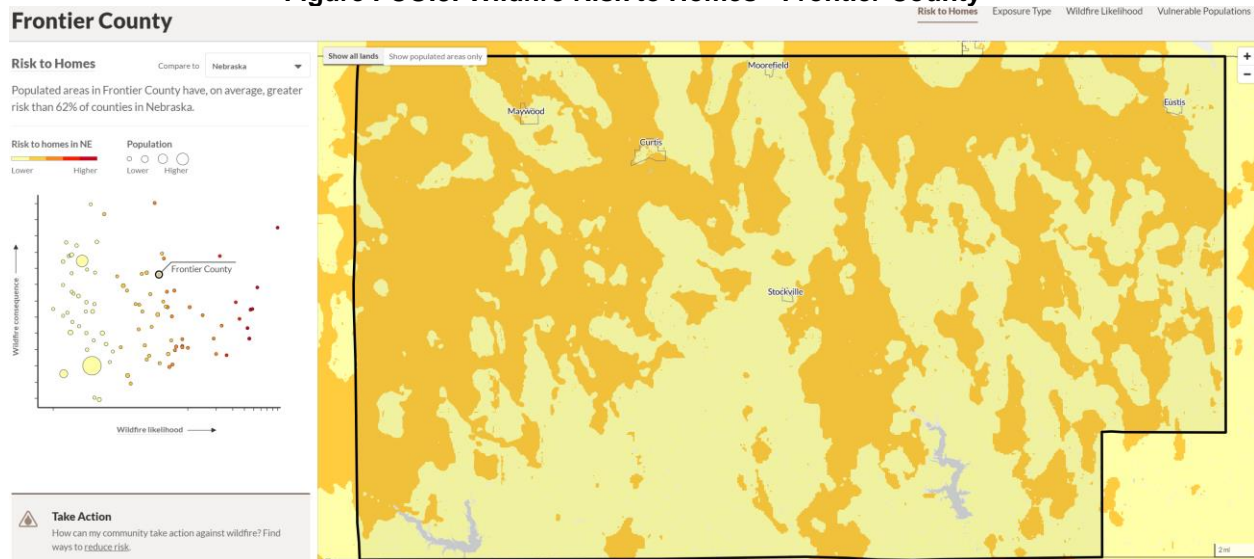
During the March 2019 floods, many county roads were damaged by flooding from heavy rain and snow melt runoff. Other pieces of infrastructure like culverts and bridges were also damaged in the event. Most of the floodplain in the county is located along Spring Creek, Medicine Creek and their tributaries. Flooding in the county mainly occurs in low lying areas and along creeks. To help reduce the risk of flooding, the county has cleaned out ditches and waterways for better drainage. Communicating with other agencies during an event is difficult due to poor cell service in the county and different radio frequencies of responding departments.

Grass/Wildfires

The county experienced several large wildfires in March and April of 2022. The largest reported fire burned a total of 2,000 acres of grassland in April 2000. Frontier County has a large amount of pasture and grassland which increases the risk to wildfires. A total of nine fire districts provide coverage to all areas of the county. All of the districts are made up of volunteer firefighters. Communicating with other agencies during an event is difficult due to poor cell service in the county and different radio frequencies of responding departments. In the future, additional controlled burns are needed to keep fuel under control as identified in the CWPP.

The figure below shows the greatest wildfire risk to homes is spread out across Frontier County. On average, populated areas in Frontier County have a greater risk than 62% of counties in Nebraska.

Figure FCO.8: Wildfire Risk to Homes - Frontier County

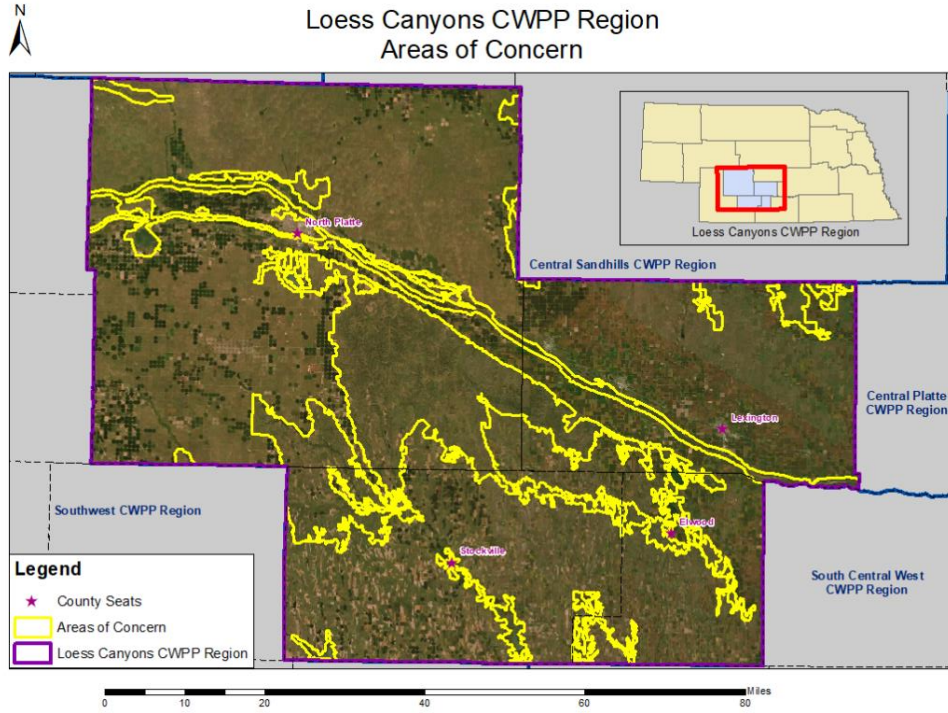


Source: USDA¹⁹

According to the Loess Canyons CWPP, eastern redcedar has become established in the county's northern and western areas along with the Medicine and Muddy Creek watersheds. There is also rough terrain in the northeast part of the county, which can cause access issues. In some rural areas, water supplies can be over 20 miles away. Identified areas of concern can be seen in the figures on the next page.

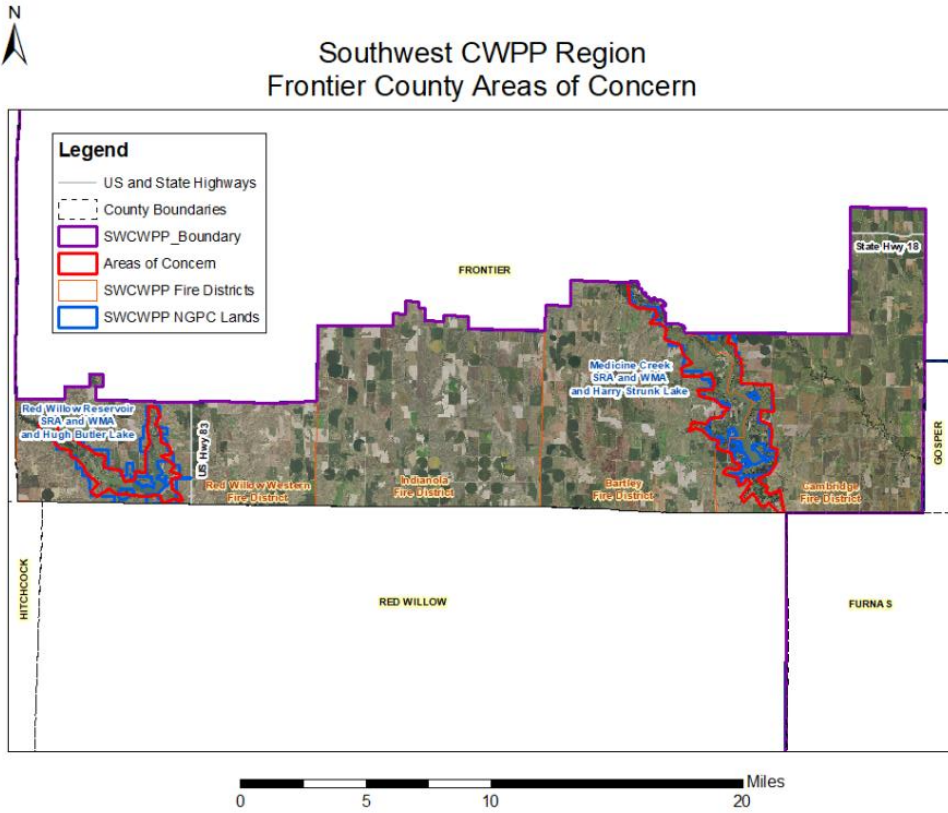
19 United States Department of Agriculture, United States Forest Service. 2022. "Wildfire Risk to Communities." <https://wildfirerisk.org/>.

Figure FCO.9: Wildfire Areas of Concern 1 of 2



Source: Nebraska Forest Service

Figure FCO.10: Wildfire Areas of Concern 2 of 2



Source: Nebraska Forest Service

Terrorism and Cyber Security

While the county has not experienced a terroristic or cyber security event, there is growing concern on cyber security over recent years. Cyber-attacks on counties and communities across the U.S has gotten more attention, especially with water systems. The primary concern for the local planning team is a cyber-attack on county business operations. This could come in the form of information theft or ransomware. Additional computer and internet security is needed for county staff and elected officials.

Tornadoes and High Winds

On May 17, 2019, the county experienced an EF3 tornado that caused \$113,000 in damages. The tornado touched down eight miles northeast of Stockville and damaged homes, farmsteads, center pivots, powerlines, and vehicles. The most damaging tornado occurred on Halloween 2000, causing \$250,000 in damage to a farm near Eustis. Citizen safety and property damage are the primary concerns related to tornadoes and high winds. Recently the Village of Maywood installed a new outdoor warning siren, but more warning sirens are needed in the county. Specifically, the village of Stockville would like a new siren and the areas around the two county lakes need a warning siren. In addition, safe rooms and storm shelters are also needed as there are none in county. Communicating with other agencies during an event is difficult due to poor cell service in the county and different radio frequencies of responding departments. Power loss is also a concern for the local planning team, as only a few buildings have backup generators.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Cyber Security Improvements
Description	Improve county internet and computer security. If needed work with a consulting IT firm to update security protocols and programs.
Hazard(s) Addressed	Terrorism and Cyber Security
Estimated Cost	\$50,000
Local Funding	Local Tax Base
Timeline	1 Year
Priority	High
Lead Agency	County Emergency Management
Status	In Progress. The county is currently creating cyber security protocols and plans.

Mitigation Action	Implement Actions Identified in the CWPP
Description	Implement actions identified in the CWPP and assist the county fire districts implement actions. Actions identified include increasing emergency preparedness, training and education, and fuels mitigation.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	Staff Time - \$100,000+
Local Funding	Local Tax Base
Timeline	5+ Years
Priority	Low
Lead Agency	County Emergency Management, Local Fire Departments
Status	Not Started. The county has the capability to implement this project.

Mitigation Action	Public Awareness and Education
Description	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 these hazards.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	County Emergency Management
Status	Not Started. The county has the capability to implement this project.

Mitigation Action	Storm Shelter and Safe Rooms
Description	Identify locations that are in need of a safe room or storm shelter. Construct or retrofit a building to be used as a safe room or storm shelter.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	\$100,000+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	County Emergency Management
Status	Not Started. The county does not have the capability to implement this project due to a lack of funding.

Kept Mitigation Actions

Mitigation Action	Alert and Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation. Install an outdoor siren at Stockville Fairground and the two county lakes.
Hazard(s) Addressed	Grass/Wildfires, Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	\$25,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	County Emergency Management
Status	Not Started. At this time all sirens are operable. Some of the sirens are getting very old. The county does not have the capability to implement this project due to a lack of funds.

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to the Courthouse emergency power backup.
Hazard(s) Addressed	Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$20,000 - \$35,000
Local Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Board of Commissioners, County Emergency Management
Status	Planning Phase. Frontier County is working on updating and adding onto the courthouse. May add a generator at that time.

Mitigation Action	Comprehensive Plan and Zoning Regulations Update
Description	Update Frontier County's existing comprehensive plan and zoning regulations to help guide public policy in terms of transportation, utilities, land use, recreation, and housing.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$15,000
Local Funding	Tax Revenue
Timeline	1 Year, Ongoing
Priority	High
Lead Agency	Board of Commissioners, Planning and Zoning Commission
Status	Not Started. An updated plan will be completed in 2024.

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$10,000+
Local Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	County Emergency Management
Status	Not Started. The county does not have the capabilities to implement this project due to limited funding.

Mitigation Action	Emergency Operations Center
Description	Construct a regional emergency operations tower and install a NOAA all hazards transmitter.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$140,000
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	County Emergency Management
Status	Not Started. The county has the capability to implement this project.

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) Addressed	Flooding
Estimated Cost	\$50,000
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Board of Commissioners, Roads Department
Status	This is an ongoing project as issues are identified.

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Hazard(s) Addressed	Extreme Heat, Drought, Flooding, Grass/Wildfire, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$75 per radio
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	County Emergency Management
Status	This is an ongoing project as needs are identified.

Removed Mitigation Actions

Mitigation Action	Participate or Maintain Good Standing in the NFIP
Description	Participate in the NFIP or maintain good standing with the NFIP including floodplain management practices/requirements and regulation enforcement and updates. Hitchcock County will be the main manager of Trenton’s participation in the NFIP. Hitchcock County will monitor and fully enforce floodplain management regulations as part of NFIP participation.
Hazard(s) Addressed	Flooding
Status	Removed as this is a maintenance action. The county will continue to maintain good standing with the NFIP.

Mitigation Action	Floodplain Development Ordinance Enforcement
Description	Continue floodplain management practices such as enforcement of floodplain management requirements, floodplain identification, and mapping. Continue to enforce local floodplain regulations for structures location in the 100-year floodplain.
Hazard(s) Addressed	Flooding
Status	Removed as this is a maintenance action. The county will continue to enforce floodplain regulations.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to ensure effectiveness and reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside county planning documents (e.g., 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.

County Emergency Management, County Commissioners, and the County Clerk will be responsible reviewing and updating this county profile outside of the five-year update. Frontier County will review the plan annually and the public will be notified through social media, website updates, and public county commission meetings.

