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County Profile

Hall County

Central Platte NRD
Hazard Mitigation Plan Update

2022

Local Planning Team

Hall 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 the county.

Table HAL.1: Hall County Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Jon Rosenlund	Emergency Manager	Hall County	Grand Island	Grand Island
Pamela Lancaster	Board Supervisor	Hall County	Central City – Virtually	-
Bryan Simonson	Deputy Sheriff	Hall County	Grand Island	Grand Island
Steven Riehle	County Engineer	Hall County	Grand Island	-
Chad Nabity	Floodplain Administrator / Planning / Zoning	Hall County	Lexington – Virtually	Grand Island
Rashad Moxey	Commission Member	Hall County Regional Planning Commission	Grand Island	-
Tyler Doane	Commission Member	Hall County Regional Planning Commission	Grand Island	-

Location and Climate

Hall County is located in south-central Nebraska and is bordered by Buffalo, Howard, Merrick, Hamilton, and Adams Counties. The total area of Hall County is 552 square miles. The major waterways within the county are the Platte River, Wood River, Prairie Creek, Silver Creek, Moores Creek, and Beaver Creek. Most of Hall County lies in the valleys and plains topographic region, with the vast majority of the county's land characterized by agricultural fields.

Climate

The average high temperature in Hall County for the month of July is 87.7 degrees and the average low temperature for the month of January is 14.4 degrees. On average, Hall County receives over 26.7 inches of rain and 27.7 inches of snowfall per year. The table below compares climate indicators with those of the entire state. Climate data is 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 may be more likely which could impact vulnerable populations.

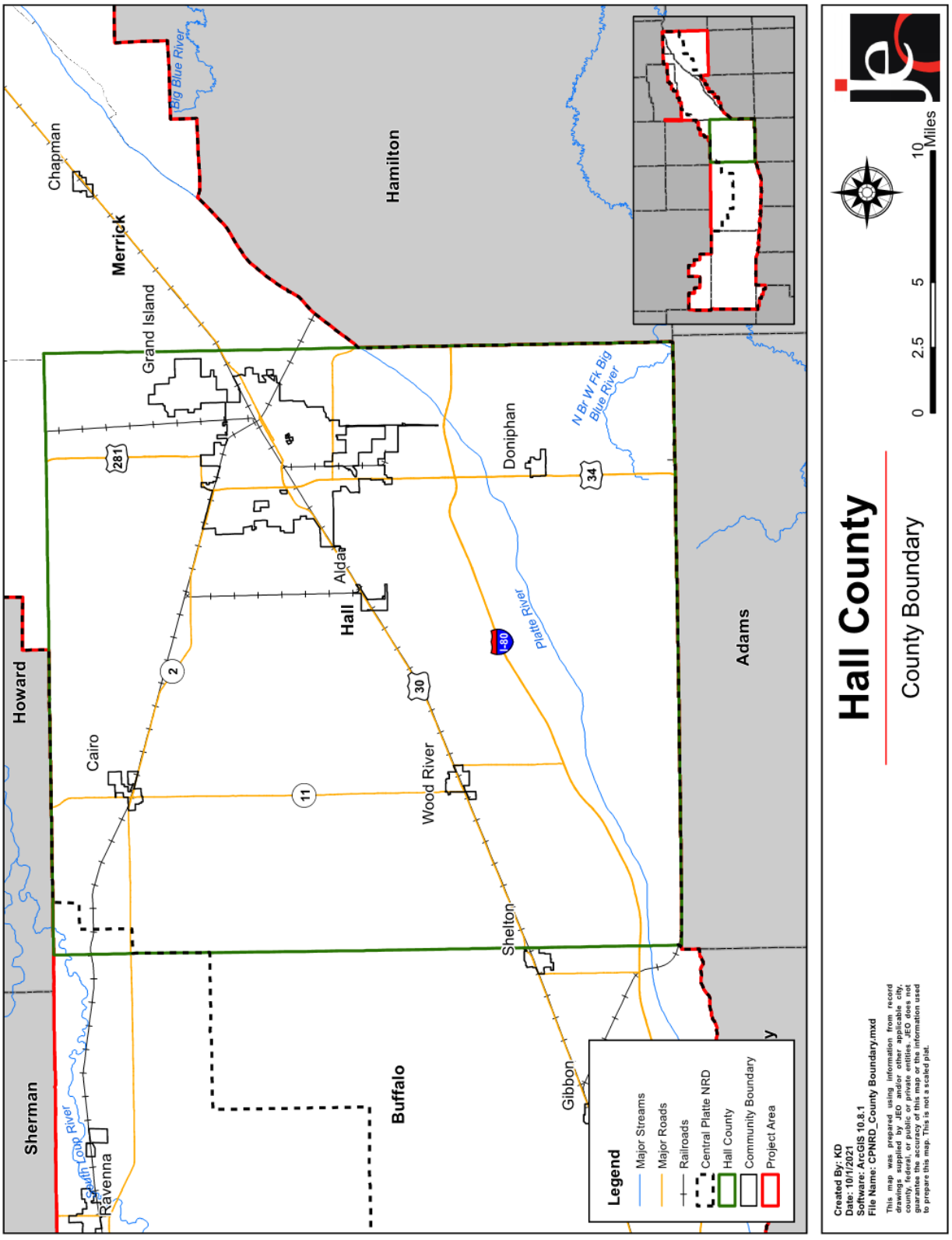
Table HAL.2: Hall County Climate

	Hall County	State of Nebraska
July Normal High Temp[1]	87.7°F	87.4°F
January Normal Low Temp[1]	14.4°F	13.8°F
Annual Normal Precipitation[2]	26.7"	23.8"
Annual Normal Snowfall[2]	27.7"	25.9"

Source: NCEI 1981-2010 Climate Normals[1], High Plains Regional Climate Center, 1981-2010[2]
Precipitation includes all rain and melted snow and ice.

1 National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed June 2021. https://www.ncdc.noaa.gov/cdo-web/datatools.
2 High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010 – Grand Island Central NE Regional AP, NE." Accessed June 2021. http://climod.unl.edu/.

Figure HAL.1: Hall County

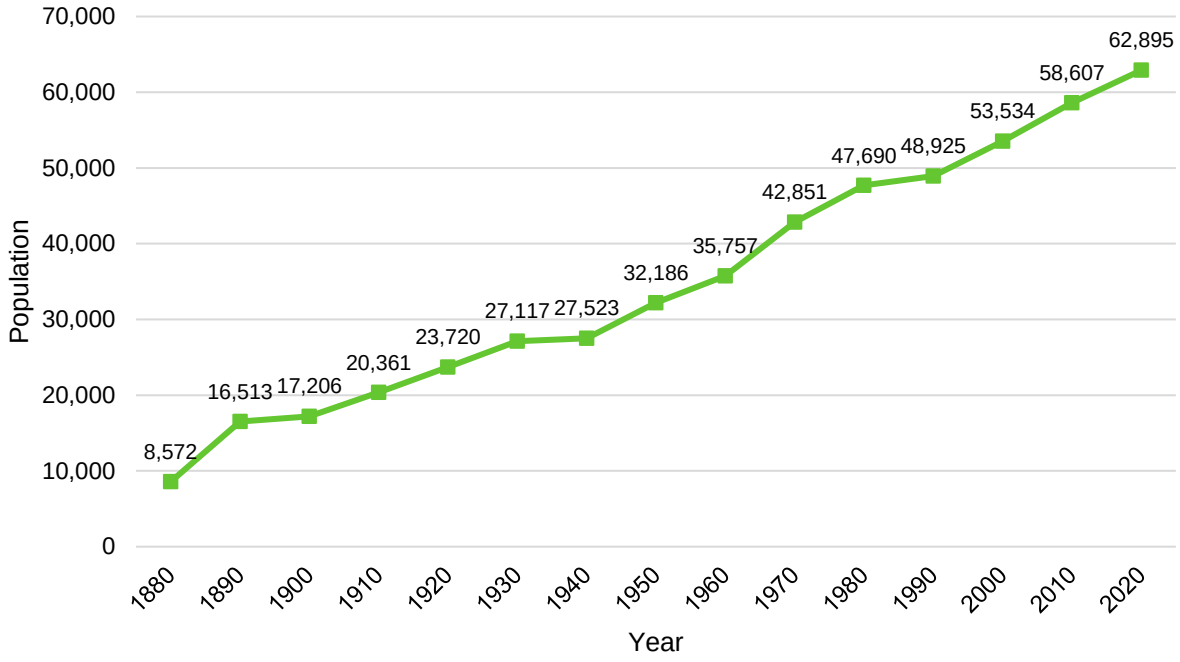


Demographics, Economics, Housing, and Employment

Demographics

The following figure displays the historical population trend from 1860 to 2020. This figure indicates that the population of Hall County has been increasing since 1880 to 62,895 people in 2020.[3] Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Hall County's population accounted for 3.2% of Nebraska's population in 2020.

Figure HAL.2: Population 1880 – 2020



Source: U.S. Census Bureau

The following table indicates Hall County has a similar percentage of people between the ages of five and 64 as the state. This is relevant to hazard mitigation because the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four* | *Risk Assessment*.

Table HAL.3: Population by Age

Age	Hall County	State of Nebraska
<5	7.7%	6.9%
5-64	77.6%	77.7%
>64	14.6%	15.4%
Median	35.9	36.5

Source: U.S. Census Bureau[4]

3 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

4 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.

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. These economic indicators are relevant to hazard mitigation because they indicate the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county's level of resilience during hazardous events.

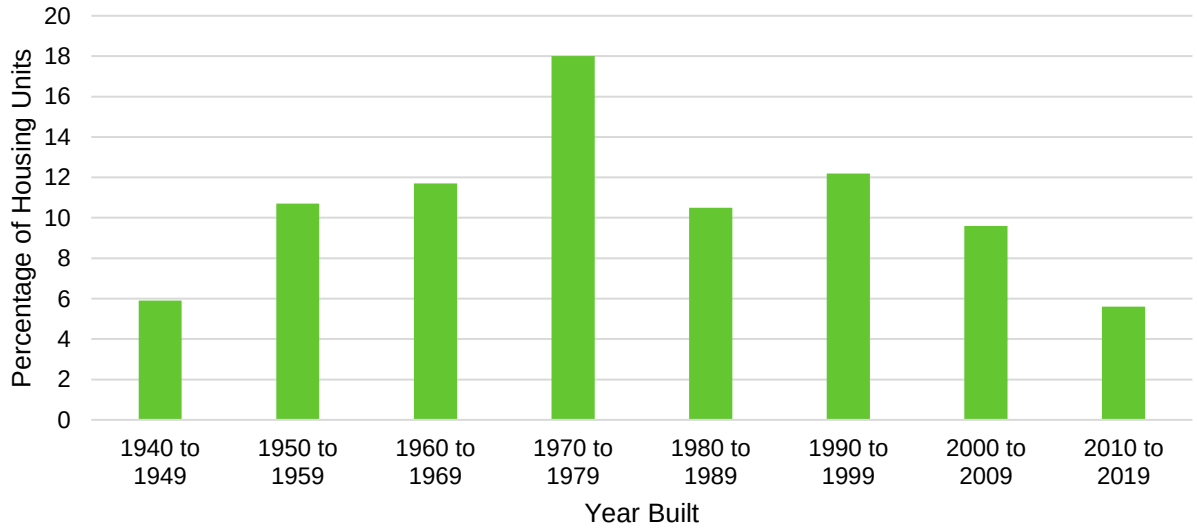
Table HAL.4: Housing and Income

	Hall County	State of Nebraska
Median Household Income	$57,104	$61,439
Per Capita Income	$28,359	$32,302
Median Home Value	$146,000	$155,800
Median Rent	$768	$833

Source: U.S. Census Bureau[5,6]

The following figure indicates that most of the housing in Hall County was built between 1970 and 1979 (18%). 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 adopted in 2010. The current edition of the IBC was updated in 2018. According to the 2019 American Community Survey, the county has 24,832 housing units with 93 percent of those units occupied. There are approximately 1,319 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.

Figure HAL.3: Housing Units by Year Built



Source: U.S Census Bureau[5]

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

6 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

Table HAL.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hall County	23,096	93%	1,736	7%	14,398	62.3%	8,698	37.7%
Nebraska	759,176	90.7%	78,300	9.3%	501,679	66.1%	257497	33.9%

Source: U.S. Census Bureau[5]

Employment

According to 2018 Business Patterns Census Data, Hall County had 1,889 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars.

Table HAL.6: Business in Hall County

	Total Businesses	Number of Paid Employees	Annual Payroll (In Thousands)
Total for All Sectors	1,889	31,273	$1,241,696

Source: U.S Census Bureau [7]

Agriculture is important to the economic fabric of the State of Nebraska. Hall County's 582 farms cover 328,229 acres of land, about 93% 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 HAL.7: Agricultural Inventory

	Agricultural Inventory
Number of Farms with Harvested Cropland	582
Acres of Harvested Cropland	328,229

Source: USDA Census of Agriculture, 2017[8]

Governance

The county's governmental structure impacts its capability to implement mitigation actions. Hall County is governed by a seven-member board of commissioners. The county also has the following offices and departments:

- County Attorney
- County Public Defender
- County Clerk
- County Treasurer
- County Assessor/Register of Deeds
- Building and Grounds Department
- Emergency Management
- IT Department
- Highway Superintendent
- IT Department
- Public Works Department and Highway Superintendent
- Parks and Recreation
- Planning and Zoning
- Hall County Regional Planning Commission
- Floodplain Administrator/Building Inspector
- Sheriff's Department
- Surveyor/GIS Department
- Central District Health Department
- Corrections Department
- Veterans Services
- Weed Control

7 United States Census Bureau. 2018. "County Business Patterns and 2018 Nonemployer Statistics" [database file]. https://factfinder.census.gov.

8 U.S. Department of Agriculture. "2017 Census of Agriculture." https://www.nass.usda.gov/Publications/AgCensus/2017/.

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. 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.

County funds are limited to maintaining current facilities and systems with a large portion of funds already dedicated to a Prairie Silver Moore's Project. The county struggles to keep up with maintaining existing infrastructure. Funds have stayed the same over recent years.

Table HAL.8: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes (For Roads Only)
	Economic Development Plan	No
	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
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	Central Platte Community Wildfire Protection Plan, Wood River Watershed Flood Risk Reduction Plan, Wood River Watershed Study
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess County's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	Yes (For Roads Only)
	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

Survey Components/Subcomponents		Yes/No
	Water/Sewer Service Fees	No
	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.	Yes
	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	Yes
	Other (if any)	-

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

Plan Integration

Hall 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. The county will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

1-&6-Year Roads Plan

The county also has a 1 & 6-Year Road Plan that is updated annually. The plan includes many hazard mitigation projects such as stormwater projects, upsizing culverts and drainage structures, bridge improvements, and regular maintenance of drainage structures.

Building Codes (2021)

The building code sets standards for constructed buildings and structures. The county has adopted the 2018 International Building Codes and 2018 Residential Building Codes. Some local amendments have been made.

Central Platte Community Wildfire Protection Plan (2019)

The purpose of the Central Platte 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 2017 HMP were

included in the CWPP and wildfire projects in the current HMP will included during the next CWPP update. This document is updated every five years.

Comprehensive Plan (2004)

The comprehensive plan is designed to guide the future actions and growth of the county. It directs development away from the flood and chemical storage facilities. It also limits density in areas adjacent to known hazardous areas, encourages infill development, encourages clustering of development in sensitive areas, and encourages elevation of structures located in the floodplain. Furthermore, it encourages the preservation of open space in hazard-prone areas and allows for emergency access to all areas of the county. An update of the comprehensive plan is scheduled to start in 2022.

Hall County Local Emergency Operations Plan (2020)

The Hall 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. Flooding and dam failure information from the LEOP was incorporated into this HMP updated. This plan is updated every five years.

Wood River Watershed Flood Risk Reduction Plan (Under Development)

The primary purpose of the Wood River Watershed Flood Risk Reduction Plan is flood risk reduction within and near the communities of Riverdale, Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. It will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. This plan is being funded by the Central Platte NRD and NRCS through the Watershed and Flood Prevention Operations (WFPO) Program. Projects identified in the plan with a positive benefit-cost ratio will be reviewed for inclusion in the HMP.

Wood River Watershed Study (2020)

This study was conducted by the Nebraska Silver Jackets to develop the 1% Annual Exceedance Probability (AEP) frequency flow data for the communities of Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. Results reflect that the flow frequency is larger than the effective Flood Insurance Study for the Kearney to Alda reach of the Wood River. The results also estimate an 1% AEP peak discharge that is 15% less than the current design for the Grand Island diversion channel. This study will help support ongoing Watershed Flood Protection Operations studies and future NFIP mapping efforts in the region.

Zoning Ordinance, Floodplain Ordinance, and Subdivision Regulations (2022)

The county's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. These documents reference floodplain maps, discourage development in the floodplain, include well setback requirements, discourages housing and vulnerable population along major transportation routes and near chemical sites, and encourages maintaining open space within the floodplain.

Future Development Trends

Over the past five years, there has been very little development in the unincorporated areas of Hall County. Any new structures were built outside the floodplain or other known hazardous areas. In the next five years, new housing is planned in western Grand Island and businesses are planned in the Grand Island Industrial Park. Most anticipated growth will occur within municipalities or their extraterritorial jurisdictions. Any growth occurring in floodplain areas will follow floodplain regulations.

Community Lifelines

Transportation

Hall County's major transportation corridors include Interstate 80, US Highways 30, 34, 281 and Nebraska State Highways 2 and 11. The most traveled route is Interstate 80 with an average of 24,080 vehicles daily, 8,210 of which are trucks.[9] Chlorine, ethanol, petroleum, and anhydrous ammonia are regularly transported along all of those routes. Chemical spills have rarely occurred, and most have been small. A Burlington Northern Santa Fe Railway rail line runs east to west through the county and a Union Pacific rail line runs northeast to southwest. The county also has the Central Nebraska Regional Airport. The local planning team identified Locust Streets as a concern due to flooding. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors, as well as areas more at risk of transportation incidents.

Hazardous Materials

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are a total of 82 chemical storage sites throughout Hall County which house hazardous materials (listed below). Additionally, the local planning team identified the Hall County Public Works Building (2900 W 2nd St, Grand Island, NE) as a site that houses hazardous materials. In the event of a chemical spill, the local fire departments and emergency response may be the first to respond to the incident.