Community Profile

City of Curtis

Hayes, Hitchcock, and Frontier Counties Hazard Mitigation Plan

2023

Local Planning Team

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

Table CRT.1: Curtis Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Andrew Lee	City Administrator / Floodplain Administrator / Clerk / Treasurer	City of Curtis	Curtis	1-on-1

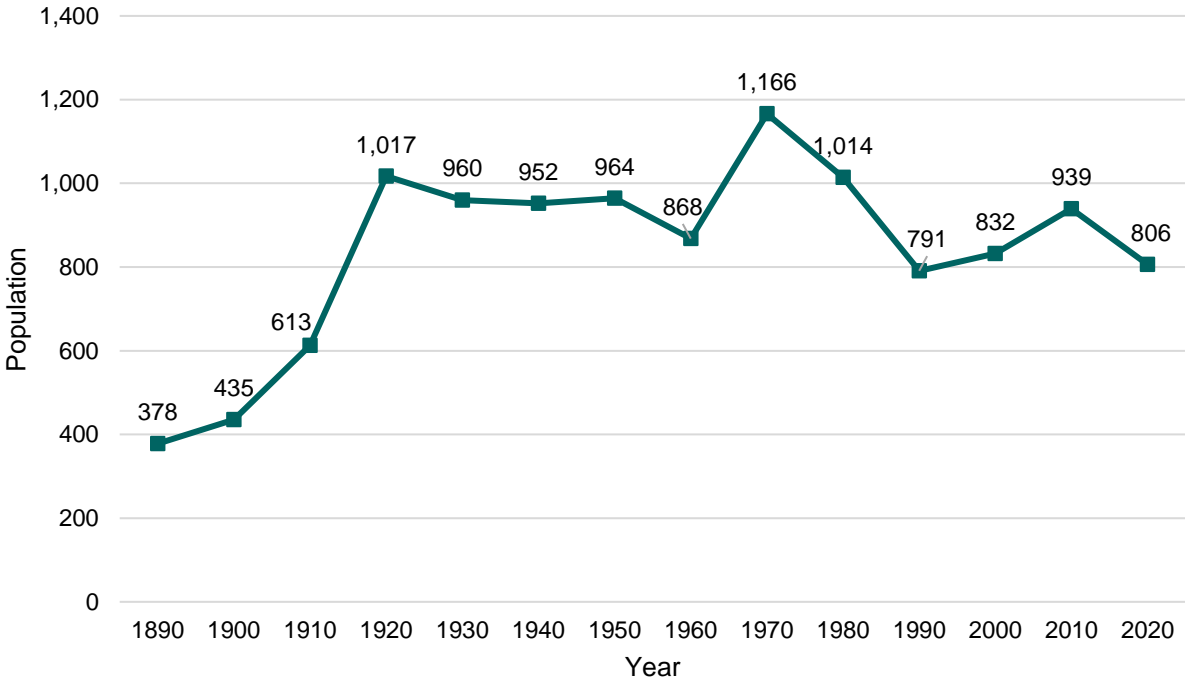
Location and Geography

The City of Curtis is in north-central Frontier County and covers an area of 1.2 square miles. It is the largest community in Frontier County. The Nebraska College of Technical Agriculture is located in the city. Medicine Creek flows on the southern border and Fox Creek flows northeast of the city.

Demographics

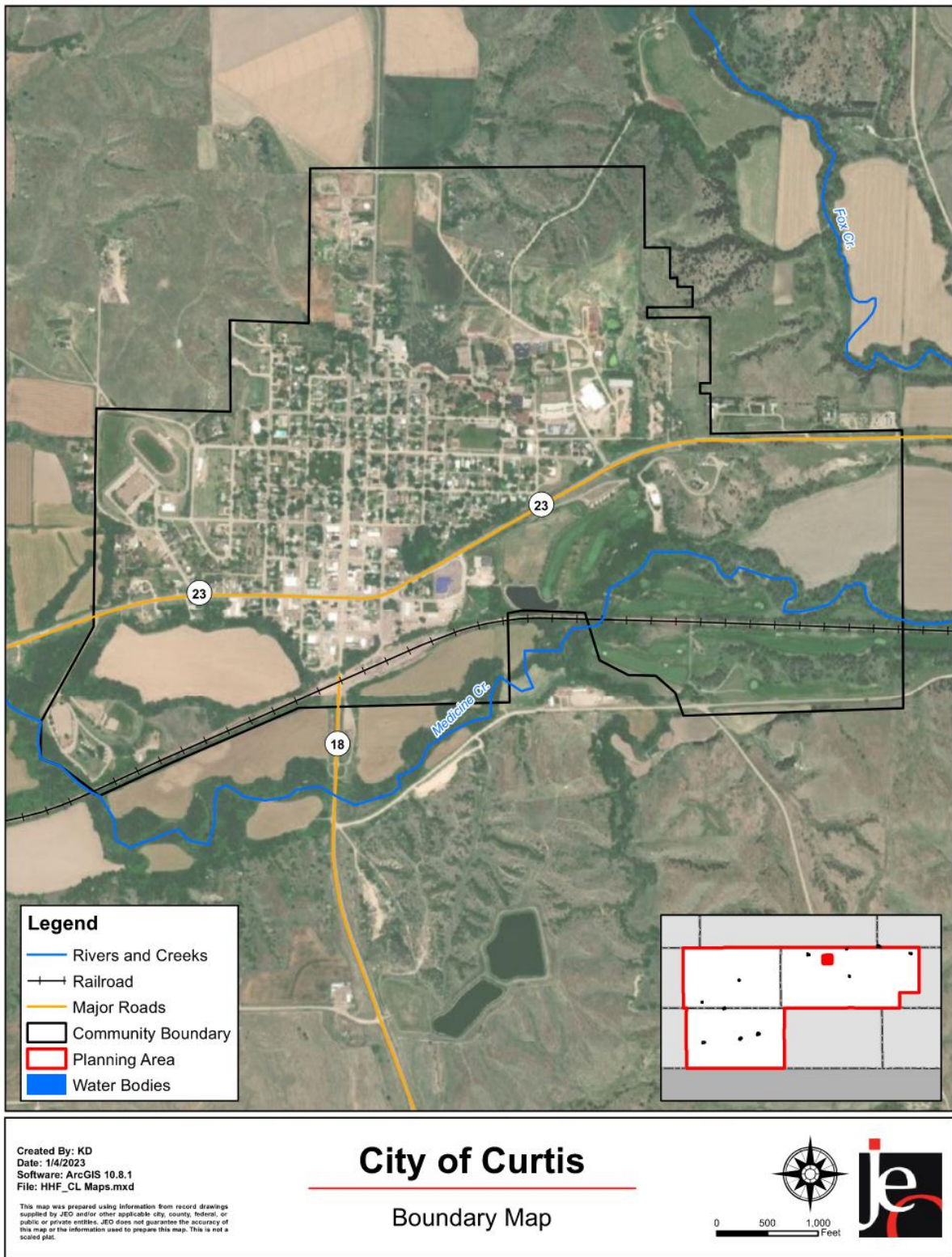
The following figure displays the historical population trend for the City of Curtis. This figure indicates that the population of Curtis has been declining since 2010 to 806 people in 2020. A declining population can lead to more unoccupied and unmaintained housing that is then at risk to high winds 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 community, which could make implementing mitigation projects more fiscally challenging. Curtis’s population accounted for 32% of Frontier County’s population in 2020.²⁰

Figure CRT.1: Population 1890 - 2020



20 United States Census Bureau. “2020 Census Bureau Decennial Census: P1: Race.” <https://data.census.gov/>.

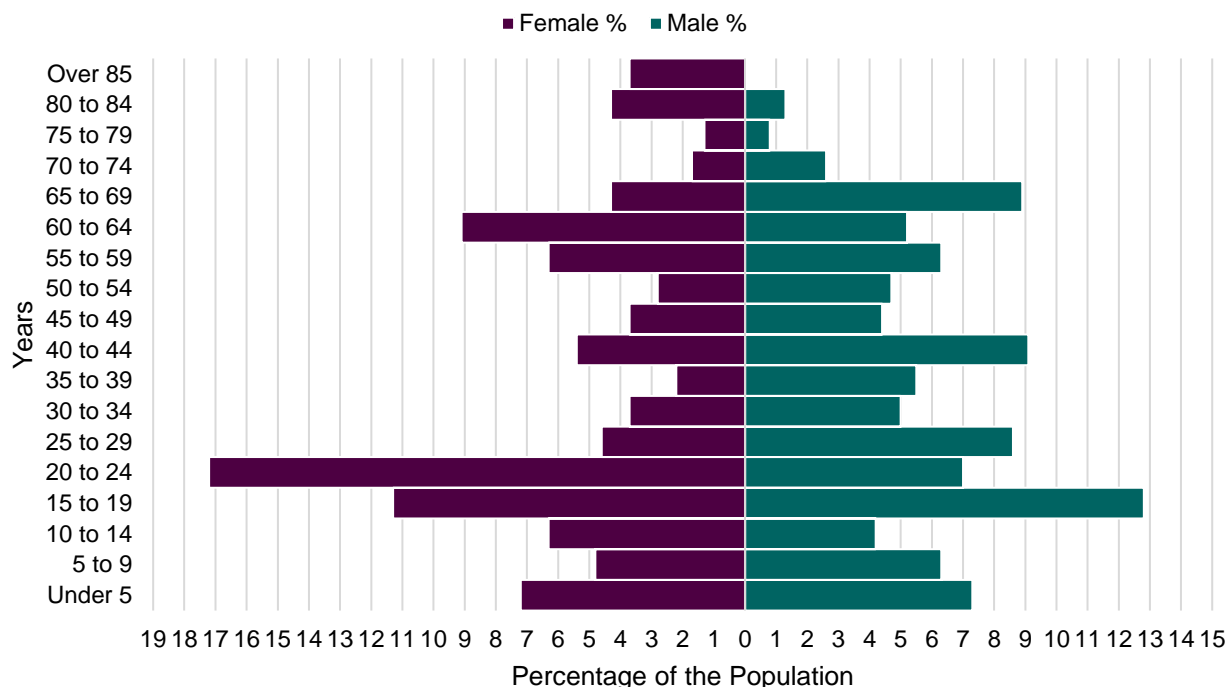
Figure CRT.2: City of Curtis



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

- **7.1% is non-white.** Since 2010, Curtis became more ethnically diverse. In 2010, 2.3% of the Curtis’s population was non-white. By 2020, 7.1% was non-white.²¹
- **Median age of 30.8.** The median age of Curtis was 30.8 years old in 2020. The population became older since 2010, when the median age was 25.9.²²

Figure CRT.3: Curtis’s Population Pyramid



The figure above shows Curtis’s population percentage broken down by sex and five-year age groups. Curtis’s population is bottom heavy, suggesting a greater number of young families and children who will likely contribute to an increasing population in the future.

Employment and Economics

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

- **21.1% of people living below the poverty line.** The poverty rate (21.1%) in the City of Curtis was higher than the state’s poverty rate (10.4%) in 2020.²³
- **\$45,357 median household income.** Curtis’s median household income in 2020 (\$45,357) was \$17,658 lower than the state (\$63,015).²³
- **7.4% unemployment rate.** In 2020 Curtis has a higher unemployment rate (7.4%) when compared to the state (3.4%).²³

21 United States Census Bureau. “2020 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates.” <https://data.census.gov/>.

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

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

- **21.2% of workers commuted 30 minutes or more to work.** Fewer workers in Curtis commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (21.2% compared to 71.8%).²⁴

Major Employers

Major employers in the community include the University of Nebraska and Consolidated Telephone/Internet. A large portion of residents commute to North Platte, McCook, or Gothenburg for employment.

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 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. 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. Curtis's housing stock has:

- **66.9% of housing built prior to 1970.** Curtis has a larger share of housing built prior to 1970 than the state (66.9% compared to 45.5%).²⁵
- **18.7% of housing units vacant.** Curtis has a higher vacancy rate 18.7% compared to the rest of the state (9.2%).²⁵
- **2.2% mobile and manufacture housing.** The City of Curtis has a smaller share of mobile and manufactured housing (2.2%) compared to the state (3.3%).²⁵ There are no mobile home parks in the community. Individual mobile homes are scattered throughout the city.
- **39.6% renter-occupied.** The rental rate of Curtis was 39.6% in 2020. This is higher than the state's rate of 33.8%.²⁵

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.

- **73.3% of households have a broadband internet subscription.** Curtis has a smaller share of households with broadband (73.3%) compared to the state (85.6%).²⁶

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

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

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

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 Curtis is governed by a city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- City Administrator/Clerk/Treasurer/Floodplain Administrator
- Utility Superintendent
- Fire Department
- Planning Commission

Capability Assessment

The planning team assessed the City of Curtis’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. The local planning team is unsure whether capabilities will be improved on or added to in the future.

Municipal funds are sufficient to pursue capital projects in some areas, but in others it is limited to maintaining current facilities and systems. Funds have moderately increased over recent years.

Table CRT.2: Capability Assessment

Capability/Planning Mechanism		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes (State)
	National Flood Insurance Program	Yes
	Community Rating System	No
	Regional Community Wildfire Protection Plan	Yes
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	Yes (Contracted)
	Local staff who can assess community’s vulnerability to hazards	Yes

Capability/Planning Mechanism		Yes/No	
	Grant Manager	No	
	Mutual Aid Agreement	Yes	
	Other (if any)	-	
Fiscal Capability	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	Yes	
	Other (if any)	-	
	Education & Outreach Capability	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
Natural disaster or safety related school programs		No	
StormReady Certification		No	
Firewise Communities Certification		No	
Tree City USA		Yes	
Other (if any)		-	

Table CRT.3: Overall Capability

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Moderate
Public support to implement projects	Unsure
Time to devote to hazard mitigation	Limited

Social Vulnerability

FEMA’s National Risk Index is a new mapping tool that analyzes a community’s risk to natural hazards on a scale of 0 (lowest possible value) to 100 (highest possible value). The overall risk for Frontier County, which includes Curtis, is Very Low (6.86). The average for the State of Nebraska is 9.43.²⁷

²⁷ Federal Emergency Management Agency. “National Risk Index”. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

- **Social Vulnerability:** Social groups in Frontier County have a Relatively Moderate (37.92) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- **Community Resilience:** Communities in Frontier County have a Relatively Moderate (53.95) 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 (no capacity) to 100 (high capacity). This index is based on 10 variables that can function as proxies for community capacity. The following table lists the components and scores for the City of Curtis compared to the county.

Table CRT.4: Rural Capacity Index

Components of Index	City of Curtis	Frontier County
County is Metropolitan?	No	No
Has a Head of Planning?	Yes	Yes
Has a College or University?	Yes	Yes
Adults with Higher Education:	21%	22%
Families Below Poverty Level:	22%	8%
Households with Broadband:	73%	73%
People without Health Insurance:	8%	10%
Voter Turnout:	77%	77%
Income Stability Score (0 to 100):	42	42
Population Change (2000 to 2019):	-21	-472
Overall Rural Capacity Index Score	54 out of 100	75 out of 100

Source: Headwaters Economics²⁸

National Flood Insurance Program (NFIP)

Curtis is a member of the NFIP having joined on 4/2/2008, and the city’s Floodplain Administrator (Andrew Lee) oversees the commitments and requirements of the NFIP including enforcement of the local floodplain management regulations. The initial FIRM for the city was delineated in 4/2/2008 and the current effective map date is 4/2/2008, which has been adopted and incorporated into the local floodplain management regulations in 2008. As of August 31, 2021, there are no NFIP policies in-force for the city. Curtis does not currently have any repetitive loss or severe repetitive loss structures. The city requires building permits for all new construction. The permits are reviewed by the floodplain administrator to see if they are located in the floodplain. Any found violations are sent a letter and could be forced to fix the issue if not done voluntarily. After a flood event, the community implements substantial improvement and substantial damage provisions as outlined in the Substation Damage Assessment Handbook from the Nebraska Department of Natural Resources, which can be found here: https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/floodplain/resources/20220301_eSDA_Handbook_FINAL.pdf. The local planning team has said the community will remain in good standing and will continue involvement with the NFIP in the future.

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

Plans and Studies

Curtis has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the city updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update.

Capital Improvements Plan (2021)

The capital improvements plan annually outlines projects the city would like to pursue and provides a planning schedule and financing options. Projects include stormwater improvements, upgrading the storm sewer system, installing new municipal wells, upsizing water distribution pipes, installing water meters, updating the electrical distribution system, and installing backup generators. Projects identified in the hazard mitigation plan will be reviewed for inclusion in the next capital improvements plan.

Comprehensive Plan (2021)

The comprehensive plan is designed to guide the future actions and growth of the city. The hazard mitigation plan has not been integrated; however, it contains goals and objectives aimed at safe growth, encourages infill, and discusses severe storms, blizzards, and flooding. There is currently no timeline to update the comprehensive plan.