Table HAL.9: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Agricultural Services Inc	2777 N Broadwell Ave, Grand Island, NE	N
Agricultural Services Inc	101 E Pine St, Doniphan, NE	N
Agricultural Services Inc	150 Railroad St, Alda, NE	N
Agricultural Services Inc	6068 N Highway 11, Cairo, NE	Y (1%)
Agricultural Services Inc	106 W Railroad St, Wood River, NE	N
Alter Nebraska Corporation	1119 E 4th St, Grand Island, NE	N
American Eagle Airlines	3743 Sky Park Rd, Grand Island, NE	N
AmeriCold Logistics LLC	204 E Roberts St, Grand Island, NE	N
Army Aviation Support Facility	3010 E Airport Rd, Grand Island, NE	N
ARS Nebraska LLC	1209 S Alda Rd, Grand Island, NE	N
AT&T NE0900	144 W Roberts St, Grand Island, NE	N
Aurora Co-op Elevator Company	10501 W One-R Rd, Cairo, NE	Y (1%)
Aurora Co-op Elevator Company	2062 W Binfield Rd, Doniphan, NE	N
Aurora Co-op Elevator Company	6236 S Schauppsville Rd, Grand Island, NE	Y (0.2%)
Aurora Co-op Elevator Company	4155 E US Highway 30, Grand Island, NE	Y (1%)

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

Name	Address	Floodplain (Y/N)
BKEP Materials LLC	4112 N Academy Rd, Grand Island, NE	N
Bosselman Energy Inc	W Nebraska Highway 2, Cairo, NE	N
Bosselman Energy Inc	4705 Juergen Rd, Grand Island, NE	N
Bosselman Oil Inc	4380 S Nebraska Hwy 11, Wood River, NE	N
Bosselman Truck Plaza	3431 W Wood River Rd, Grand Island, NE	Y (1%)
Bullet Weights Inc	122 S Apollo St, Alda, NE	N
C W Burdick Generating Station	800 Bischeld St, Grand Island, NE	N
Central Sand & Gravel Co 97	1672 S Shady Bend Rd, Grand Island, NE	N
CenturyLink	103 E Nile St, Cairo, NE	N
CenturyLink Central Office	105 N Wheeler Ave, Grand Island, NE	N
CenturyLink Central Office	1005 Main St, Wood River, NE	Y (0.2%)
Charter Communications NE23129	2533 W Old Lincoln Hwy, Grand Island, NE	N
Chesterman Coca-Cola	1617 Holland Dr, Grand Island, NE	N
Chief Industries Buildings Div	2391 S North Rd, Grand Island, NE	N
Chief Industries Inc	1119 S Adams St, Grand Island, NE	N
Christensen Concrete Products	3990 W US Highway 30, Grand Island, NE	N
CNH America LLC - Miller Bldg	1011 Claude Rd, Grand Island, NE	N
CNH Industrial America LLC	3445 W Stolley Park Rd, Grand Island, NE	N
Consolidated Concrete Co	3440 W Old Highway 30, Grand Island, NE	N
Cooperative Producers Inc	15123 W Wood River Rd, Wood River, NE	N
Darling Ingredients Inc	5251 W Guenther Rd, Grand Island, Ne	Y (1%)
Gerhold Concrete Co	1431 S Webb Rd, Grand Island, NE	N
GI Truck Service	432 S Stuhr Rd, Grand Island, NE	N
GIUD Rogers Reservoir	3990 W Old Potash Hwy, Grand Island, NE	N
Grand Island Olsen Water Tower	997 S Engleman Rd, Grand Island, NE	N
Grand Island Potable Water	2700 Wellfield Rd, Grand Island, NE	N
Grand Island Water Department	364 N Pine St, Grand Island, NE	N
Green Plains Wood River LLC	7874 S 140th Rd, Wood River, NE	N
Hefty Seed	8099 S 150th Rd, Wood River, NE	N
Hornady Manufacturing Company	3625 W Old Potash Hwy, Grand Island, NE	N
Hornady Manufacturing Company	8350 W Old Potash Hwy, Alda, NE	N
Hornady/Alda LLC	108 S Apollo St, Alda, NE	N
Island Supply Welding Co	4920 W US Highway 30, Alda	N
Jiffy Lube 0029	3423 W State St, Grand Island, NE	N
Lineage Logistics LLC	205 E Roberts St, Grand Island, NE	N
Magellan Pipeline Company LP	12275 S US Highway 281, Doniphan, NE	N
Matheson Tri-Gas Inc	2320 S Webb Rd, Grand Island, NE	N
McCain Foods USA Inc	2629 N Broadwell Ave, Grand Island, NE	N
NDOT Grand Island Yard	3305 W Old Potash Hwy, Grand Island, NE	N
Nebraska Machinery Co	10501 S US Highway 281, Doniphan, NE	N
NPPD Doniphan Sys Control Ctr	2060 W Platte River Dr, Doniphan, NE	Y (1%)
Oil Dealers Association	4032 W Old Highway 30, Grand Island, NE	N
Overhead Door Co	2514 E US Highway 30, Grand Island, NE	N
Pepsi Bottling Group LLC	2422 E US Highway 30, Grand Island, NE	N
Pilot Flying J 912	11775 S Nebraska Hwy 11, Wood River, NE	Y (1%)
Pioneer Hi-Bred Intl Inc	12937 S US Highway 281, Doniphan, NE	N
Platte Generating Station	1035 W Wildwood Dr, Grand Island, NE	N
Platte Valley Energetics LLC	8318 W Old Potash Hwy, Alda, NE	N

Name	Address	Floodplain (Y/N)
RoadBuilders Machinery & Sup	4949 Juergen Rd, Grand Island, NE	N
Ryder Truck Rental Inc 0987	4039 Stauss Rd, Grand Island, NE	N
Safety-Kleen Systems Inc	2700 W 2nd St, Grand Island, NE	N
Sam's Club 6461	1510 N Diers Ave, Grand Island, NE	N
Sapp Bros Petroleum Inc	1013 S Adams St, Grand Island, NE	N
Sprint Grand Island POP	333 N Pine St, Grand Island, NE	N
Standard Iron Inc	4160 Gold Core Rd, Grand, Island, NE	N
Sunbelt Rentals 416	510 Claude Rd, Grand Island, NE	N
Swift Beef Company	555 S Stuhr Rd, Grand Island, NE	N
TA Grand Island West	8033 W Holling Rd, Wood River, NE	N
The Home Depot Store 3208	911 Allen Dr, Grand Island, NE	N
Trego/Dugan Aviation Inc	3661 Sky Park Rd, Grand Island, NE	N
Union Pacific Railroad	601 E South Front St, Grand Island, NE	N
US Foods	3636 W Stolley Park Rd, Grand Island, NE	N
VA Nebraska - Western Iowa HCS	2201 N Broadwell Ave, Grand Island, NE	N
Verizon Wireless MTSO	3650 W 13th St, Grand Island, NE	N
Verizon Wireless Newfair	1203 S Stuhr Rd, Grand Island, NE	Y (1%)
Wilbur-Ellis Company LLC	11544 W Rosedale Rd, Prosser, NE	N
Windstream Communications	3650 W 13th St, Grand Island, NE	N

Source: Nebraska Department of Environment and Energy[10]

Health and Medical Facilities

The following medical and health facilities are located within the county.

Table HAL.10: Health and Medical Facilities

Name	Type of Facility	Address	Number of Beds
Prairie Winds	Assisted Living Facility	603 West 6th St Doniphan, NE 68832	35
Edgewood Grand Island Senior Living	Assisted Living Facility	214 North Piper Grand Island, NE 68803	14
Crane Meadows Assisted Living	Assisted Living Facility	4071 Timberline St Grand Island, NE 68803	44
Grand Island Bickford Cottage LLC	Assisted Living Facility	3285 Woodridge Blvd Grand Island, NE 68803	44
Grand Island Country House	Assisted Living Facility	833 Alpha St Grand Island, NE 68803	29
Lebensraum Assisted Living	Assisted Living Facility	118 South Ingalls St Grand Island, NE 68803	33
Primrose Retirement Community of Grand Island	Assisted Living Facility	3990 W Capital Ave Grand Island, NE 68803	42
Riverside Lodge	Assisted Living Facility	404 Woodland Dr Grand Island, NE 68801	75
The Heritage at Sagewood	Assisted Living Facility	1920 Sagewood Ave Grand Island, NE 68803	136
Emerald Nursing and Rehab Lakeview	Assisted Living Facility/Long Term Care Facility	1405 West HWY 34 Grand Island, NE 68801	113

10 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021. https://deq-iis.ne.gov/tier2/tier2Download.html.

Name	Type of Facility	Address	Number of Beds
CHI Health St. Francis	Hospital	2620 West Faidley Ave Grand Island, NE 68803	155
Grand Island Regional Medical Center	Hospital	3533 Prairieview Street Grand Island, NE 68803	67
Azria Health Broadwell	Long Term Care Facility	800 Stoeger Drive Grand Island, NE 68803	76
CHI Health St. Francis	Long Term Care Facility	2116 West Faidley Ave Grand Island, NE 68803	36
Good Samaritan Society - Grand Island Village	Long Term Care Facility	4061 Timberline St Grand Island, NE 68803	67
Tiffany Square	Long Term Care Facility	3119 West Faidley Ave Grand Island, NE 68803	103

Source: Nebraska Department of Health and Human Services[11,12,13,14]