Floodplain Regulations (2008), Zoning Ordinance, Subdivision Regulations

The city's floodplain regulations, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. Due to their age, the hazard mitigation plan has not been integrated with these documents. However, they do add additional regulations and requirements for construction in the floodplain. There is no timeline to update these documents.

Frontier County Local Emergency Operations Plan (2017)

Curtis is an annex in the Frontier County Local Emergency Operations Plan (LEOP). The hazard mitigation plan has not been integrated with this plan, however, 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. Flooding, dam failure, and mass shelter information from the LEOP was used to inform hazard prioritization and community lifelines.

Water System Emergency Response Plan (2020)

A water system emergency response plan serves as a guideline for water operators and city administration to minimize the disruption of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and human-caused events and discusses the water system's response during those events. The hazard mitigation plan has not been integrated with this plan.

Future Development Trends

Over the past five years, the city added a new employer and some additional housing. The additional housing stock increases the city’s vulnerability to hazards as more property could be damaged. However, the vulnerability increase may be minimal as none of the structures were developed in the floodplain or other known hazardous areas. In the next five years, new housing developments are planned on the southwest and south side of the city. This is consistent with the expected population growth in the community.

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 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 Curtis.

Table CRT.5: Safety and Security Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
1	Community Center / City Offices	-	N

Food, Water, Shelter

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

Table CRT.6: Food, Water, and Shelter Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
2	Berean Bible Church	S	N
3	Jr/Sr High School	S	N
4	Nebraska School of Technical Agriculture	S	N

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 community.

Table CRT.7: Health and Medical Lifelines

CL Number	Name	Type of Facility	Number of Beds	Generator (G) Shelter (S)	Floodplain (Y/N)
5	Curtis Medical Center	Rural Health Clinic	0	-	N
6	Senior Living Choices at Curtis	Assisted Living	20	-	N

Source: Nebraska Department of Health and Human Services^{29,30,31,32}

Energy

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

Table CRT.8: Energy Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
7	City Generation Plant	G	N

Communications

Components of the Communications Lifeline include communication infrastructure, alerts, 911 dispatch, responder communications, and finance. No communication lifelines were identified by the local planning team.

Transportation

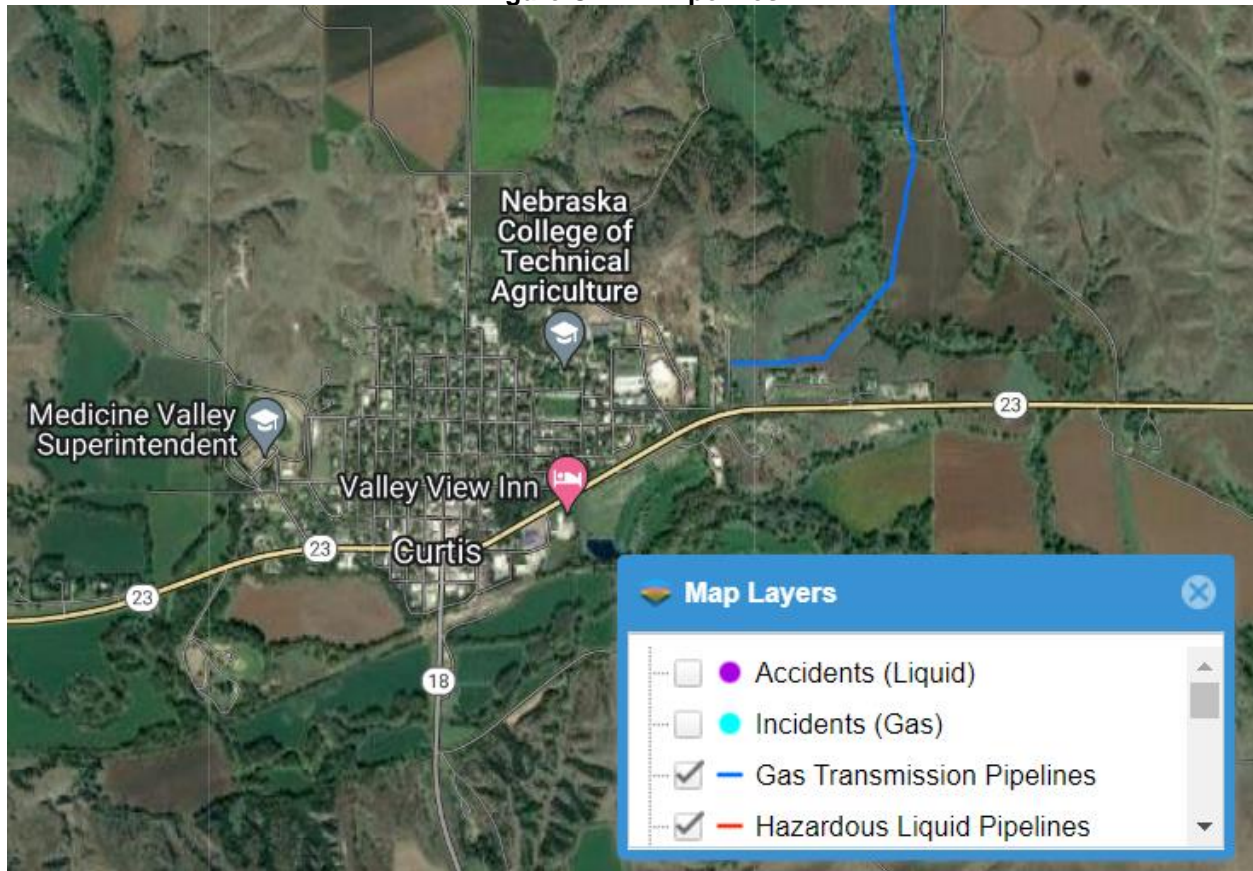
Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Curtis’s major transportation corridors include State Highways 18 and 23. The most traveled route is Highway 23 with an average of 1,255 vehicles daily, 105 of which are trucks.³³ Curtis has one Nebraska, Kansas, Colorado rail line traveling east to west on the southern edge of the community. The Curtis Municipal Airport is located two miles east of the community. 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.

Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. There is one gas transmission pipeline that travels near the community and can be seen on the figure below.

29 Department of Health and Human Services. 2022. “State of Nebraska: Assisted Living Facilities.” <https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.
 30 Department of Health and Human Services. 2022. “State of Nebraska Roster: Hospitals.” <https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.
 31 Department of Health and Human Services. 2022. “State of Nebraska Roster: Long Term Care Facilities.” <https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.
 32 Department of Health and Human Services. 2022. “State of Nebraska Roster: Rural Health Clinic.” https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.
 33 Nebraska Department of Transportation. 2021. “Annual Average Daily Traffic Flow.” Accessed July 2022. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

Figure CRT.4: Pipelines



Source: National Pipeline Mapping System³⁴

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical site within or near Curtis which house hazardous materials (listed below).

Table CRT.9: Chemical Storage Lifelines

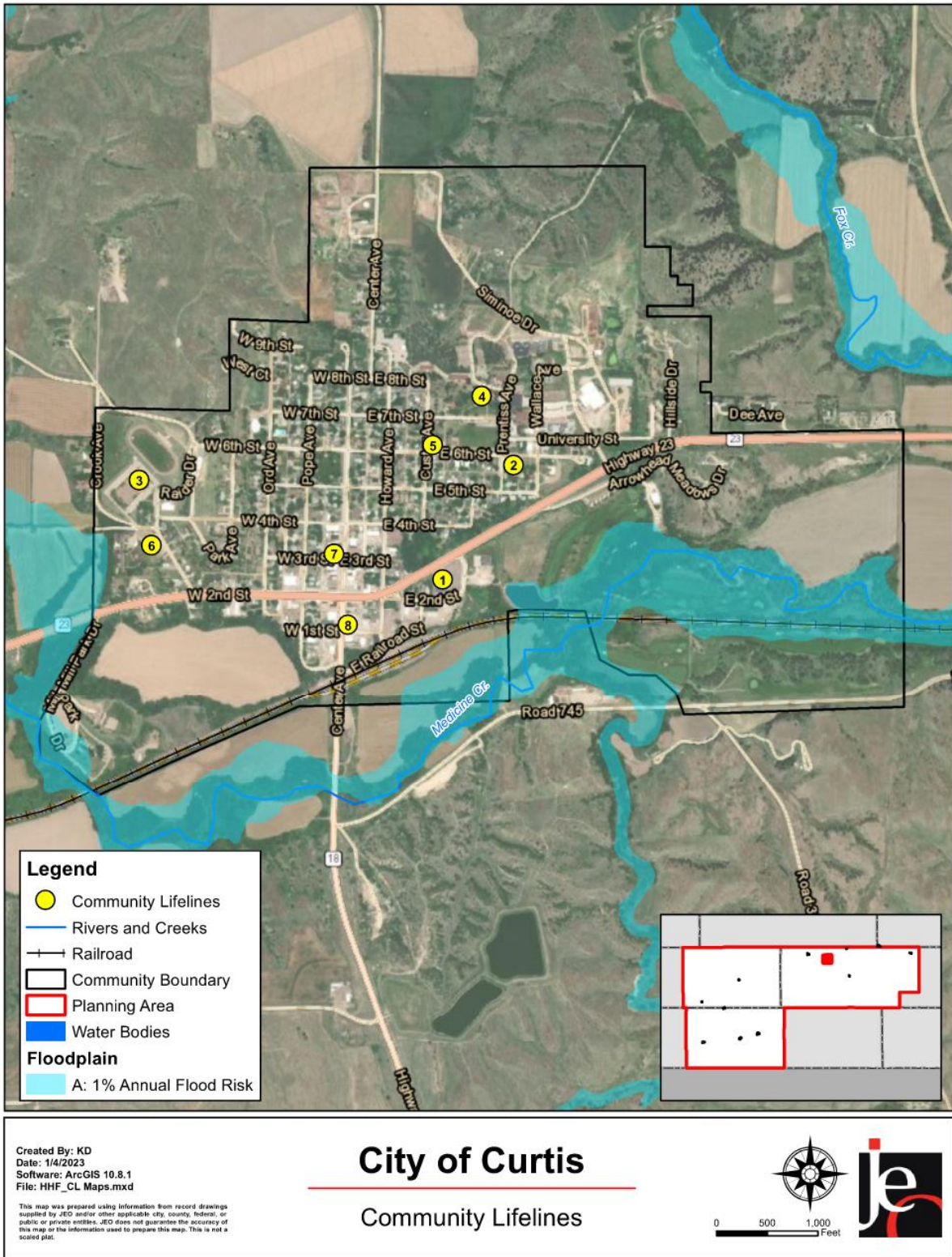
CL Number	Name	Generator (G)	Floodplain (Y/N)
8	Consolidated Telephone Co	-	

Source: Nebraska Department of Environment and Energy³⁵

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

35 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed May 2022.

Figure CRT.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 CRT.10: 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
273	\$22,176,820	4	\$345,365	1.5%

Source: County Assessor, 2021

Historical Occurrences

See the Frontier County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The Hayes, Hitchcock, and Frontier Counties 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 Curtis 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 Curtis. 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*.

Flooding

NCEI data shows one flash flood event in Curtis since 1996. There were no reported damages from the event. Three inches of rain in two house caused flooding of streets in the community. The southern portion of the city is the area most likely to flood. According to the Risk Factor website, Curtis has a minor risk of flooding with six properties and two miles of roads having a greater than 26% chance of being affected by flooding over the next 30 years. That risk is unlikely to change in the next 30 years.³⁶

Severe Winter Storms

Severe winter storms are a regular occurrence for the City of Curtis. Past events have damaged electrical lines causing power outages. Road conditions have also been impacted causing hazardous travel conditions and delayed response times for local first responders. Loss of power is the primary concern for the local planning team. The city has completed some projects to help increase the resilience of the power grid but more needs to be done. The local planning team would like to add additional generation capacity and bury more power lines.

³⁶ Risk Factor. "Flood Factor: Curtis, Nebraska". Accessed January 2023. https://riskfactor.com/city/curtis-ne/3111825_fsid/flood.

Tornadoes and High Winds

No tornadoes have been reported for the city. However, that does not mean one cannot occur in the future. The primary concern regarding tornadoes and high winds is damage to structures and loss of power from downed tree limbs and power lines. Some power line projects have been completed to reduce vulnerabilities, but additional actions are needed. The local planning team would like to add additional generation capacity and bury more power lines.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	New Well
Description	Determine if a new well is needed or if the well that is not in use can be improved. Drill a new well if needed.
Hazard(s) Addressed	Drought
Estimated Cost	\$250,000+
Local Funding	Utilities Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Utilities Department, City Administrator
Status	Not Started

Mitigation Action	Public Awareness and Education
Description	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 these hazards.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City Administrator
Status	Not Started. The city has the capability to implement this project.

Mitigation Action	Water and Sewer Line Replacement/Upgrades
Description	Upgrade or replace water and sewer lines in the city.
Hazard(s) Addressed	Drought, Flooding
Estimated Cost	\$10,000-\$100,000+
Local Funding	Utilities Budget
Timeline	Ongoing
Priority	Medium
Lead Agency	Utilities Department
Status	Ongoing. Upgrades and replacements are made as issues are identified and funds are available.

Kept Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other community lifelines.
Hazard(s) Addressed	Extreme Heat, Flooding, Grass/Wildfires, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$20,000+ per Generator
Local Funding	Electrical Department Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Electrical Department
Status	Planning Stage. Looking at additional capacity but funding is still needed.

Mitigation Action	Bury Power and Service Lines
Description	Bury power or service lines for protection during weather events.
Hazard(s) Addressed	Grass/Wildfires, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$60,000 - \$80,000 per Mile
Local Funding	Electrical Department Budget
Timeline	Unknown
Priority	Medium
Lead Agency	Electrical Department
Status	In Progress. Some lines have been buried but more lines still need to be buried.

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, or continuing educational opportunities for current personnel.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$5,000+
Local Funding	City Budget
Timeline	2-5 Years
Priority	Low
Lead Agency	City Administrator
Status	In progress. The city vehicles are replaced when they no longer work and cannot be repaired.

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications. Purchase new emergency communication equipment.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$10,000+
Local Funding	Utilities Budget, City Budget
Timeline	1 Year
Priority	High
Lead Agency	Utilities Department, City Administrator
Status	Planning Stage

Mitigation Action	New Alternate Power Source
Description	Investigate, develop, and implement new alternative sources of power.
Hazard(s) Addressed	Extreme Heat, Flooding, Grass/Wildfire, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$500,000+
Local Funding	City Budget
Timeline	1-3 Years
Priority	High
Lead Agency	Mayor, City Council, Middle Republican NRD
Status	Planning Stage. Currently looking into different options and locations.

Removed Mitigation Actions

Mitigation Action	Alert and Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Status	Removed. The city does not need any new alert sirens.

Mitigation Action	Dam Engineering Analysis, Repairs, and Reinforcements
Description	Conduct a preliminary engineering analysis for dam repairs and reinforcement. Dams serve to provide flood protection to businesses and residents during large storm events. Improvements to existing dams will increase flood protection. The Emergency Action Plan, Dam Breach Analysis, and/or inspection/safety equipment training may need to be updated along with improvements.
Hazard(s) Addressed	Dam Failure
Status	Removed. This action would be handled by the NRD.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to ensure effectiveness and reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., 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 Administrator will be responsible for reviewing and updating this community profile outside of the five-year update. Curtis will review the plan bi-annually and the public will be notified during a city council meeting.