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

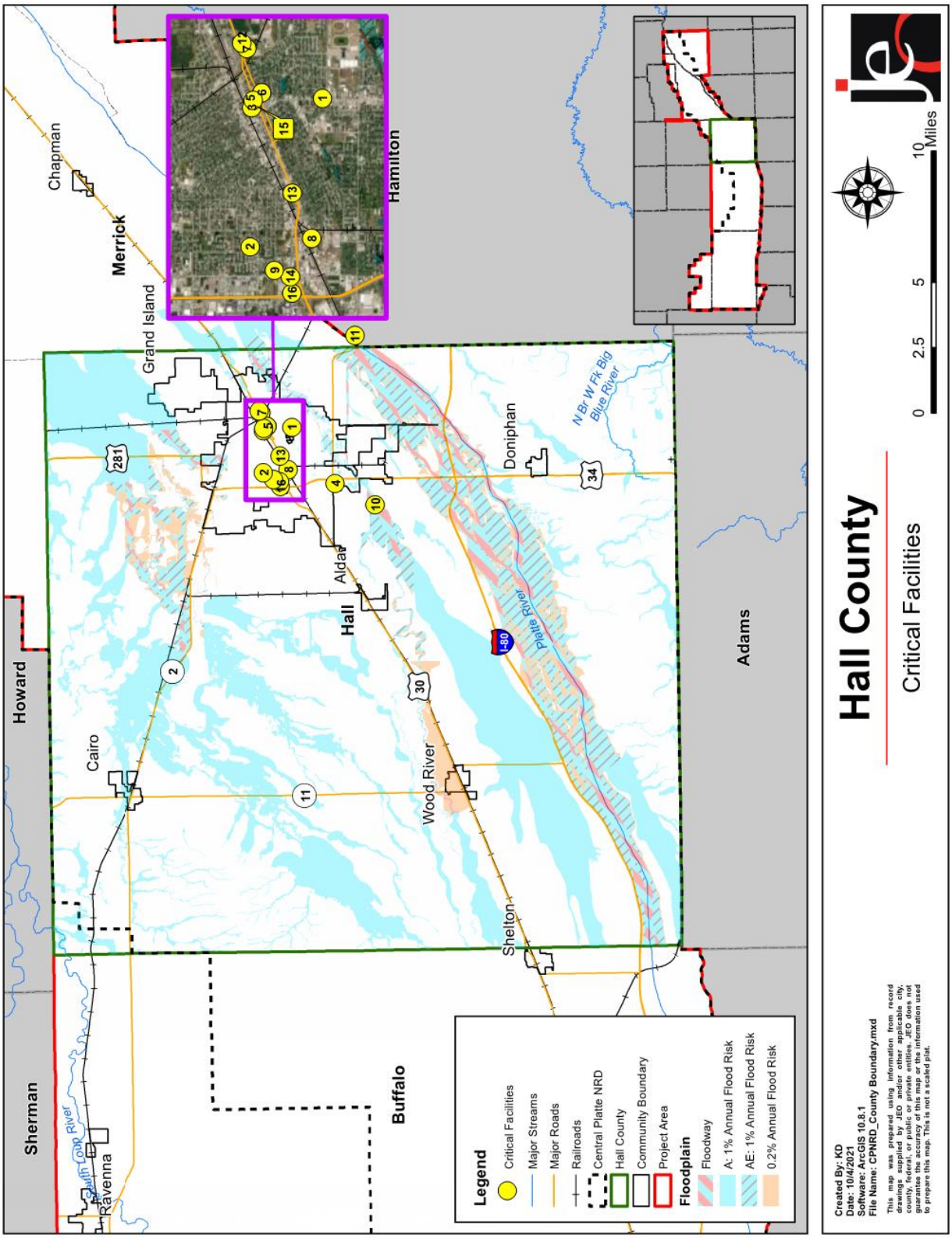
Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

Table HAL.11: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Central District Health Dept.	N	Y	N
2	CHI Health St. Francis	N	Y	N
3	FBI Office	N	N	N
4	Grand Island Regional Medical Center	N	Y	N
5	Hall County Admin	N	N	N
6	Hall County Courthouse	N	Y	N
7	Hall County Jail	N	Y	N
8	Hall County PW	N	Y	N
9	KRGI Station	N	Y	N
10	KRGI Transmitter	N	Y	Y (1%)
11	KRGI Transmitter	N	Y	Y (1%)
12	Law Enforcement Center	N	N	N
13	NDOR District Office	N	Y	N
14	NDOR Maintenance Yard	N	Y	N
15	Nebraska Health & Human Services	N	N	N
16	Nebraska State Patrol	N	Y	N

11 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities." https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf.
12 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals." https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf.
13 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities." https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf.
14 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic." https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

Figure HAL.4: Critical Facilities



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 tables.

Table HAL.12: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
22,119	$3,796,958,806	1,765	$423,220,613	8.0%

Source: County Assessor, 2021

Table HAL.13: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
22,119	$3,796,958,806	822	$126,768,583	3.7%

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 – June 2021) should be considered only as broad estimates. Crop damages reports come from the USDA Risk Management Agency for Hall County between 2000 and 2020.

Table HAL.14: County Hazard Loss History

Hazard Type		Count	Property Damage	Crop Damage[2]
Animal & Plant Disease	Animal Disease[1]	11	19 animals	N/A
	Plant Disease[2]	14	N/A	$391,221
Dam Failure[5]		1	N/A	N/A
Drought[6]		444 of 1,513 months	$0	$10,032,175
Earthquakes[12]		0	$0	N/A
Extreme Heat[7]		Avg. 5 Days a Year	N/A	$4,807,380
Flooding[8]	Flash Flood	0	$0	$1,587,053
	Flood	1	$0	
Grass/Wildfires[9]		68	5,349 acres	$2,490
Hazardous Materials Release	Fixed Site[3]	78	$0	N/A
	Transportation[4]	136	$339,410	N/A
Levee Failure[11]		0	$0.00	N/A
Public Health Emergency		2	N/A	N/A
Severe Thunderstorms[8]	Thunderstorm Wind Range: 50-80 Average: 57	147	$4,041,000	$40,590,394
	Hail Range: 0.75-3.0 in. Average: 1.18 in.	201	$21,137,000	
	Heavy Rain	19	$0	
	Lightning	1	$5,000	

Hazard Type		Count	Property Damage	Crop Damage[2]
Severe Winter Storms[8] *2 Fatalities, 4 Injuries*	Blizzard	10	$105,000	$543,094
	Extreme Cold/Wind Chill	3	$0	
	Heavy Snow	2	$0	
	Ice Storm	8	$10,245,000	
	Winter Storm	45	$435,000	
	Winter Weather	37	$95,000	
Terrorism[10]		1	$0	N/A
Tornadoes and High Winds[8]	Tornadoes Range: EF0-EF1 Average: EF0	11	$1,035,000	$430,000
	High Winds Range: 35-70 Average: 52	53	$1,119,080	$9,086,958
Total		**849**	**$38,556,490**	**$67,470,766**

N/A: Data not available
1 - NDA, 2014 – April 2021
2 - USDA RMA, 2000 – 2020
3 - NRC, 1990 – February 2020
4 - PHSMA, 1971 – June 2021
5 – DNR Communication, July 2021
6 - NOAA, 1895 – January 2021
7 - NOAA Regional Climate Center, 1878 – June 2021
8 - NCEI, 1996 – June 2021
9 - NFS, 2000 - 2020
10 - University of Maryland, 1970-2018
11 – USACE NLN, 1900 – June 2021
12 – USGS, 1900 – June 2021

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the county. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the county's capabilities. For more information regarding regional hazards, please see *Section Four* | *Risk Assessment*.

Flooding

Waterways in the county include the Platte River, Wood River, Prairie Creek, Moores Creek, Silver Creek, and Dry Creek. The Platte River is the controlling drainage for most of the county, which means that the waterways listed previously either run parallel or drain into the Platte River. Riverine and ice jam flooding are the primary concerns for Hall County. Areas most prone to flooding include Wood River, Prairie Creek and Silver Creek near northwest Grand Island, and the Platte River near Amick Acres and Shoemaker Island.

According to the County Emergency Manager, there have been several floods along the Platte River. The following list provides a brief description of each of these events:

- Platte River Ice Jam, February 2017: Flooding primarily near Interstate-80 and Highway 281 interchange.
- Platte River Ice Jam, January 2015: Minor ice jam flooding in Hall County near Hwy 34 and Platte River.
- Platte River Flood, May-June 2015: Minor flooding near I-80 Exit 312 and surrounding fields. Hotels and restaurant surrounded but not damaged.
- Platte River Ice Jam, January 2015: Ice Jam flooding from Alda to the end of Hall County. Damaged roads leading to Grand Island Utilities water wellfields east of South Locust north of the Interstate near Exit 314. County Road damage to Shoemaker Island Road on

Shoemaker Island between branches of the Platte. Homes along Shoemaker Island Road surrounded but not damaged.

- Plate River Flood, November 2014: Ice Jam flooding near I-80 Exit 312 and surrounding fields. Homes south of Mormon Island impacted. Nine Bridge Road bridge impacted by debris and ice.
- Platte River Ice Jam, Feb – March 2014: Ice Jam flooding near I-80 Exit 312 and surrounding fields. Hotels & restaurant surrounded, but not damaged.
- Platte River Flood, September 2013: Minor flooding near I-80 Exit 312 and surrounding fields.
- Flash Flooding – May 2005: Heavy rain set rainfall records for a single event across the county. In Wood River, 12 people had to be evacuated and every structure in the city sustained damages. Thirty-six homes in Grand Island had to be evacuated and many businesses were damaged. Hall County was declared a Federal Disaster Area and damages were estimated to be around $5,000,000.

In addition, county wide flooding occurred in March and August of 2019. Flooding in the City of Wood River caused evacuations of houses and the nursing home. Homes along Prairie Creek and Silver Creek were damaged. Along the Platte River flooding occurred in Amick Acres. Approximately 163 gravel roads were damaged across the county. In addition, crop and pastureland near rivers and creeks had several inches of sand and silt. There was an estimated $1,000,000 in damages from the two events. For additional information about community concerns and damages from these events, see the individual community participant sections. It has been noted that floods following heavy rains appear to be decreasing in occurrence over the past four to five years along the Silver and Prairie Creeks. This is most likely due to the progress made on the detention cells for the Prairie Silver Moore's flood control project near Grand Island. The project took 600 structures out of the floodplain, and it was estimated that Grand Island avoided $47 million in damages because of the project.

Several other flood risk reduction projects have been completed in the county. A small berm project to plug holes in the south bank of Wood River west of the City of Wood River has been completed. A diversion project in Amick Acres was completed to allow excess rainwater to be diverted around the subdivisions. The county also raised the height of the banks of Silver Creek between the railroad tracks and Airport Road to reduce the risk of flooding.

A portion of the county falls under the Wood River Watershed Flood Risk Reduction Plan, which is currently under development. The plan will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. Projects deemed feasible in the plan will be added to this HMP once the planning process has concluded.

Based on the flooding observations and impacts experienced during the March 2019 flood event, a Flood Risk Assessment near the City of Grand Island is underway for selected areas along Silver Creek and Moores Creek. As part the flood risk assessment for these areas, available flood risk models will be utilized to develop additional flood risk scenarios based on March 2019 flooding observations. In addition, building footprint data and field visits will identify flood impact vulnerabilities and risks in these areas.

These flood impact observations and risk assessment findings will be utilized to identify potential flood risk reduction mitigation actions. The mitigation actions will be identified and prioritized based on the most at-risk buildings and property considering the risk assessment. It is anticipated the potential mitigation action alternatives considered will include but not necessarily be limited to

structural mitigation actions (levees, diversion channels, floodplain storage), nonstructural mitigation actions (floodproofing, elevation, acquisition), and programmatic actions (NFIP participation, flooding studies, capital improvement programs). Once the Flood Risk Assessment is completed it will be added to this hazard mitigation plan as an appendix, and recommended mitigation actions integrated into the appropriate jurisdictional profiles.

Hall County is a member of the NFIP, and the county's Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the county was delineated in 08/01/1980 and the current effective map date is 9/26/2008. Over 11% of parcel improvements in the county are located in either the 0.2% or 1% annual flood risk areas (see tables in the Parcel Improvements and Valuation section). As of October 31, 2021, there are 32 policies in-force covering $4,148,900. Hall County has one single family repetitive loss structure. A mitigation action can be found in the county's Mitigation Strategy to address this structure.

The southeastern portion of Hall County has gone through the Risk Mapping, Assessment, and Planning (MAP) process. Risk MAP is a FEMA program that provides communities with flood information and additional flood risk data (e.g., flood depth grids, percent chance grids, areas of mitigation interest, etc.). As part of that process, a HAZUS analysis was performed for the Risk MAP areas. The figure below shows the HAZUS analysis results for Hall County.

Figure HAL.5: Estimated Potential Losses for Flood Event Scenarios

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses[1]	10% Loss Ratio[2]	2% (50-yr) Dollar Losses[1]	2% Loss Ratio[2]	1% (100-yr) Dollar Losses[1]	1% Loss Ratio[2]	0.2% (500-yr) Dollar Losses[1]	0.2% Loss Ratio[2]	Annualized Losses[1] ($/yr)	Ann. Loss Ratio[2]
Residential Building & Contents	$166,200,000	74%	$20,000	0%	$50,000	0%	$60,000	0%	$100,000	0%	$0	0%
Commercial Building & Contents	$33,300,000	15%	$0	0%	$0	0%	$0	0%	$0	0%	$0	0%
Other Building & Contents	$26,500,000	12%	$0	0%	$10,000	0%	$20,000	0%	$30,000	0%	$0	0%
Total Building & Contents[3]	$226,100,000	100%	$30,000	0%	$60,000	0%	$70,000	0%	$100,000	0%	$0	0%
Business Disruption[4]	N/A	N/A	$0	N/A	$0	N/A	$0	N/A	$0	N/A	$0	N/A
TOTAL[5]	**$226,100,000**	**N/A**	**$30,000**	**0%**	**$60,000**	**0%**	**$70,000**	**0%**	**$100,000**	**0%**	**$0**	**0%**

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

[1]Losses shown are rounded to nearest $10,000 for values under $100,000 and to the nearest $100,000 for values over $100,000.
[2]Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.
[3]Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.
[4]Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.
[5]Total = Total Building and Contents + Business Disruption

The figures in this table only represent information within the West Fork Big Blue

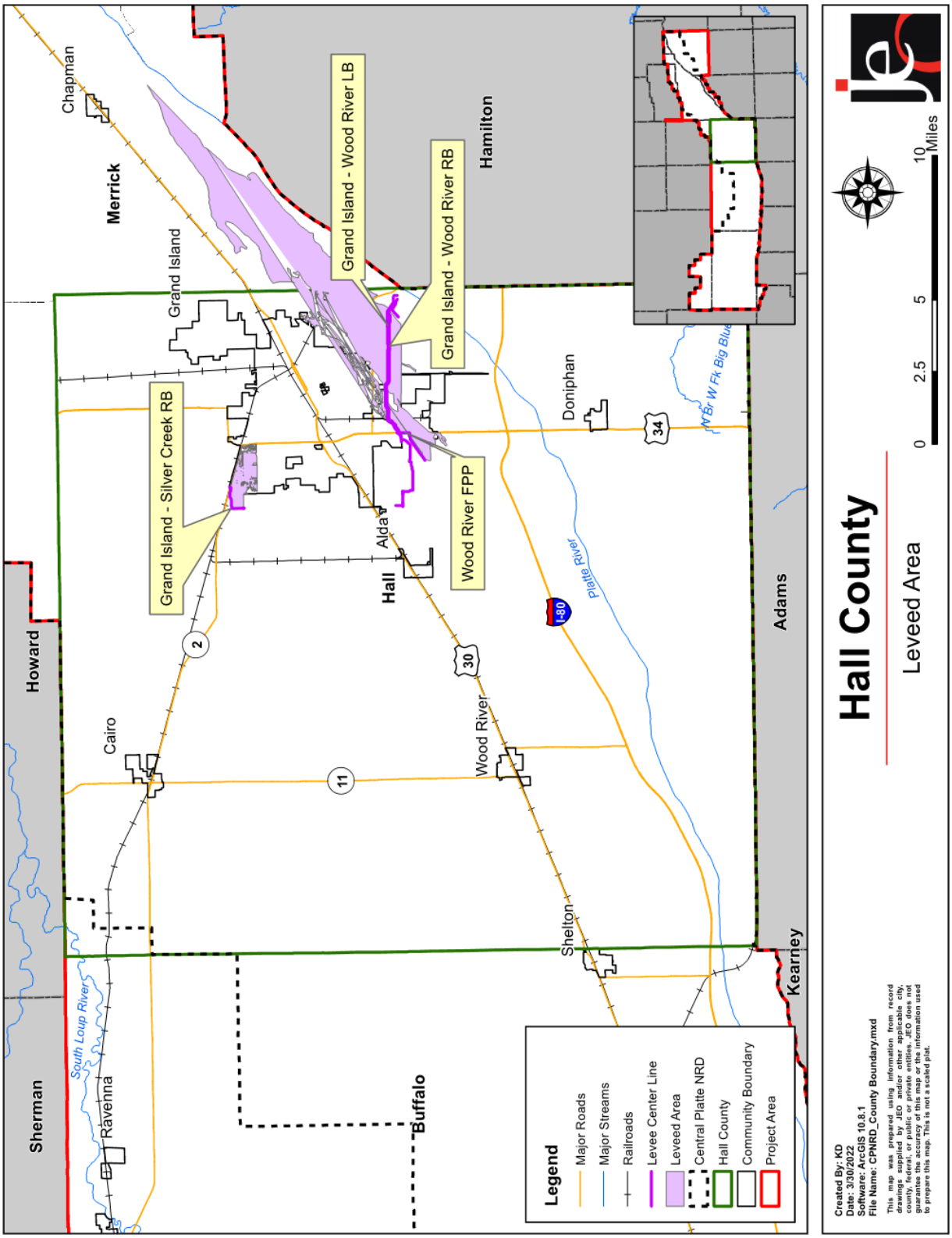
Source: FEMA[15]

Levee Failure

There are four levees in Hall County, Grand Island – Wood River RB, Grand Island – Wood River LB, Grand Island – Silver Creek RB, and Wood River FPP. Both Grand Island – Wood River RB and LB are FEMA accredited levee systems. The Wood River RB Levee is 7.19 miles long and provides protection for 101 people and 118 buildings valued at $64.1 million. The Wood River LB Levee is 8.8 miles long and provides protection for 9,327 people and 3,715 buildings valued at $872 million. Figure HAL.5 shows the location of the levees.

[15] FEMA. January 2017. "Flood Risk Report: West Fork Big Blue, 10270203".

Figure HAL.5: Leveed Area



Public Health Emergency

Covid-19 has exposed a number of vulnerabilities in the county's health and medical resources as well as awareness gaps with regards to vaccines, masks, and other health measures. As of September 24, 2021, Hall County has had 9,254 positive cases of Covid-19 and has a 56% vaccination rate. The JBS meat packing plant had a large outbreak and was heavily impacted in the early months of the pandemic. Other county wide impacts include cancelled events, closed businesses, and loss of life. To help reduce the spread of the virus, the county instituted policies for masking, social distancing, and cleaning of workspaces.

Severe Thunderstorms

Severe thunderstorms are a common occurrence in the region and have caused damage to property and crops. In July 2021, thunderstorm winds damaged powerlines in Alda and west along Highway 30. The local planning team is concerned with possible damage to government property, as well as private and residential property. Heavy rains associated with severe thunderstorms can also cause flash flooding in poor drainage areas. Backup power generators are available at several critical facilities including the 911 Center, Fire Stations, Courthouse, Sheriff's Office, and County Public Works. Hall County completed the StormReady certification in 2016.