Community Profile

Village of Maywood

Hayes, Hitchcock, and Frontier Counties Hazard Mitigation Plan

2023

Local Planning Team

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

Table MWD.1: Maywood Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Jerry Mullen	Board Chairperson	Village of Maywood	Curtis	Curtis

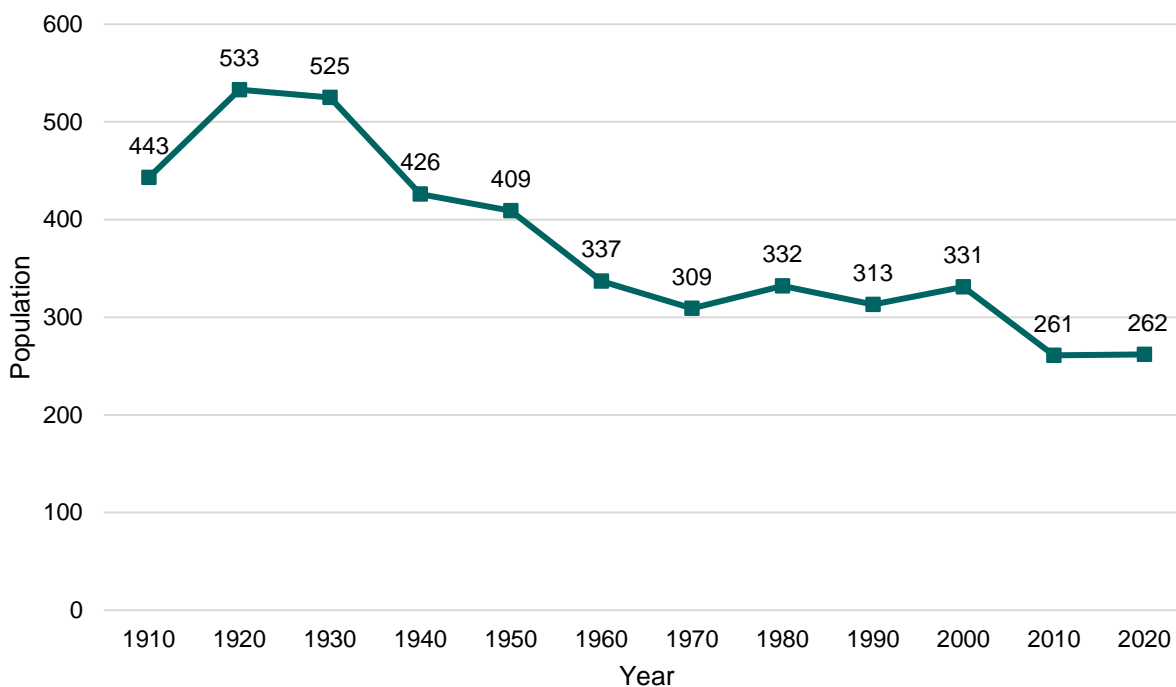
Location and Geography

The Village of Maywood is in northwestern Frontier County and covers an area of 0.63 square miles. Medicine Creek runs directly east of the village.

Demographics

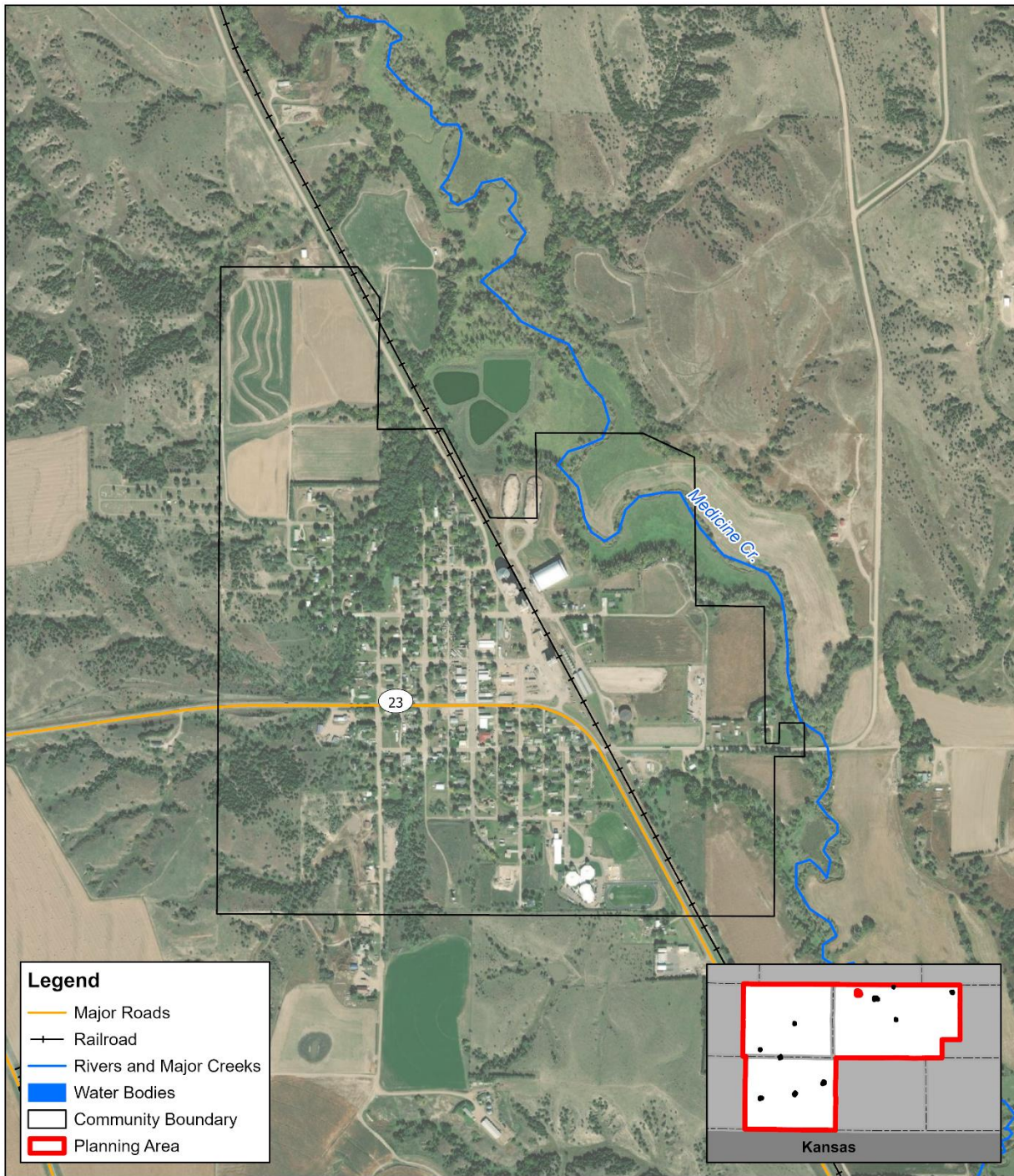
The following figure displays the historical population trend for the Village of Maywood. This figure indicates that the population of Maywood has been increasing since 2010 to 262 people in 2020. Increasing populations are associated with more robust hazard mitigation and emergency planning requirements for development. Growing populations can also increase tax revenues, allowing communities to pursue additional mitigation projects. Maywood’s population accounted for 10.4% of Frontier County’s population in 2020.³⁷

Figure MWD.1: Population 1910 - 2020



37 United States Census Bureau. “2020 Census Bureau Decennial Census: P1: Race.” <https://data.census.gov/>.

Figure MWD.2: Village of Maywood

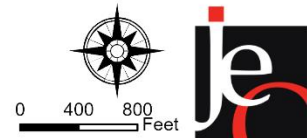


Created By: NL
 Date: 5/26/2022
 Software: ArcGIS Pro 2.8
 File Name: HHCommunityBasemap.mxd

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.

Village of Maywood

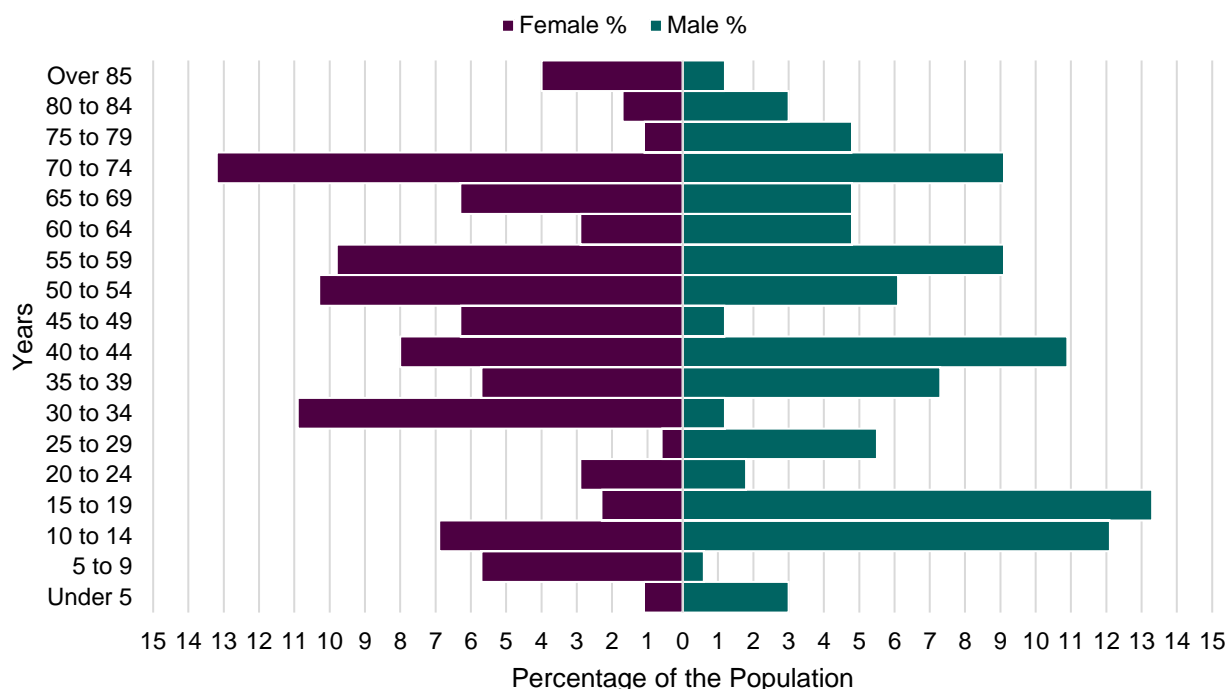
Boundary Map



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

- **9.9% is non-white.** Since 2010, Maywood became more ethnically diverse. In 2010, 2.7% of the Maywood’s population was non-white. By 2020, 9.9% was non-white.³⁸
- **Median age of 45.1.** The median age of Maywood was 45.1 years old in 2020. The population became younger since 2010, when the median age was 48.3.³⁹

Figure MWD.3: Maywood’s Population Pyramid



The figure above shows Maywood’s population percentage broken down by sex and five-year age groups. 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 like extreme heat and flooding than other groups. Maywood’s population has:

- **15.6% of people living below the poverty line.** The poverty rate (15.6%) in the Village of Maywood was higher than the state’s poverty rate (10.4%) in 2020.⁴⁰
- **\$48,625 median household income.** Maywood’s median household income in 2020 (\$48,625) was \$14,390 lower than the state (\$63,015).⁴⁰
- **10.4% unemployment rate.** In 2020 Maywood has a higher unemployment rate (10.4%) when compared to the state (3.4%).⁴⁰

38 United States Census Bureau. “2020 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates.” <https://data.census.gov/>.

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

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

- **47.7% of workers commuted 30 minutes or more to work.** Slightly more workers in Maywood commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (47.7% compared to 47.2%).⁴¹

Major Employers

Major employers in the Village of Maywood are Ag Valley Co-op and Maywood Public Schools. The local planning team indicated that many residents commute to North Platte, McCook, or Curtis for employment.

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 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. 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. Maywood's housing stock has:

- **69.9% of housing built prior to 1970.** Maywood has a larger share of housing built prior to 1970 than the state (69.9% compared to 45.5%).⁴²
- **15.6% of housing units vacant.** Maywood has a higher vacancy rate 15.6% compared to the rest of the state (9.2%).⁴²
- **10.2% mobile and manufacture housing.** The Village of Maywood has a larger share of mobile and manufactured housing (10.2%) compared to the state (3.3%).⁴²
- **26.1% renter-occupied.** The rental rate of Maywood was 26.1% in 2020. This is lower than the state's rate of 33.8%.⁴²

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.

- **91.1% of households have a broadband internet subscription.** Maywood has a larger share of households with broadband (91.1%) compared to the state (85.6%).⁴³

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

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

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

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 Maywood 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
- Sheriff
- Street/Water Commissioner
- Building Official

Capability Assessment

The planning team assessed the Village of Maywood'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. The local planning team does not anticipate improving or adding to existing capabilities. This is due to a lack of funding and a lack of personnel available to implement new capabilities.

Village funds are limited to maintaining current facilities and systems with a large portion of funds already dedicated to water, sewer, and street improvements. Funds have stayed the same over recent years.

Table MWD.2: Capability Assessment

Capability/Planning Mechanism		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	Yes
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Regional Community Wildfire Protection Plan	Yes
	Other (if any)	Water System Emergency Response Plan, Wellhead Protection Plan
Administrative & Technical	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	No

Capability/Planning Mechanism		Yes/No
Capability	Chief Building Official	Yes
	Civil Engineering	No
	Local staff who can assess community's vulnerability to hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	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)	-
Education & Outreach Capability	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
	Natural disaster or safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Table MWD.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

Social Vulnerability

FEMA’s National Risk Index is a new mapping tool that analyzes a community’s risk to natural hazards on a scale of 0 (lowest possible value) to 100 (highest possible value). The overall risk for Frontier County, which includes Maywood, is Very Low (6.86). The average for the State of Nebraska is 9.43.⁴⁴

- **Social Vulnerability:** Social groups in Frontier County have a Relatively Moderate (37.92) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- **Community Resilience:** Communities in Frontier County have a Relatively Moderate (53.95) 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 (no capacity) to 100 (high capacity). This 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 Maywood compared to the county.

Table MWD.4: Rural Capacity Index

Components of Index	Village of Maywood	Frontier County
County is Metropolitan?	No	No
Has a Head of Planning?	No	Yes
Has a College or University?	No	Yes
Adults with Higher Education:	16%	22%
Families Below Poverty Level:	7%	8%
Households with Broadband:	87%	73%
People without Health Insurance:	14%	10%
Voter Turnout:	77%	77%
Income Stability Score (0 to 100):	42	42
Population Change (2000 to 2019):	19	-472
Overall Rural Capacity Index Score	46	75

Source: Headwaters Economics⁴⁵

National Flood Insurance Program (NFIP)

Maywood is a member of the NFIP having joined on 4/2/2008, and the village’s Floodplain Administrator (McKenzie Dowse) oversees the commitments and requirements of the NFIP including enforcement of the local floodplain management regulations. The initial FIRM for the village was delineated in 4/2/2008 and the current effective map date is 4/2/2008, which has been adopted and incorporated into the local floodplain management regulations. As of August 31, 2021, there are no NFIP policies in-force for the village. Maywood does not currently have any repetitive loss or severe repetitive loss structures. The village requires permits for any development in the floodplain and violators will be referred to the County Attorney. After a flood event, the community implements substantial improvement and substantial damage provisions as outlined in the Substation Damage Assessment Handbook from the Nebraska Department of

44 Federal Emergency Management Agency. “National Risk Index”. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

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

Natural Resources, which can be found here: https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/floodplain/resources/20220301_eSDA_Handbook_FINAL.pdf. The local planning team has said the Village of Maywood will remain in good standing and will continue involvement with the NFIP in the future.

Plans and Studies

Maywood has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. The current hazard mitigation plan will be reviewed for inclusion during any new plan or study development.

Building Code

The building code sets standards for constructed buildings and structures. The village's building code is not based on the International Building Codes and has not been integrated with the hazard mitigation plan. Enforcement of the building code is handled by the County Attorney.

Capital Improvements Plan

The capital improvements plan outlines projects the village would like to pursue and provides a planning schedule and financing options. Projects include street improvements, water system upgrades, sewer improvements, and installing emergency generators in community lifelines. The hazard mitigation plan has not been integrated with the capital improvements plan. Projects identified in the plan were reviewed for inclusion as mitigation actions.

Floodplain Regulations and Zoning Ordinance

The village's floodplain regulations and zoning ordinance outline where and how development should occur in the future. The hazard mitigation plan has not been integrated with these documents. However, the documents discourage development in the floodplain, discourage housing and vulnerable populations near chemical storage sites, include well setback requirements, and consider the wildland urban interface. There are currently no plans to update the floodplain regulations or zoning ordinance.

Frontier County Local Emergency Operations Plan (2022)

Maywood is an annex in the Frontier County Local Emergency Operations Plan (LEOP). The hazard mitigation plan has not been integrated with this plan, however, 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. Flooding, dam failure, and mass shelter information from the LEOP was used to inform hazard prioritization and community lifelines.

Water System Emergency Response Plan

A water system emergency response plan serves as a guideline for water operators and village administration to minimize the disruption of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and human-caused events and discusses the water system's response during those events. It also includes contact information for vital individuals. The hazard mitigation plan has not been integrated with this plan.

Wellhead Protection Plan

The purpose of wellhead protection plans is to protect the public drinking source water supply from contamination. It includes identifying potential sources of groundwater contamination in the area and managing the potential contaminant sources. The hazard mitigation plan has not been integrated with this plan.

Future Development Trends

Over the past five years, a couple of new businesses have moved into the community. The new businesses likely increased the village’s vulnerability to hazards because there is now more property that could potentially be damaged. However, the increased vulnerability is minimized as none of the new structures were developed in the floodplain or other known hazardous areas. In the next five years, there are currently no plans for new housing or commercial developments. This is consistent with the projected population decline.

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 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 Maywood.

Table MWD.5: Safety and Security Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
1	Fire Department	-	N
2*	Frontier County Sheriff	-	N
3	Maywood Public School	S	N

**Not mapped but located in the City of Curtis*

Food, Water, Shelter

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

Table MWD.6: Food, Water, and Shelter Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
4	Well 1	G	N
5	Well 2	G	N

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 community.

Table MWD.7: Health and Medical Lifelines

CL Number	Name	Type of Facility	Number of Beds	Generator (G)	Floodplain (Y/N)
6*	Curtis Medical Clinic	Rural Health Clinic	0	-	N

*Not mapped but located in the City of Curtis

Source: Nebraska Department of Health and Human Services^{46,47,48,49}

Energy

Energy Lifeline components include power, the power grid, and fuel. Maywood did not identify any energy lifelines.

Communications

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

Table MWD.8: Communications Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
7	Storm Siren	G	N

Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Maywood’s major transportation corridor includes State Highway 23. US Highway 83 is located near the community and is also a concern due the large amount of traffic. It has an average of 1,700 vehicles daily, 125 of which are trucks.⁵⁰ Maywood has Nebraska, Kansas, Colorado Railway line traveling north to south on the eastern portion of the community. The Frontier Field private airport is located six miles southwest of the community. 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. No large transportation accidents have occurred in the village.

Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. There are no gas or hazardous liquid pipelines that travel near the community.⁵¹ According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical sites within or near Maywood which house hazardous materials (listed below). Fuel and fertilizer are regularly transported on local routes.

46 Department of Health and Human Services. 2022. “State of Nebraska: Assisted Living Facilities.”

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

47 Department of Health and Human Services. 2022. “State of Nebraska Roster: Hospitals.”

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

48 Department of Health and Human Services. 2022. “State of Nebraska Roster: Long Term Care Facilities.”

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

49 Department of Health and Human Services. 2022. “State of Nebraska Roster: Rural Health Clinic.”

https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

50 Nebraska Department of Transportation. 2021. “Annual Average Daily Traffic Flow.” Accessed July 2022.

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

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

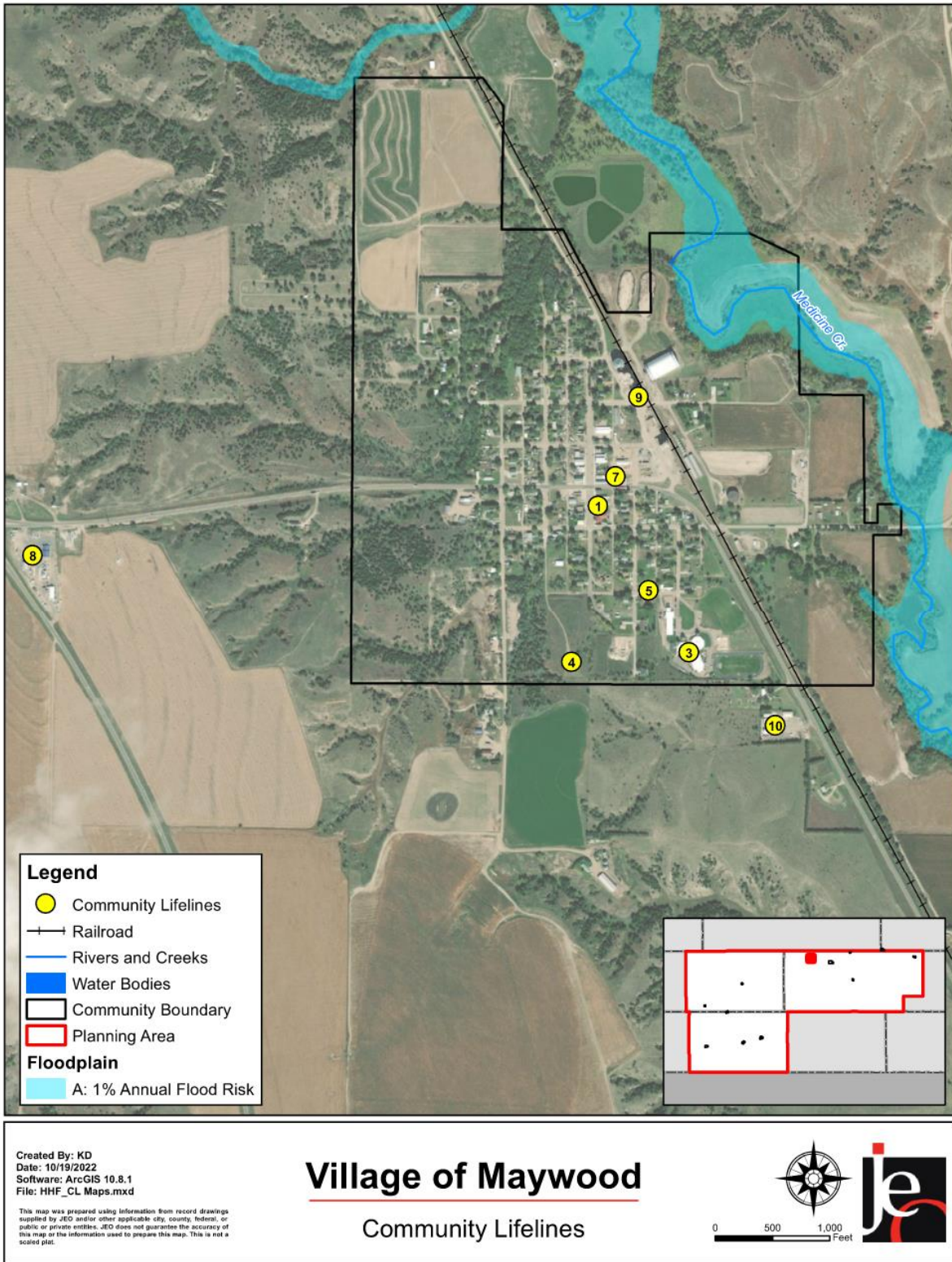
Table MWD.9: Chemical Storage Lifelines

CL Number	Name	Generator (G)	Floodplain (Y/N)
8	Ag Valley Co-op Non Stock	-	N
9	Ag Valley Co-op Non Stock	-	N
10	NDOT Maywood Yard	-	N

Source: Nebraska Department of Environment and Energy⁵²

52 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed May 2022.

Figure MWD.4: 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 MWD.10: 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
135	\$17,518,717	2	\$186,355	1.5%

Source: County Assessor, 2021

Historical Occurrences

See the Frontier County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The Hayes, Hitchcock, and Frontier Counties 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 Maywood 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 Maywood. 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*.

Drought

The village and the entire region are currently experiencing a prolonged drought event since 2021. While it has not impacted the village directly, it has negatively impacted local farmers and the economy. This hazard was selected as a top hazard of concern because of the potential to lower the water table and impact the village’s water supply. If needed, the village can implement water restrictions and notifies the public through letters.

Grass/Wildfires

Several wildfires have occurred near the village, but none have reached the community. With the ongoing drought, vegetation in the area is very dry which increases the risk to wildfires. According to the Nebraska Forest Service’s *Wildfire Risk Explorer*, the area surrounding the village has either a low or moderate risk of wildfires.⁵³ Maywood’s fire department has 26 volunteer fire fighters. Recently new fire trucks have been purchased to better respond to fires in the area.

Severe Thunderstorms

Severe thunderstorms and hail are an annual occurrence for Maywood. The most damaging event occurred in June 1997. During the event, 1.75-inch hail caused \$3,000,000 in damages to trees, homes, and businesses in the village. The primary concern for severe thunderstorms is loss of power to the village’s wells. To help with this issue, backup generators have been installed for each well. Maywood has an increased risk to power loss with only 5% of power lines buried and

⁵³ Nebraska Forest Service. “Nebraska Wildfire Risk Explorer”. Accessed October 2022. <https://nebraskawildfirerisk.com/>.

hazardous trees on private property. Letters have been sent to residents but many lack the funds to be able to trim or remove the trees.

Severe Winter Storms

Severe winter storms are an annual occurrence for the community. Past storms have caused power loss to the community and wells. Luckily power was back on before the backup generator for the wells was needed. Similar to severe thunderstorms, power loss is the primary concern for severe winter storms. Snow removal is handled by village maintenance using a snowplow truck and small tractor. This equipment has been sufficient for most snowstorms.

Tornadoes and High Winds

Two tornadoes have been reported near the village but none of them impacted the community. High winds have caused damage in the past to trees, roofs, windows, and siding. To reduce the vulnerability to tornadoes, Maywood recently purchased a new storm siren. The storm siren is set off by the Frontier County Sheriff’s Office. Those seeking shelter from a storm can use the local school building if needed.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Backup Generators
Description	Purchase and install back generators at identified community lifelines.
Hazard(s) Addressed	Extreme Heat, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$40,000+ per Generator
Local Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. The village does not have the capabilities to implement this project due to a lack of funding.

Mitigation Action	Fuel Load Reduction
Description	Clear brush around structures,
Hazard(s) Addressed	Grass/Wildfires
Estimated Cost	\$1,000+
Local Funding	General Fund
Timeline	2-5 Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. The village has the capability to implement this project.

Mitigation Action	Public Awareness and Education
Description	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 these hazards.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. The village has the capability to implement this project.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to ensure effectiveness and reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., 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 village board will be responsible for reviewing and updating this community profile outside of the five-year update. Maywood will review the plan bi-annually and the public will be notified through letters sent out to all residents.

Community Profile

Village of Moorefield

Hayes, Hitchcock, and Frontier Counties Hazard Mitigation Plan

2023

Local Planning Team

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

Table MRF.1: Moorefield Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Jody Kotschwar	Clerk / Treasurer	Village of Moorefield	Curtis	Curtis
Turena Ehlers	Chairperson	Village of Moorefield	-	Curtis

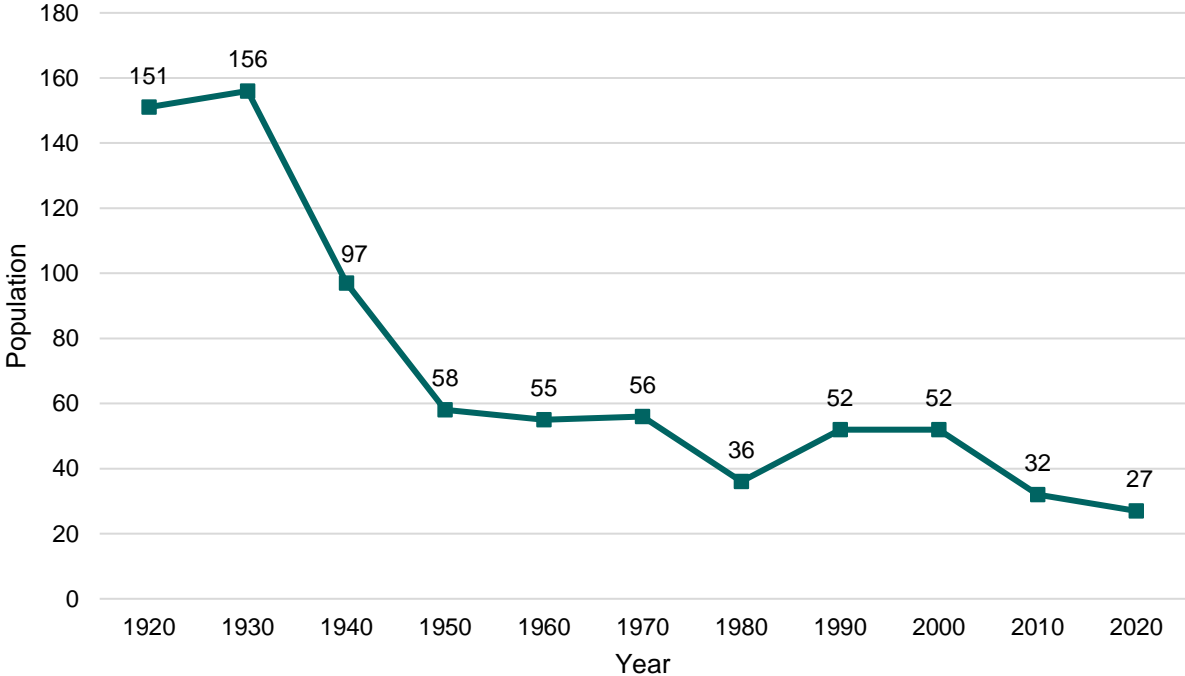
Location and Geography

The Village of Moorefield is in north central Frontier County and covers an area of 0.17 square miles. There are no major bodies of water in or near the community.