Hailstorms can cause serious damage to buildings throughout Hall County, as well as damage crops, which can have a large economic impact across the county. Per the NCEI database, 201 hail events have been reported since 1996 causing over $21,000,000 in damages. County Emergency Management regularly provides public education on hazards. The county has also identified reducing damage from trees during hail and thunderstorms events as a mitigation action.

Severe Winter Storms

Heavy snow, blowing and drifting snow, and ice accumulation can cause road closures, the need for rescuing stranded motorists, power outages, and property damage. On December 30, 2006, a significant ice storm led to ice accumulation on power lines, trees, and roads. This led to widespread tree damage, along with power outages, and damage to power lines and poles. Many residents were without power for several days. Total property damages across the region were estimated at $10,000,000. The Christmas Blizzard of 2009 dumped approximately 12 inches of snow across the county. The combination of heavy snow and high winds lead to white-out conditions, which lead to numerous roadway closures. This included the closing of Interstate 80. More recently, on April 1, 2018, blizzard conditions made travel perilous and shut down the airport in Grand Island. Currently, county snow removal resources, which includes motor graders and front-end loaders, are sufficient. City and village resources, though, need to be improved. The local planning team estimates that approximately 10% of powerlines are buried in the county. Southern Public Power District continues to trim trees along county roads to reduce the risk of power loss.

Tornadoes and High Winds

Tornadoes and high winds have a long and devastating history in Hall County. On June 3rd, 1980, several tornadoes hit Grand Island, destroying entire sections of the community, especially the city's northwest and north central residential areas, and the southern business district. The tornadoes killed five people and injured more than 400. When it was over, the tornadoes had caused $300 million in damages. This event is most famously referred to as Night of the Twisters after a book and television movie were made based on these events. In 1994, a smaller tornado in northwest Grand Island struck a train, overturning several boxcars.

The county offers text alerts through AlertSense, for which residents can register at no cost. Hall County also uses IPAWS and CodeRed for notification. County Emergency Management conducts regular public presentations, storm spotter training, and general information through various communications channels. Outdoor sirens are regularly maintained, and National Weather Service radios are promoted.

Mitigation Strategy

Completed Mitigation Actions

Mitigation Action	Develop an Emergency Preparedness Plan
Description	Develop an Emergency Preparedness Plan (EPP) for the Grand Island Levee System in coordination with Hall County Emergency Management and the CPNRD; the plan should include stakeholder roles and responsibilities, a risk communication plan, emergency activation levels, activation process, evacuation plan, and training and exercise plan.
Hazard(s) Addressed	Levee Failure
Status	Completed in 2018 for the Silver Creek Levee.

New Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	All Hazards
Estimated Cost	$54,750
Local Funding	General fund
Timeline	1-2 years
Priority	High
Lead Agency	Emergency Management
Status	The Village of Cairo, City of Wood River, Village of Doniphan are in need of a new siren.

Mitigation Action	Phragmites Reduction
Description	Work with Platte River Resiliency Project to fund projects to reduce phragmites in the Platte River to help keep channels open and flowing.
Hazard(s) Addressed	Flooding, Animal and Plant Disease
Estimated Cost	$750,000 per year
Local Funding	General Fund
Timeline	Ongoing
Priority	High
Lead Agency	Planning Department, City of Grand Island, Platte River Resiliency Project, Central Platte NRD
Status	This is an ongoing action with phragmites reduction occurring annually.

Mitigation Action	Project Scoping
Description	Evaluate potential flood risk reduction alternatives as identified through either the NRCS WFPO or Grand Island Flood Risk Assessment including project scoping and implementation.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Fund, WFPO, Cost Share
Timeline	2-5 Years
Priority	Medium
Lead Agency	Floodplain Administrator
Status	The Wood River Watershed Flood Risk Reduction Plan and Grand Island Flood Risk Assessment are currently under development. No formal alternatives have yet been determined; however, several alternatives are under further review.

Mitigation Action	Repetitive Loss Property Mitigation
Description	Identify and perform flood mitigation options on repetitive loss properties within the county.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Fund, Private Owner Funds
Timeline	5+ Years
Priority	Low
Lead Agency	Floodplain Administrator
Status	Not Started

Kept Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators; obtain additional generators based on identification and evaluation; provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	$20,000 - $75,000+ per generator
Local Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	County Emergency Management, Individual Departments
Status	Several facilities have purchased and installed generators, but a few remaining facilities need generators.

Mitigation Action	Improve Electrical Service
Description	Evaluate hardening, retrofitting, looping and/or burying of power lines and related infrastructure and/or comparable protection measures; provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails; implement measures to improve electrical service; bury power lines for future construction.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Local Funding	Enterprise Funds
Timeline	Ongoing
Priority	Medium
Lead Agency	Public Works, Southern Public Power District
Status	This is on ongoing action. All new electrical services are buried.

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Conduct stormwater drainage study; evaluate and implement recommendations or comparable measures to improve drainage; evaluate and improve stormwater system.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Local Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Public Works
Status	In Progress. Improvements to drainage have been made between Highway 2 and Airport Road from Engleman Rd to North Rd to reduce risk of flooding. A Drainage study for the drainage slough that starts at Farmstead Subdivision by the Wood River Diversion and runs adjacent to the Meadowlane Subdivision and into Merrick County near the railroad tracks at Gunbarrel Rd has been discussed but has not started.

Mitigation Action	Reduce Tree Damage and Damage from Trees
Description	Conduct tree inventory; develop tree maintenance/trimming program; implement tree maintenance/trimming program; remove hazardous limbs and/or trees.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Winter Storms, Severe Thunderstorms, Grass/Wildfire
Estimated Cost	$100+ per tree
Local Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Parks and Recreation
Status	Not Started

Mitigation Action	Storm Shelter / Safe Room
Description	Identify and evaluate existing safe rooms and/or storm shelters; improve and/or construct safe rooms and/or storm shelters; design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$150 square ft for retrofit; $300 square ft for new construction
Local Funding	General Fund, Bonds
Timeline	5+ Years
Priority	Medium
Lead Agency	Emergency Management, Local Agencies
Status	Head start building beginning its construction. Stuhr Museum is in planning stage. Grand Island Public Schools incorporating safe rooms in construction of new school buildings.

Plan Maintenance

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

Hall County last reviewed their section of the HMP in 2018 and provided updates for historical events. The County Emergency Management Director, Regional Planner, and County Roads Supervisor will be responsible for reviewing and updating the plan in the future. These individuals will review the plan bi-annually. The public will be notified using social media, county website, board meetings, and through a partnership with the CPNRD.

Community Profile

Village of Alda

Central Platte NRD
Hazard Mitigation Plan

2022

Local Planning Team

The Village of Alda'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 the community.

Table ALD.1: Alda Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Ramona Schafer	Clerk/Treasurer	Village of Alda	Grand Island	Grand Island
Chad Nabity	Floodplain Administrator	Village of Alda, Hall County	Lexington – Virtually	Grand Island

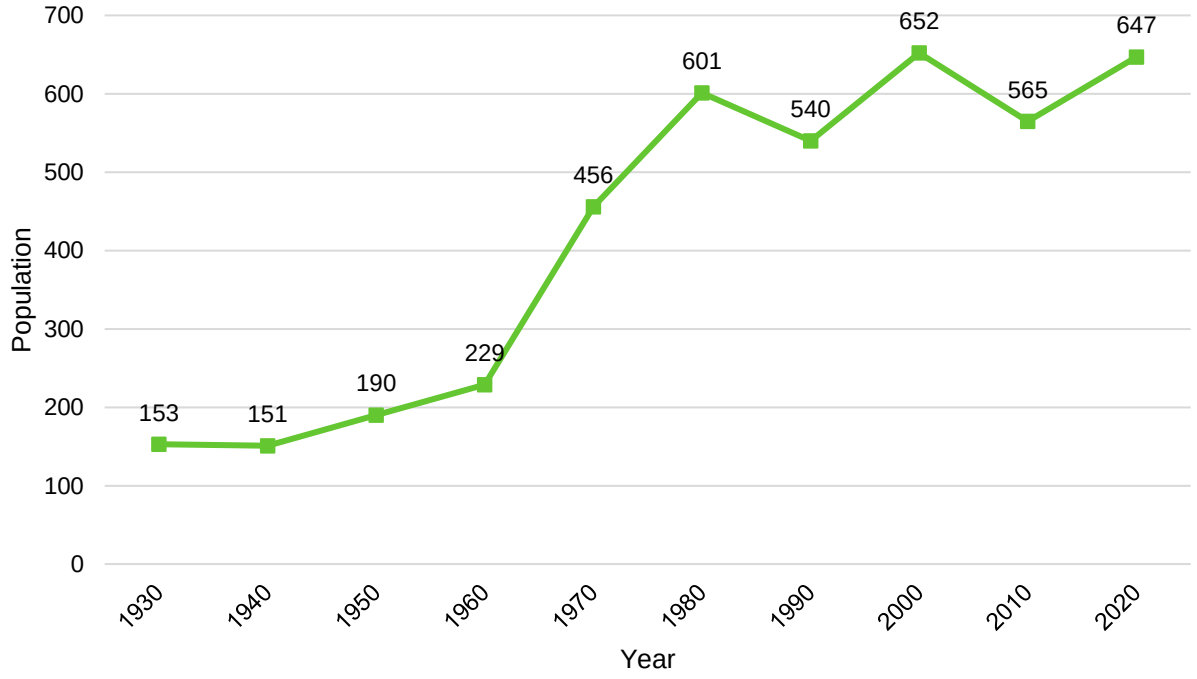
Location and Geography

The Village of Alda is in the center of Hall County and covers an area of 0.35 square miles. The major waterway in the area is the Wood River.