Demographics

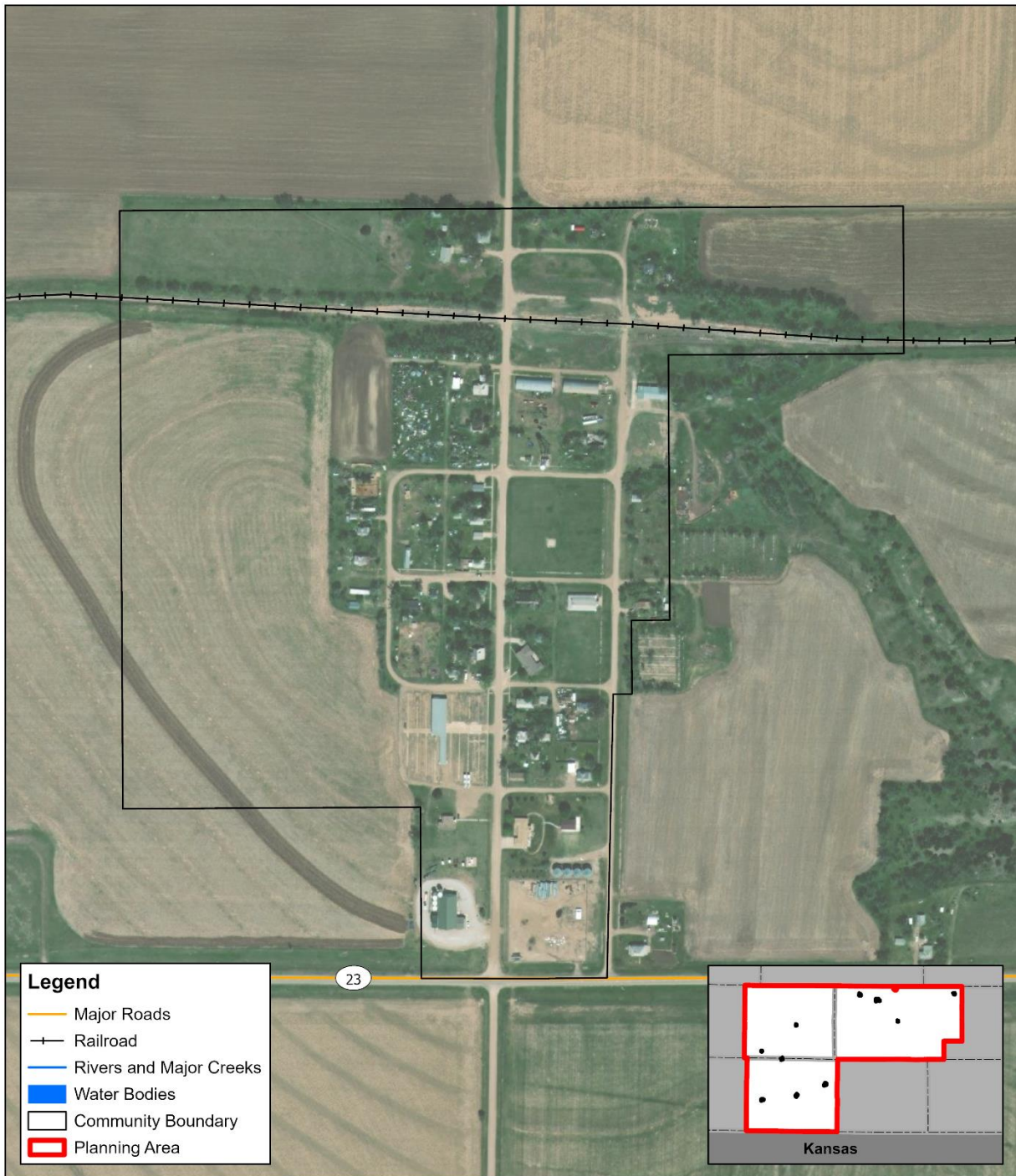
The following figure displays the historical population trend for the Village of Moorefield. This figure indicates that the population of Moorefield has been declining since 2000 to 27 people in 2020. A declining population can lead to more unoccupied and unmaintained housing that is then at risk to 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 community, which could make implementing mitigation projects more fiscally challenging. Moorefield’s population accounted for 1.1% of Frontier County’s population in 2020.⁵⁴

Figure MRF.1: Population 1920 - 2020



54 United States Census Bureau. “2020 Census Bureau Decennial Census: P1: Race.” <https://data.census.gov/>.

Figure MRF.2: Village of Moorefield

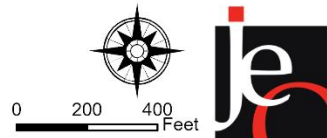


Created By: NL
Date: 5/26/2022
Software: ArcGIS Pro 2.8
File Name: HHCommunityBasemap.mxd

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.

Village of Moorefield

Boundary Map



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

- **0% is non-white.** Since 2010, Moorefield stayed as ethnically diverse. In 2010, 0% of the Moorefield's population was non-white. By 2020, 0% was non-white.⁵⁵
- **73.3 median age.** The median age of Moorefield was 73.3 years old in 2020. The population became older since 2010, when the median age was 41.2.⁵⁶

Employment and Economics

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

- **0% of people living below the poverty line.** The poverty rate (0%) in the Village of Moorefield was lower than the state's poverty rate (10.4%) in 2020.⁵⁷
- **0% unemployment rate.** In 2020 Moorefield has a lower unemployment rate (0%) when compared to the state (3.4%).⁵⁷
- **42.9% of workers commuted 30 minutes or more to work.** Fewer workers in Moorefield commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (42.9% compared to 57.1%).⁵⁸

Major Employers

Major employers in the Village of Moorefield include Dixmang Ag, Ag Valley Co-op, and Lazy RW Distillery. Many residents commute to Curtis, Cozad, or Maywood for employment.

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 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. 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. Moorefield's housing stock has:

- **61.1% of housing built prior to 1970.** Moorefield has a larger share of housing built prior to 1970 than the state (61.1% compared to 45.5%).⁵⁹
- **33.3% of housing units vacant.** Moorefield has a higher vacancy rate 33.3% compared to the rest of the state (9.2%).⁵⁹

55 United States Census Bureau. "2020 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." <https://data.census.gov/>.

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

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

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

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

- **16.7% mobile and manufacture housing.** The Village of Moorefield has a larger share of mobile and manufactured housing (16.7%) compared to the state (3.3%).⁵⁹ All three mobile homes in the village are vacant.
- **0% renter-occupied.** The rental rate of Moorefield was 0% in 2020. This is lower than the state’s rate of 33.8%.⁵⁹

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.

- **33.3% of households have a broadband internet subscription.** Moorefield has a smaller share of households with broadband (33.3%) compared to the state (85.6%).⁶⁰

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 Moorefield 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
- Water Commissioner
- Assistant Water Commissioner

Capability Assessment

The planning team assessed the Village of Moorefield’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. The local planning team does not anticipate adding to or improving on existing capabilities due to a lack of funding and personnel.

Municipal funds are limited to maintaining current facilities and systems with a large portion of the budget already dedicated to paying a 2006 water project. Funds have increased over recent years.

Table MRF.2: Capability Assessment

Capability/Planning Mechanism		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No

60 United States Census Bureau. “2020 Census Bureau American Community Survey: DP02: Selected Social Characteristics in the United States.” <https://data.census.gov/>.

Capability/Planning Mechanism		Yes/No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	Yes
	National Flood Insurance Program	No
	Community Rating System	No
	Regional Community Wildfire Protection Plan	No
	Other (if any)	Annual Budget, Water System Vulnerability Assessment, Water System Emergency Response Plan
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	Yes (County)
	Chief Building Official	No
	Civil Engineering	Yes
	Local staff who can assess community's vulnerability to hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	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)	-	
Education & Outreach Capability	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
	Natural disaster or safety related school programs	No

Capability/Planning Mechanism	Yes/No
StormReady Certification	No
Firewise Communities Certification	No
Tree City USA	No
Other (if any)	-

Table MRF.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

Social Vulnerability

FEMA’s National Risk Index is a new mapping tool that analyzes a community’s risk to natural hazards on a scale of 0 (lowest possible value) to 100 (highest possible value). The overall risk for Frontier County, which includes Moorefield, is Very Low (6.86). The average for the State of Nebraska is 9.43.⁶¹

- **Social Vulnerability:** Social groups in Frontier County have a Relatively Moderate (37.92) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- **Community Resilience:** Communities in Frontier County have a Relatively Moderate (53.95) 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 (no capacity) to 100 (high capacity). This 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 Moorefield compared to the county.

Table MRF.4: Rural Capacity Index

Components of Index	Village of Moorefield	Frontier County
County is Metropolitan?	No	No
Has a Head of Planning?	No	Yes
Has a College or University?	No	Yes
Adults with Higher Education:	11%	22%
Families Below Poverty Level:	0%	8%
Households with Broadband:	100%	73%
People without Health Insurance:	47%	10%
Voter Turnout:	77%	77%
Income Stability Score (0 to 100):	42	42
Population Change (2000 to 2019):	-33	-472
Overall Rural Capacity Index Score	39	75

61 Federal Emergency Management Agency. “National Risk Index”. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

Source: *Headwaters Economics*⁶²

National Flood Insurance Program (NFIP)

Moorefield is not a member of the NFIP. The initial FIRM for the village was delineated in 4/2/2008 and the current effective map date is 4/2/2008. The village does not participate in the NFIP because none of the village is located in the floodplain. Moorefield is not interested in participating in the NFIP at this time. However, the village will reevaluate participation if new information or floodplain maps are developed.

Plans and Studies

Moorefield has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the village updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update. While not containing hazard mitigation principles, the village also has a plumbing code for newly constructed buildings.

Annual Budget (2022)

Every August the village board meets and creates a budgetary plan for the next fiscal year. As this is the first time participating in the hazard mitigation plan, it has not been integrated with the annual budget. However, projects identified in the budget include installing water meters and future additions may include upsizing culverts and water distribution pipes.

Frontier County Local Emergency Operations Plan (2017)

Moorefield is an annex in the Frontier County Local Emergency Operations Plan (LEOP). The hazard mitigation plan has not been integrated with this plan, however, 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. Flooding, dam failure, and mass shelter information from the LEOP was used to inform hazard prioritization and community lifelines.

Water System Emergency Response Plan (2022)

A water system emergency response plan serves as a guideline for water operators and village administration to minimize the disruption of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and human-caused events and discusses the water system's response during those events. The hazard mitigation plan has not been integrated with this plan. Information from the plan was reviewed for inclusion in this profile.

Water System Vulnerability Assessment (2022)

A water system vulnerability assessment evaluates the risks, vulnerabilities, and resilience of the water system. Most of the assessment discussed various security measures in place. As this is the first time participating in the hazard mitigation plan it has not been integrated with the water

62 Headwaters Economics. January 2022. "Rural Capacity Map". Accessed July 2022.
<https://headwaterseconomics.org/equity/rural-capacity-map/>.

system vulnerability assessment. Information from the assessment was reviewed for inclusion in this profile.

Wellhead Protection Plan (2000)

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 and managing the potential contaminant sources. Due to the age of the document, it has not been integrated with the hazard mitigation plan.

Future Development Trends

There have been no changes in the village over the past five years likely due to a declining population. Vulnerability to hazards likely stays the same because of this. However, if buildings or infrastructure are not being properly maintained, vulnerability to hazards may increase due to aging materials. One new house along Pine Street is planned in the next five years. The lack of planned new developments is reflective of projected population remaining steady or declining.

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 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 Moorefield.

Table MRF.5: Safety and Security Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
1	Community Hall	-	N

Food, Water, Shelter

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

Table MRF.6: Food, Water, and Shelter Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
2	Dizmang Ag	G	N
3	Kotschwar Farms	G	N
4	Water Tower	-	N

Health and Medical

Health and Medical Lifeline components can include medical care, patient transport, public health, fatality management, and the medical supply chain. There are no health and medical facilities in the community.^{63,64,65,66}

Energy

Energy Lifeline components include power, the power grid, and fuel. The local planning team did not identify any lifeline components for the village.

Communications

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

Table MRF.7: Communications Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
5*	911 Dispatch	-	N
6	Broadband ATC Tower	-	N

**Not mapped but is located in Curtis.*

Transportation

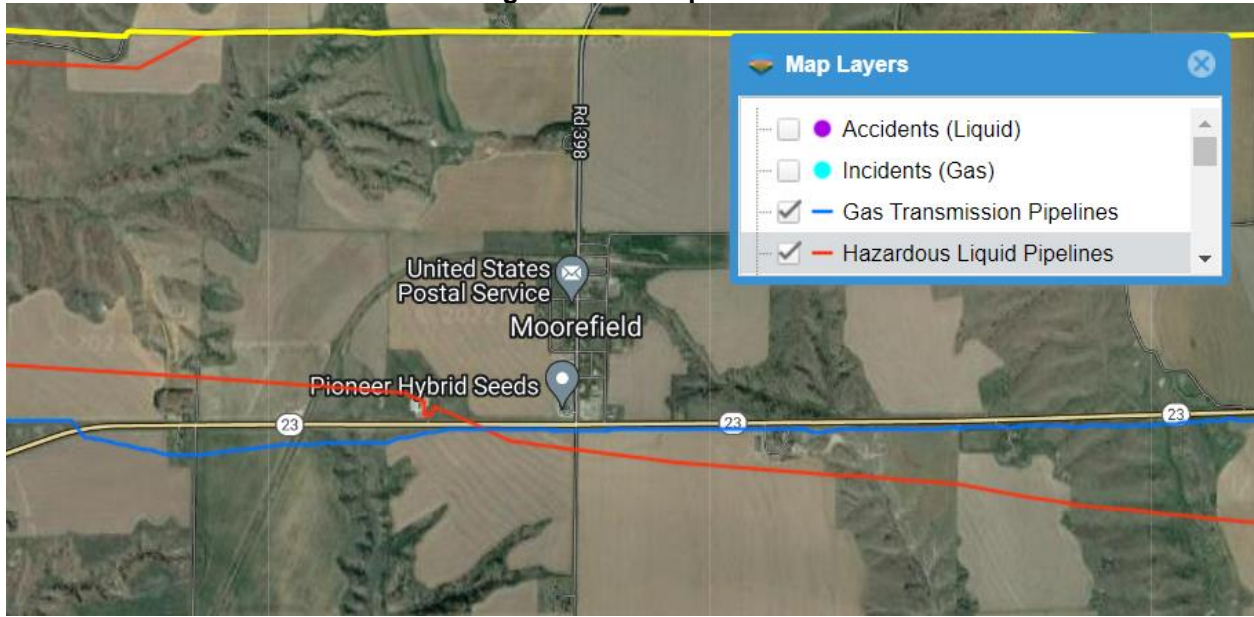
Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Moorefield’s major transportation corridor includes State Highway 23. It is traveled by an average of 635 vehicles daily, 105 of which are trucks.⁶⁷ Moorefield has one Nebraska, Kansas, Colorado Railway line traveling east to west on the northern portion of the community. 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. No significant transportation events have occurred locally.

Hazardous Materials

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. There are two gas transmission pipelines that travel south of the community and can be seen on the figure below. Fuel and farm chemicals also transported along local routes.