Demographics

The following figure displays the historical population trend for the Village of Alda. This figure indicates that the population of Alda has been increasing since 2010 to 647 people in 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Alda's population accounted for 1% of Hall County's population in 2020.[16]

Figure ALD.1: Population 1930 - 2020



Source: U.S. Census Bureau

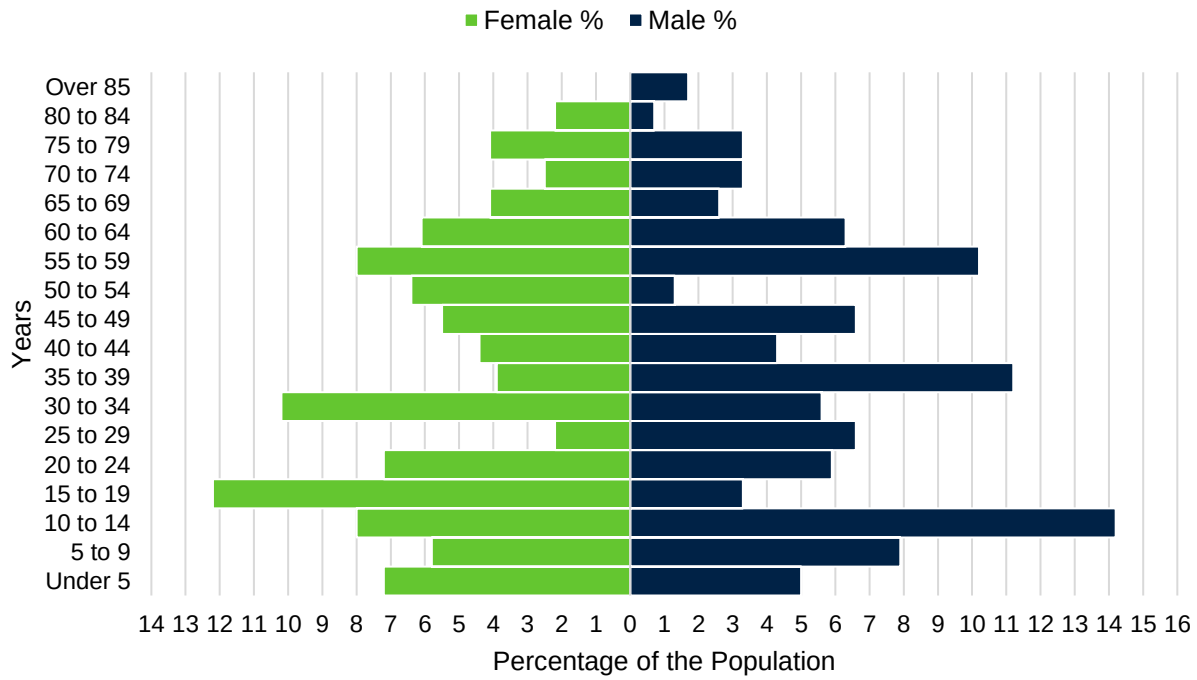
16 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

Figure ALD.2: Village of Alda

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

- **7.8% is non-white.** Since 2010, Alda grew more ethnically diverse. In 2010, 6.4% of the Alda's population was non-white. By 2019, 7.8% was non-white.[17]
- **34.5 median age.** The median age of Alda was 34.5 years in old 2019. The population grew older since 2010, when the median age was 33.5.[18]

Figure ALD.3: Alda's Population Pyramid



The figure above shows Alda's population percentage broken down by sex and five-year age groups. Alda's population is younger with a much higher percentage of the population below 40 years of age. This likely indicates a growing population in the years to come.

Employment and Economics

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

- **5% of people living below the poverty line.** The poverty rate (5%) in the Village of Alda was lower than the state's poverty rate (7.2%) in 2019.[19]
- **$49,514 median household income.** Alda's median household income in 2019 ($49,514) was $11,000 lower than the state ($61,439).[19]
- **3.8% unemployment rate.** In 2019 Alda had a higher unemployment rate (3.8%) when compared to the state (2.3%).[19]

17 United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." https://data.census.gov/cedsci/.
18 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.
19 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

- **13.2% of workers commuted 30 minutes or more to work.** Fewer workers in Alda commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (13.2% compared to 41.6%).[20]

Major Employers

The major employers in the community are Hornady, PMI, Traid, Futek, Bullet Weights, and Merrick Machines. Many of the residents in Alda commute to neighboring communities such as Grand Island, Kearney, and Wood River for work.

Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team indicated that there are mobile homes located at Chestnut Street, Venus Street, 4th Street, and on Highway 30. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

- **25.4% of housing built prior to 1970.** Alda has a smaller share of housing built prior to 1970 than the state (25.4% compared to 46%).[21]
- **9.3% of housing units vacant.** Since 2010, Alda's vacancy rate decreased. In 2010 the vacancy rate was 11.2%. By 2019, 9.3% of housing units were vacant.[21]
- **35.8% mobile and manufacture housing.** The Village of Alda had a larger share of mobile and manufactured housing (35.8%) compared to the state (3.3%).[21]
- **20.6% renter-occupied.** The rental rate of Alda was 20.6% in 2019. The percentage went down since 2010, when renter occupied housing was at 21%.[21]

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

- Clerk/Treasurer
- Planning Commission
- Housing Authority
- Water and Sewer Department
- Volunteer Fire Department
- Village Board of Trustees
- Emergency Management
- Village Maintenance

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

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

Capability Assessment

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

Table ALD.2: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	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
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	Water System Emergency Response Plan, 1 & 6 Year Transportation Plan, Wood River Watershed Flood Risk Reduction Plan, Wood River Watershed Study
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	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	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes

Survey Components/Subcomponents		Yes/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.	Yes
	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
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

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

Plan Integration

Alda 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. The village will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

1- & 6-Year Street and Transportation Improvement Plan (2021)

Alda has a 1- & 6-Year Street Plan and Transportation Improvement Plan that is reviewed and updated annually. The plan includes many hazard mitigation projects such as stormwater projects, upsizing of culverts and drainage structures, and upgrading and regular maintenance of the storm sewer system. It also includes installing street aprons to facilitate drainage, improvements to transportation routes for drainage, bridge improvements, updating electrical distribution system, and installing emergency generators in critical facilities.

Building Code (2021)

The Building Codes for Alda were recently updated in 2021 and are based on the 2018 International Building Code and 2018 International Residential Code. Some local amendments have been made.

Comprehensive Plan (2003)

The comprehensive plan is designed to guide the future actions and growth of the village. It directs development away from the floodplain and directs housing away from chemical storage facilities and major transportation routes. The plan also encourages preservation of open space in hazard-

prone areas and allows for emergency access to all areas of town. The village plans to update the comprehensive plan sometime between 2022 and 2023.

Hall County Local Emergency Operations Plan (2020)

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

Floodplain Ordinance (2021), Zoning Ordinance (2021), and Subdivision Regulations (2021)

The village's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. These documents prohibit development in the floodplain and discourage housing near chemical sites and major transportation routes. There are currently no plans to update these documents.

Water System Emergency Response Plan (2021)

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.

Wood River Watershed Flood Risk Reduction Plan (Under Development)

The primary purpose of the Wood River Watershed Flood Risk Reduction Plan is flood risk reduction within and near the communities of Riverdale, Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. It will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. This plan is being funded by the Central Platte NRD and NRCS through the Watershed and Flood Prevention Operations (WFPO) Program. Projects identified in the plan with a positive benefit-cost ratio will be reviewed for inclusion in the HMP.

Wood River Watershed Study (2020)

This study was conducted by the Nebraska Silver Jackets to develop the 1% Annual Exceedance Probability (AEP) frequency flow data for the communities of Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. Results reflect that the flow frequency is larger than the effective Flood Insurance Study for the Kearney to Alda reach of the Wood River. The results also estimate a 1% AEP peak discharge that is 15% less than the current design for the Grand Island diversion channel. This study will help support ongoing WFPO studies and future NFIP mapping efforts in the region.

Future Development Trends

Over the past five years, there have been some new businesses in the community. There has been no new housing developed and no housing planned for the next five years.

Community Lifelines

Transportation

Alda's major transportation corridors include US Highway 30, which has an average of 6,490 vehicles daily, 475 of which are trucks.[22] The village has one Union Pacific line traveling southwest to northeast on the southern edge of the community. The local planning team noted that no major transportation events have occurred locally. 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

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are five chemical storage sites within or near Alda which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

Table ALD.3: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Bullet Weights Inc	122 S Apollo St	N
Hornady/Alda LLC	108 S Apollo St	N
Hornady Manufacturing Company	8350 W Old Potash Hwy	N
Island Supply Welding Co	4920 W US Highway 30	N
Platte Valley Energetics LLC	8318 W Old Potash Hwy	N

Source: Nebraska Department of Environment and Energy[23]

Health and Medical Facilities

There are no medical and health facilities located within the community.