63 Department of Health and Human Services. 2022. “State of Nebraska: Assisted Living Facilities.” <https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf>.
 64 Department of Health and Human Services. 2022. “State of Nebraska Roster: Hospitals.” <https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf>.
 65 Department of Health and Human Services. 2022. “State of Nebraska Roster: Long Term Care Facilities.” <https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf>.
 66 Department of Health and Human Services. 2022. “State of Nebraska Roster: Rural Health Clinic.” https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.
 67 Nebraska Department of Transportation. 2021. “Annual Average Daily Traffic Flow.” Accessed July 2022. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

Figure MRF.3: Pipelines



Source: National Pipeline Mapping System⁶⁸

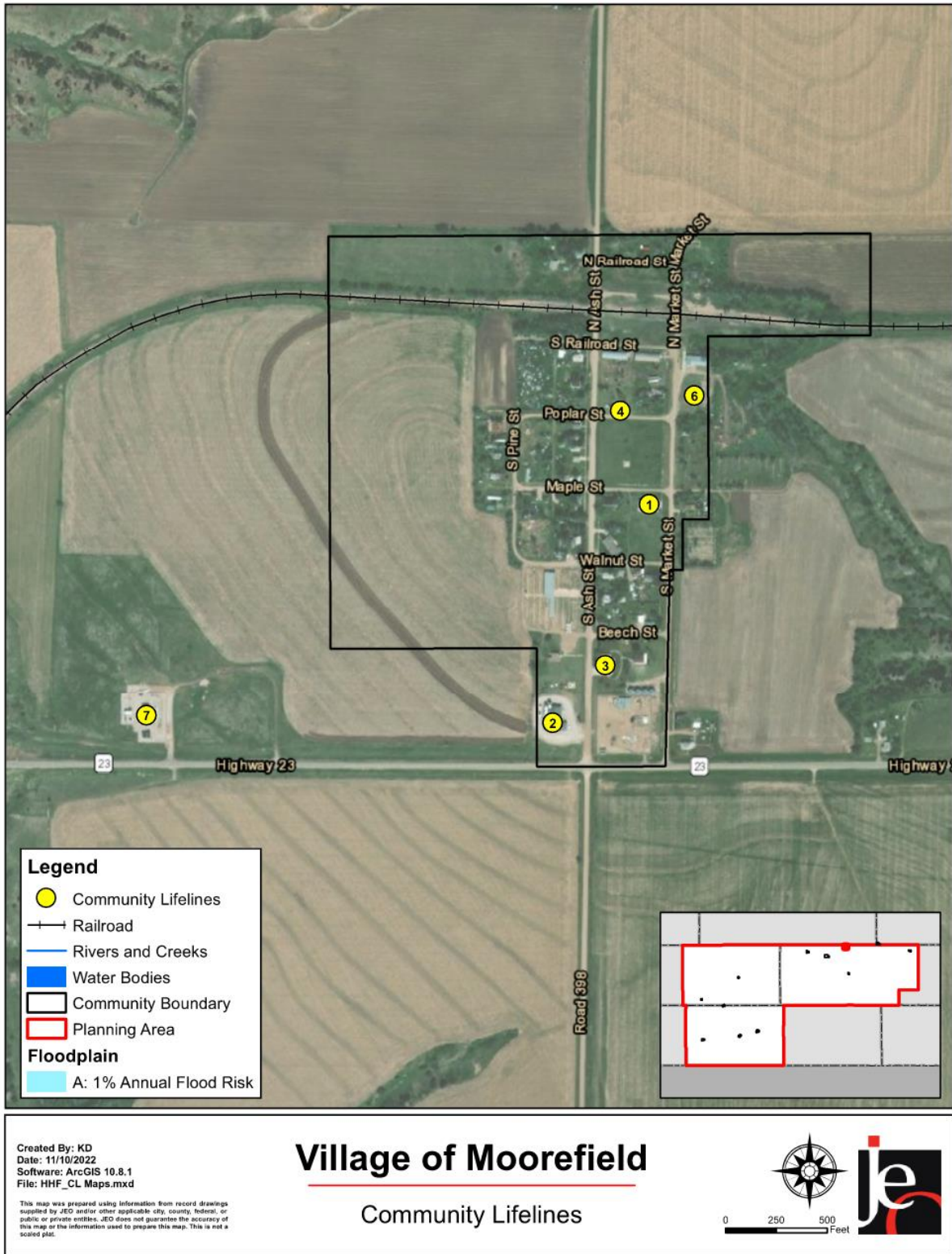
Table MRF.8: Chemical Storage Lifelines

CL Number	Name	Generator (G)	Floodplain (Y/N)
7	Moorefield Station	-	N

Source: Nebraska Department of Environment and Energy⁶⁹

68 National Pipeline Mapping System. 2022. "Public Viewer." Accessed July 2022. <https://pvnpmns.phmsa.dot.gov/PublicViewer/>.
 69 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed May 2022.

Figure MRF.4: 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 MRF.9: 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
28	\$2,889,559	0	\$0	0%

Source: County Assessor, 2021

Historical Occurrences

See the Frontier County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The Hayes, Hitchcock, and Frontier Counties 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 Moorefield 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 Moorefield. 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*.

Grass/Wildfires

The local planning team selected grass/wildfires as a top hazard of concern because of the increased risk of wildfires due to the ongoing drought conditions in the region. While a wildfire has never impacted the village in the past, the Curtis Rural Fire Department which provides coverage to Moorefield has reported 78 wildfires in the district since 2000. The village is more vulnerable to wildfires than other communities because there is no fire department located in the community and must come from the City of Curtis. To help reduce the fuel load, residents are encouraged to keep their property mowed and free of dead trees and vegetation. According to the Nebraska Forest Service's *Wildfire Risk Explorer*, the area to the west of the village has moderate to high wildfire risk and the area to the east of the village has low wildfire risk.

Severe Thunderstorms

NCEI data shows there have been 25 reported severe thunderstorm events in the community since 1996. The most damaging event occurred on August 10, 1999, when thunderstorm winds caused \$150,000 to a greenhouse, a shed, and trees. Residents are notified of severe weather through radios and T.V. However, the local planning team noted that emergency communications in the village were poor and needed to be updated.

Severe Winter Storms

The local planning team is particularly concerned with prolonged freezing temperatures and ice storms. In 1994 an ice storm downed power lines and left the village without power for three weeks. In 2006 the village’s water tower froze up due to extremely cold temperatures. It cost the village \$6,000 to open the tower back up from the ice accumulation. During that period the community did not have water until the issue was fixed. Bottled water was used until the tower could be opened back up. After the event insulation foam was applied to the insulation box to help reduce the chances of this happening again. The village is also now able to bypass the water tower with the submersible well. Power loss is a concern for the community; however, many residents now have backup generators that village can use if needed. In addition, tractors can be used to manually power the water turbine.

Tornadoes and High Winds

Two tornado events have occurred near the village, thankfully none of them directly damaged anything in the community. Moorefield is located at the highest point in the county and is subject to many high wind events. While there are no storm shelter locations identified in the village, there are several basements that residents can use if needed. A map has been made for residents that identifies the basements and cellars that can be used. The village has a tornado siren that can be heard in all areas of the community, but it is aging and needs to be updated.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Alert and Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	\$40,000+
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started. The village does not have the capability to implement this project due to a lack of funding.

Mitigation Action	Emergency Communications
Description	Work with County Emergency Management and the Curtis Rural Fire Department to increase communication about severe weather events. Upgrade current communication equipment.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$10,000+
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Frontier County Emergency Management, Curtis Rural Fire Department
Status	Not Started. The village does not have the capability to implement this project due to a lack of funding.

Mitigation Action	Public Awareness and Education
Description	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 these hazards.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. The village does not have the capability to implement this project.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to ensure effectiveness and reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., 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 Board Chairman and Village Clerk will be responsible for reviewing and updating the plan outside of the five-year update. These individuals will review the plan annually during a village board meeting that is open to the public.

Community Profile

Village of Stockville

Hayes, Hitchcock, and Frontier Counties Hazard Mitigation Plan

2023

Local Planning Team

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

Table STK.1: Stockville Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Darla Walther	Clerk / Floodplain Administrator	Village of Stockville	Recording	-
Wesley Buck	Village Board Trustee	Village of Stockville	-	Curtis

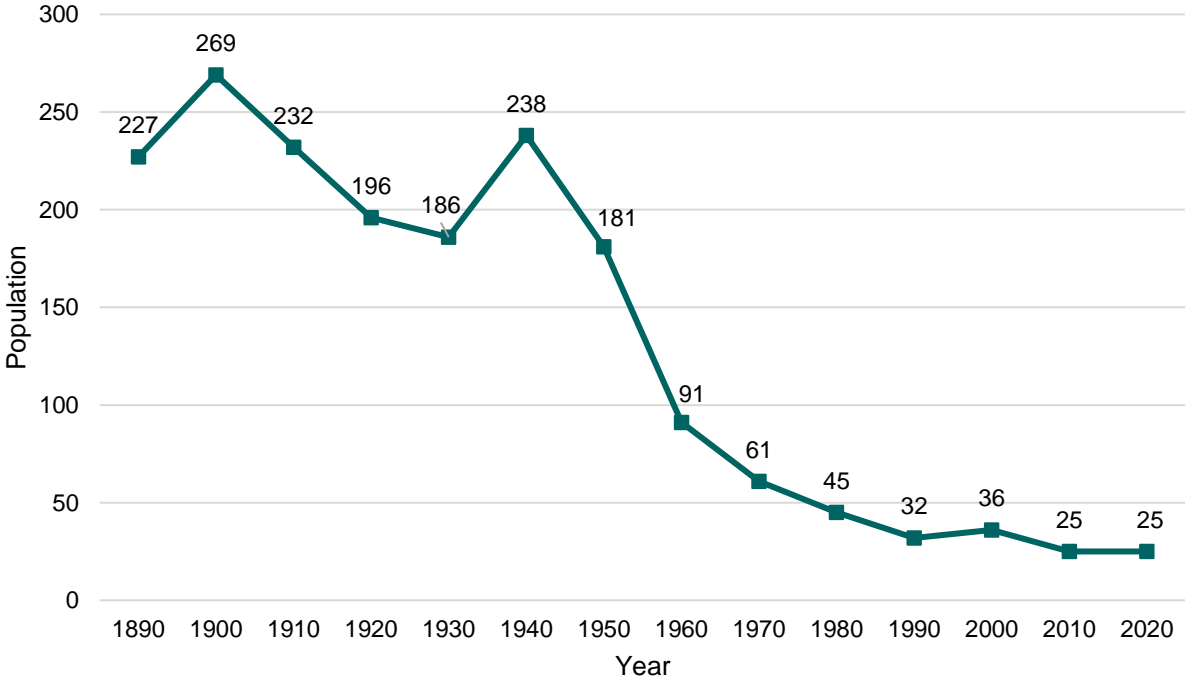
Location and Geography

The Village of Stockville is in central Frontier County and covers an area of 0.26 square miles. Stockville is the county seat of Frontier County. Spring Creek runs just southwest of the village and Medicine Creek runs just east of the village.

Demographics

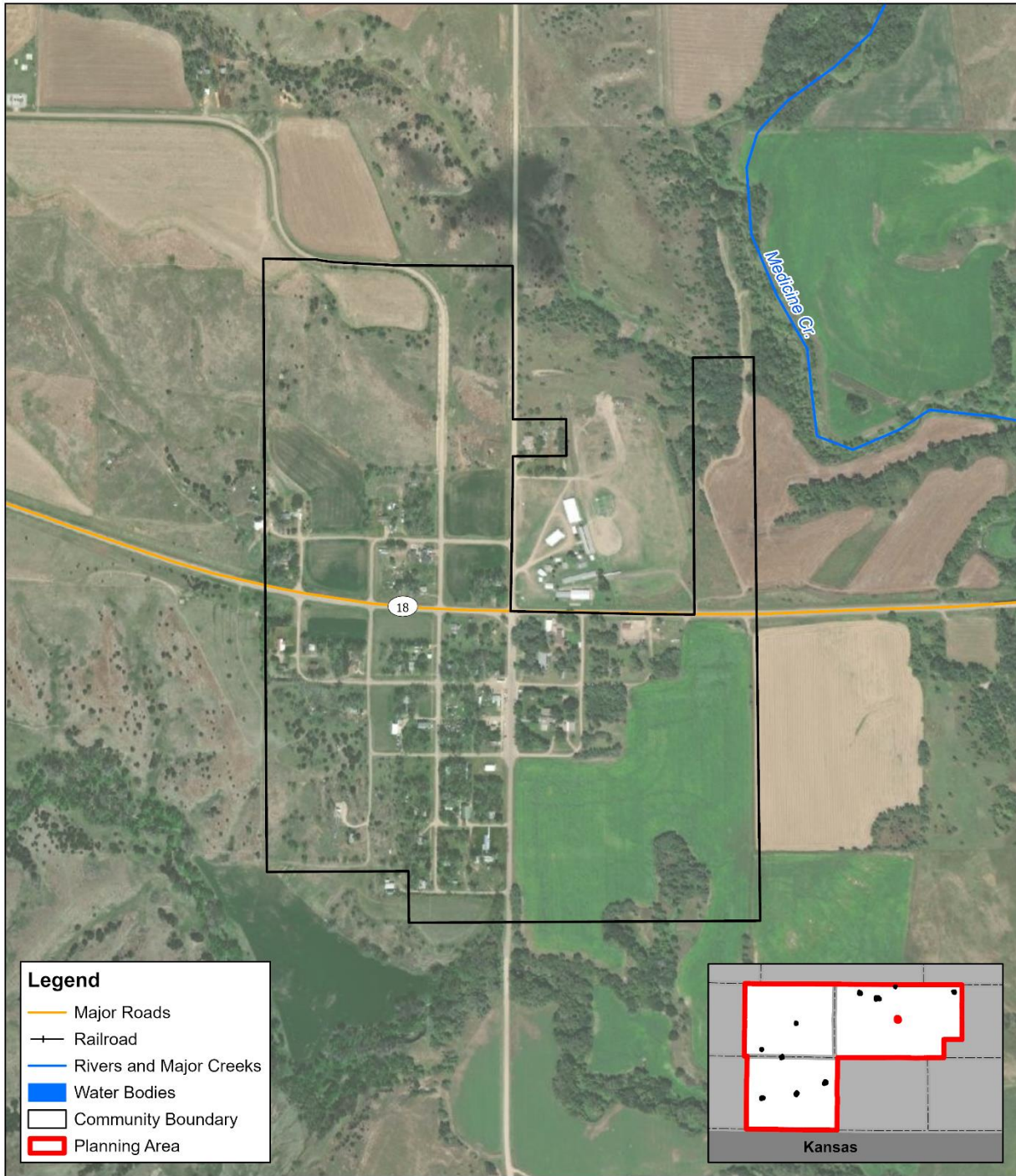
The following figure displays the historical population trend for the Village of Stockville. This figure indicates that the population of Stockville has been declining since 2000 to 25 people in 2020. A declining population can lead to more unoccupied and unmaintained housing that is then at risk to 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 community, which could make implementing mitigation projects more fiscally challenging. Stockville’s population accounted for 1.0% of Frontier County’s population in 2020.⁷⁰

Figure STK.1: Population 1890 - 2020



⁷⁰ United States Census Bureau. “2020 Census Bureau Decennial Census: P1: Race.” <https://data.census.gov/>.

Figure STK.2: Village of Stockville

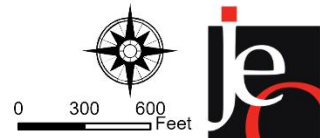


Created By: NL
Date: 5/26/2022
Software: ArcGIS Pro 2.8
File Name: HHFCCommunityBasemap.mxd

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Village of Stockville

Boundary Map



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

- **12.0% is non-white.** Since 2010, Stockville became more ethnically diverse. In 2010, 4.0% of the Stockville's population was non-white. By 2020, 12.0% was non-white.⁷¹
- **Median age of 72.9.** The median age of Stockville was 72.9 years old in 2020. The population became older since 2010, when the median age was 60.2.⁷²

Employment and Economics

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

- **11.1% of people living below the poverty line.** The poverty rate (11.1%) in the Village of Stockville was slightly higher than the state's poverty rate (10.4%) in 2020.⁷³

Major Employers

The major employer in the Village of Stockville is Frontier County. A large percentage of residents commute to Curtis, Gothenburg, and North Platte for employment.

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 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. 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. Stockville's housing stock has:

- **100% of housing built prior to 1970.** Stockville has a larger share of housing built prior to 1970 than the state (100% compared to 45.5%).⁷⁴
- **37.5% of housing units vacant.** Stockville has a higher vacancy rate 37.5% compared to the rest of the state (9.2%).⁷⁴
- **25.0% mobile and manufacture housing.** The Village of Stockville has a larger share of mobile and manufactured housing (25.0%) compared to the state (3.3%).⁷⁴
- **0% renter-occupied.** The rental rate of Stockville was 0% in 2020. This is lower than the state's rate of 33.8%.⁷⁴

71 United States Census Bureau. "2020 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." <https://data.census.gov/>.

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

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

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

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.

- **100% of households have a broadband internet subscription.** Stockville has a larger share of households with broadband (100%) compared to the state (85.6%).⁷⁵

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 Stockville is governed by a village board; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk / Floodplain Administrator
- Water Commissioner

Capability Assessment

The planning team assessed the Village of Stockville’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.

The local planning team indicated that village funds are severely limited and have stayed the same over recent years. This along with the low population are the reasons the community does not anticipate adding or improving existing capabilities and plans.

Table STK.2: Capability Assessment

Capability/Planning Mechanism		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	Yes (State)
	National Flood Insurance Program	Yes
	Community Rating System	No

75 United States Census Bureau. “2020 Census Bureau American Community Survey: DP02: Selected Social Characteristics in the United States.” <https://data.census.gov/>.

Capability/Planning Mechanism		Yes/No
	Regional Community Wildfire Protection Plan	Yes
	Other (if any)	Water System Emergency Response Plan, Wellhead Protection Plan
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	Yes
	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
	Other (if any)	-
Fiscal Capability	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
	Other (if any)	-
Education & Outreach Capability	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
	Natural disaster or safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Table STK.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

Social Vulnerability

FEMA’s National Risk Index is a new mapping tool that analyzes a community’s risk to natural hazards on a scale of 0 (lowest possible value) to 100 (highest possible value). The overall risk for Frontier County which includes Stockville is Very Low (6.86). The average for the State of Nebraska is 9.43.⁷⁶

- **Social Vulnerability:** Social groups in Frontier County have a Relatively Moderate (37.92) susceptibility to adverse impacts of natural hazards when compared to the rest of the U.S.
- **Community Resilience:** Communities in Frontier County have a Relatively Moderate (53.95) 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 (no capacity) to 100 (high capacity). This 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 Stockville compared to the county.

Table STK.4: Rural Capacity Index

Components of Index	Village of Stockville	Frontier County
County is Metropolitan?	No	No
Has a Head of Planning?	Yes	Yes
Has a College or University?	No	Yes
Adults with Higher Education:	0%	22%
Families Below Poverty Level:	0%	8%
Households with Broadband:	71%	73%
People without Health Insurance:	0%	10%
Voter Turnout:	77%	77%
Income Stability Score (0 to 100):	42	42
Population Change (2000 to 2019):	-23	-472
Overall Rural Capacity Index Score	50	75

Source: Headwaters Economics⁷⁷

National Flood Insurance Program (NFIP)

Stockville is a member of the NFIP having joined on 4/2/2008, and the village’s Floodplain Administrator (Darla Walther) oversees the commitments and requirements of the NFIP including enforcement of the local floodplain management regulations. The initial FIRM for the village was

76 Federal Emergency Management Agency. “National Risk Index”. Accessed July 2022. <https://hazards.fema.gov/nri/map>.

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

delineated in 4/2/2008 and the current effective map date is 4/2/2008, which has been adopted and incorporated into the local floodplain management regulations on 2/25/2008. As of August 31, 2021, there are no NFIP policies in-force for the village. Stockville does not currently have any repetitive loss or severe repetitive loss structures. The local planning team did not know how enforcement of the floodplain was handled because there is no identified floodplain in the village and no developments have occurred in the floodplain. They were also unaware of how substantial damage/improvements in the floodplain would be addressed. A mitigation action has been added to address this issue. The local planning team has said the Village of Stockville will remain in good standing and will continue involvement with the NFIP in the future.

Plans and Studies

Stockville has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the village updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update.

Floodplain Regulations

The village's floodplain regulations outline where and how development in the floodplain should occur in the future. The hazard mitigation plan has not been integrated with the floodplain regulations as this is the village's first time participating. However, the regulations restrict development in the floodplain and require structures to be more than one foot of elevation above base flood elevation.

Frontier County Local Emergency Operations Plan (2022)

Stockville is an annex in the Frontier County Local Emergency Operations Plan (LEOP). The hazard mitigation plan has not been integrated with this plan; however, 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. Flooding, dam failure, and mass shelter information from the LEOP was used to inform hazard prioritization and community lifelines.

Water System Emergency Response Plan

A water system emergency response plan serves as a guideline for water operators and village administration to minimize the disruption of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and human-caused events and discusses the water system's response during those events. The hazard mitigation plan has not been integrated with this plan as this is the village's first time participating.

Wellhead Protection Plan

The purpose of wellhead protection plans is to protect the public drinking source water supply from contamination. It includes identifying potential sources of groundwater contamination in the area and managing the potential contaminant sources. As this is the first time the village has participated, the hazard mitigation plan has not been integrated.

Future Development Trends

Over the past five years, a new commercial building was constructed but is vacant at this time. This could increase Stockville’s vulnerability if the vacant building is not maintained over time and starts to deteriorate. However, the building was not developed in the floodplain or other known hazardous areas which minimizes the potential increase in vulnerability. In the next five years, the local planning team does not anticipate any new housing or commercial development. This is likely due to the population stability of the community.

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 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 Stockville.

Table STK.5: Safety and Security Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
1	Frontier County Courthouse	-	N
2	Village Office	-	N

Food, Water, Shelter

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

Table STK.6: Food, Water, and Shelter Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
3	Underground Water Storage	-	N
4	Wells	G	N

Health and Medical

Health and Medical Lifeline components can include medical care, patient transport, public health, fatality management, and the medical supply chain. There are no medical and health facilities located within the community.^{78,79,80,81}

Energy

Energy Lifeline components include power, the power grid, and fuel. There were no identified energy lifelines identified for Stockville.

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

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

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

81 Department of Health and Human Services. 2022. “State of Nebraska Roster: Rural Health Clinic.” https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

Communications

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

Table STK.7: Communications Lifelines

CL Number	Name	Generator (G) Shelter (S)	Floodplain (Y/N)
5	Cell Tower	-	N

Transportation

Transportation Lifeline components include interstates, highways, major roadways, mass transit, railway, and aviation. Stockville’s major transportation corridor includes State Highway 18. It is traveled by an average of 425 vehicles daily, 40 of which are trucks.⁸² There are no rail lines that travel near the community. 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.

Hazardous Materials

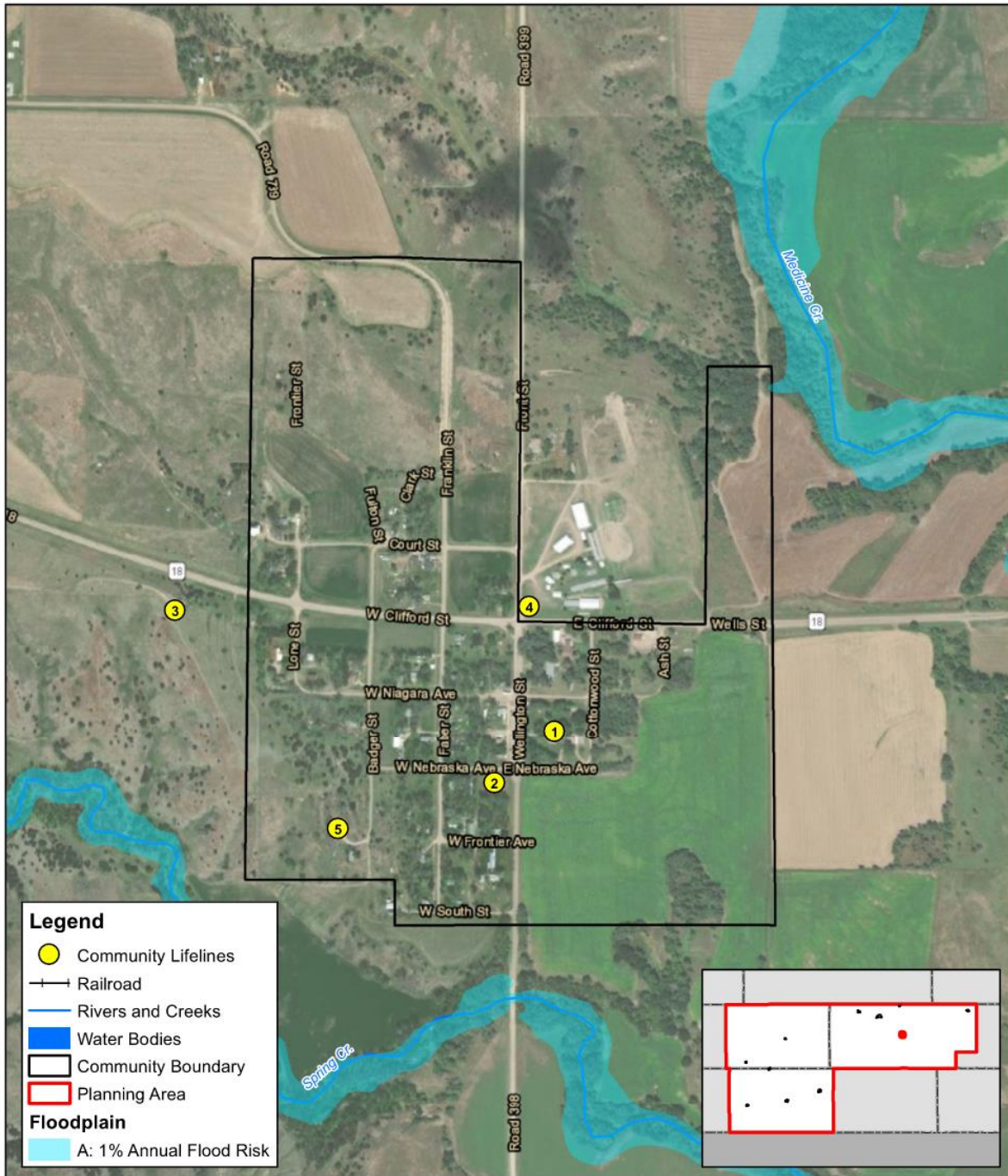
The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. There are no gas or hazardous liquid pipelines that travel in or near the community.⁸³ According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical sites within or near Stockville which house hazardous materials.⁸⁴

82 Nebraska Department of Transportation. 2021. “Annual Average Daily Traffic Flow.” Accessed July 2022. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

83 National Pipeline Mapping System. 2022. “Public Viewer.” Accessed July 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

84 Nebraska Department of Environment and Energy. “Search Tier II Data.” Accessed May 2022.

Figure STK.3: Community Lifelines

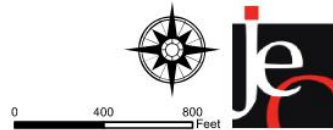


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Village of Stockville

Community Lifelines Map



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 STK.8: 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
29	\$1,752,886	0	\$0	0%

Source: County Assessor, 2021

Historical Occurrences

See the Frontier County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The Hayes, Hitchcock, and Frontier Counties 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 Stockville 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 Stockville. 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*.

Drought

This hazard was selected by the local planning team because of the current ongoing drought conditions in the region. Potential impacts from drought include added expenses to pump water for irrigation of lawns and the village’s cistern running dry if too much water is used. Stockville has two wells that provide drinking water to the community. During past droughts, these wells cannot meet demand, especially during the county fair. Stockville would like to drill an additional well to help increase the water supply and meet demands. Water restrictions can be implemented if needed. Residents are notified of water restrictions through phone calls and door to door communication.

Grass/Wildfires

In April 2022, Stockville was in the path of a wildfire, but it was able to be contained a couple of miles away from the village. This hazard was selected by the local planning team as a hazard of top concern because there are several abandoned buildings and lots which have lots of trees and weeds. This high fuel load can cause wildfires to spread faster and make them harder to contain. In addition, if there is a fire that threatens the community, Funk’s water mains and wells cannot supply enough water for the fire department. In the future the village would like to clean up these properties and implement a nuisance abatement code that would require landowners to mow their property and keep it clean. A new well is also needed to help meet the supply needs of the fire department. According to the Nebraska Forest Service’s *Wildfire Risk Explorer*, the area

surrounding the village has moderate risk of wildfires.⁸⁵ Fire protection for the village is handled by the Curtis Rural Fire Department which is located 10 miles away. This increases vulnerability due to increased response times.

Tornadoes and High Winds

The most recent damaging high wind event occurred on June 25, 2022. The windstorm took down many tree limbs and power lines causing power outages to several homes. There are several abandoned lots in the community which are full of trees that need to be trimmed or removed. Unfortunately, the village and residents do not have the resources for tree or limb removal. In the future village would like to find resources to remove and trim trees. There is one tornado siren in Stockville which is activated by radio from the Frontier County Sheriff’s Office. There are no public storm shelters in the community and residents must use basements in homes when seeking safe shelter.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Floodplain Management Capability Improvements
Description	Review the village’s floodplain regulations to increase capability and knowledge of NFIP requirements. Work with Nebraska DNR for assistance if needed.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Local Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Clerk / Floodplain Administrator, DNR
Status	Not Started. The village has the capability to implement this project.

Mitigation Action	Fuel Load Reduction
Description	Reduce fuel loads in the village by cleaning up vacant lots. Implement a nuisance abatement code that would require landowners to mow their property and keep it clean.
Hazard(s) Addressed	Grass/Wildfires
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Letters have been sent to homeowners with property that needs to be cleaned up. The village does not currently have the capability to clean up vacant lots due to a lack of funds.

85 Nebraska Forest Service. “Nebraska Wildfire Risk Explorer”. Accessed October 2022. <https://nebraskawildfirerisk.com/>.

Mitigation Action	New Well
Description	Determine a location where a new well for the village can be drilled. Drill and construct a new well to increase the water supply for the community.
Hazard(s) Addressed	Drought, Grass/Wildfires
Estimated Cost	\$500,000+
Local Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. The village does not currently have the capability to implement this project due to a lack of funds.

Mitigation Action	Public Awareness and Education
Description	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 these hazards.
Hazard(s) Addressed	Animal and Plant Disease, Dam Failure, Drought, Extreme Heat, Flooding, Grass/Wildfires, Hazardous Materials Release, Public Health Emergency, Severe Thunderstorms, Severe Winter Storms, Terrorism and Cyber Security, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. The village has the capability to implement this project.

Mitigation Action	Tree Trimming and Removal
Description	Trim or remove hazardous trees on public property and on vacant lots. Work with homeowners to remove and trim trees on private property.
Hazard(s) Addressed	Grass/Wildfires, Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$500+
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Letters have been sent to homeowners with trees that need to be trimmed. The village does not currently have the capability to trim or remove trees on public property due to a lack of funds.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to ensure effectiveness and reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., 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 Village Clerk will be responsible for reviewing and updated this community profile outside of the five-year update. Stockville will review the plan annually and any updates or changes will be discussed during a public village board meeting.