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

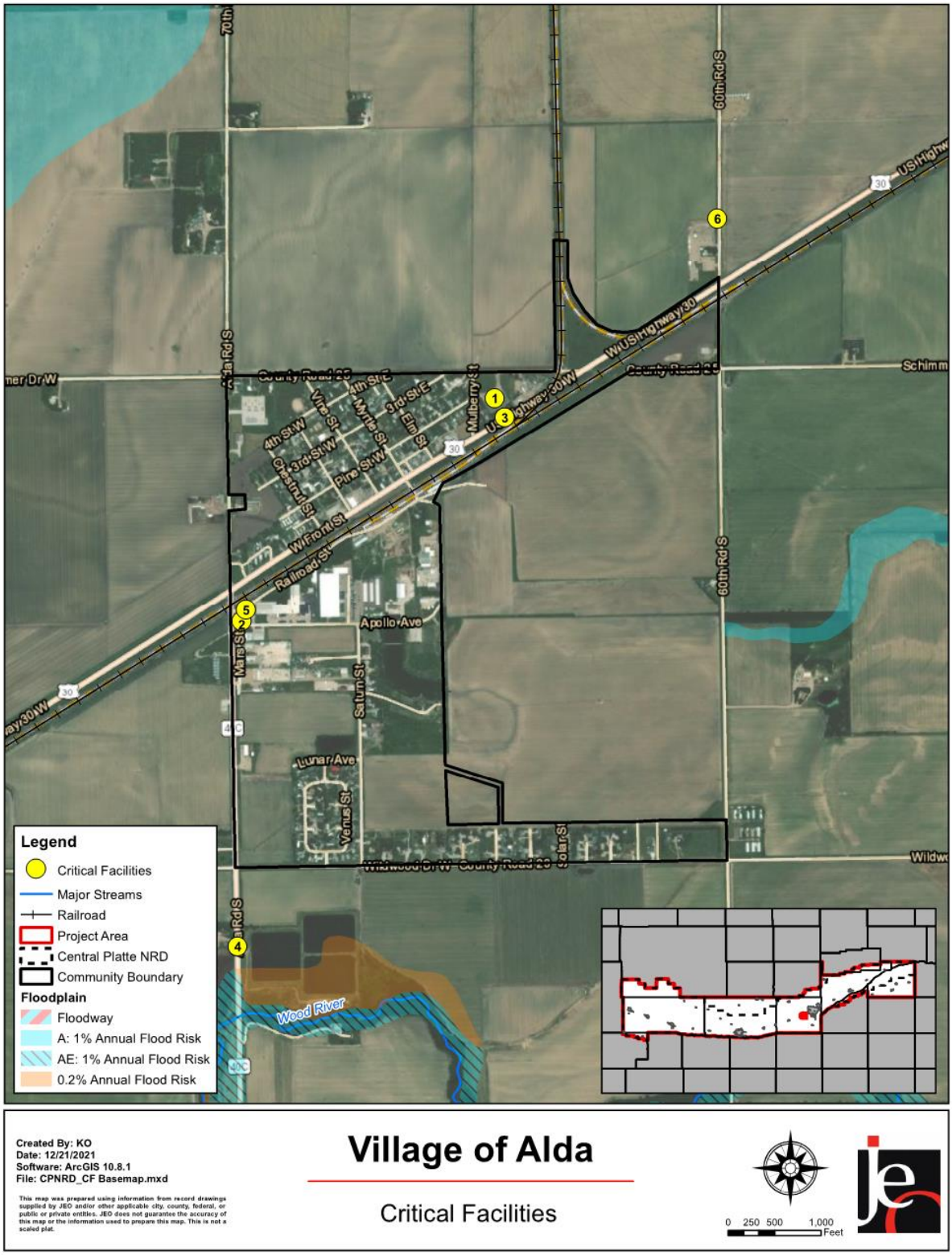
Table ALD.4: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Emergency Operations Center	N	N	N
2	Fire Hall	N	Y – portable	N
3	Village Hall/Community Center	Y	Y	N
4	Wastewater Lagoon	N	N	Y (0.2%)
5	Water Tower and Well	N	N	N
6	Well	N	Y	N

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

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

Figure ALD.4: Critical Facilities



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 tables.

Table ALD.5: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
288	$24,194,435	0	$0	0%

Source: County Assessor, 2021

Table ALD.6: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
288	$24,194,435	0	$0	0%

Source: County Assessor, 2021

Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger scale and more damaging events that impacted the community are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

The village identified flooding as a top hazard of concern as they have a history of flooding. In 2005, torrential rainfall of 5-11 inches on May 11 and 12 led to widespread flash flooding throughout the county. Alda was part of an area that was declared a federal disaster area. Wood River near Alda, which had been dry for three years, tied a record with a crest of 12.2 feet early on the 12th. Records also indicate that Wood River flooded in 1967, 1968, and 1969, although no damage estimates are available. Flood crest data indicates that the June 1968 flood was 11.7 feet, and the March 1969 event was 12 feet. The Village of Alda has flood risk areas to the south and east of the village. To mitigate against this hazard, the village has created a temporary berm to divert floodwaters.

Most of the village falls under the Wood River Watershed Flood Risk Reduction Plan, which is currently under development. The plan will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. Projects deemed feasible in the plan will be added to this HMP once the planning process has concluded.

Alda is a member of the NFIP, and the village's Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the village was delineated in 9/26/2008 and the current effective map date is 9/26/2008. As of October 31, 2021, there is one NFIP policy in-force covering $175,000. Alda does not currently have any repetitive loss or severe repetitive loss structures.

Hazardous Materials Release

The Village of Alda is concerned about chemical spills on the Union Pacific railway and Hwy 30. Gasoline, oil, anhydrous ammonia, and other chemicals are regularly transported on these routes. There are no significant chemical spills reported by PHMSA. Critical facilities vulnerable to a chemical spill during transportation include the village office and community center, water tower, fire hall, water booster station, and wastewater lagoons. Mitigation plans include participating in hazardous spill emergency exercises

Severe Thunderstorms

Alda experiences severe summer thunderstorms annually. The worst of these was in August of 2014, when thunderstorm winds topping 60 mph coupled with one-inch hail that caused $150,000 in property damages. According to NCEI data, there have been 25 severe thunderstorm events in the village that have caused $645,000 in property damages. Community concerns about severe thunderstorms include property damage, power outages, and fire caused by lightning. Critical municipal records are protected by surge protectors. Approximately 25 percent of the power lines in the village are buried. The community has a weather radio in the Village Office. There are several hazardous trees on personal property that need to be removed.

Severe Winter Storms

The most severe winter storm to occur in Alda in recent memory was in December of 2006. Half-inch ice deposits cause widespread tree damage and power outages. During the extreme cold event in February 2021, the village experienced a power outage but had minimal damage. The local planning team is concerned that future severe winter storms will lead to more power outages and a loss of mobility for residents of the village. There are no snow routes in the village, but there is one snow fence in use on the north side of Schimmer Drive. The village maintenance department has sufficient equipment to remove snow including a truck, bobcat, and loader with a snow blade.

Tornadoes and High Winds

In 1974, a tornado passed through Alda, damaging homes and businesses. The village is covered by two warning sirens, one on the south and one on the north sides of the community. The County Emergency Manager offers text alerts. There is one public safe room at the Community Center, but it is not FEMA-certified. Education outreach occurs through the schools during October Safe Month and at the annual community festival, Alda Days. In the event of a future disaster, mutual aid agreements are in place with Rural Hall County, Wood River, Doniphan, Grand Island, Phillips, Chapman, Shelton, St. Libory, Cairo, and Aurora. Future mitigation plans include providing adequate public safe rooms and identifying existing storm shelters.

Mitigation Strategy

Alda's municipal funds are limited to maintaining current facilities and systems and have stayed the same over recent years. Currently a large portion of funds are dedicated to a community center addition in the village.

Completed Mitigation Actions

Mitigation Action	Surge Protectors
Description	Purchase and install surge protectors on sensitive equipment in critical facilities.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms
Status	Completed in 2021.

Mitigation Action	Update Emergency Response Equipment
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment (includes developing backup system for emergency vehicles and identifying and training additional personnel for emergency response).
Hazard(s) Addressed	All Hazards
Status	Purchased new vehicles for the fire department in 2016 and 2022.

New Mitigation Actions

Mitigation Action	Project Scoping
Description	Evaluate potential flood risk reduction alternatives as identified through the NRCS WFPO including project scoping and implementation.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Fund, WFPO
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board, Floodplain Administrator
Status	Wood River Watershed Flood Risk Reduction Plan is currently under development. No formal alternatives have yet been determined; however, several alternatives are under further review for each program with communities in the district.

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Evaluate repetitive loss or potential loss structures located in floodplain; acquire and relocate or demolish flood prone property or elevate flood prone property; elevate equipment vulnerable to flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	$500,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Administrator
Status	This is an ongoing project. It is checked with each flood event.

Kept Mitigation Actions

Mitigation Action	Emergency Exercise: Hazardous Spill
Description	Utilize exercise to prepare for potential explosions or hazardous spills; ensure that nearby businesses and residents have appropriate plans in place.
Hazard(s) Addressed	Hazardous Materials Release
Estimated Cost	$5,000+
Local Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board, Emergency Management
Status	Not Started

Mitigation Action	Public Awareness and Education
Description	Obtain or develop hazard education materials; conduct multi-faceted public education; distribute fact sheets or maps at community events, public schools, other venues and to public and private communication systems; conduct scheduled siren/warning system tests; prepare educational materials listing safe rooms and shelters and evacuation plans; distribute educational materials listing safe rooms and shelters; purchase equipment such as overhead projectors and laptops to facilitate presentation of information.
Hazard(s) Addressed	All Hazards
Estimated Cost	$3,000+
Local Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board, Emergency Management
Status	Not Started

Mitigation Action	Storm Shelter / Safe Rooms
Description	Identify and evaluate existing safe rooms and/or storm shelters; improve and/or construct safe rooms and/or storm shelters; design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$150/sf for Retrofit, $300/sf for New Construction
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Currently looking at the possibility of an underground safe room.

Mitigation Action	Storm Shelter Identification
Description	Identify any existing private or public storm shelters.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	Staff Time
Local Funding	Staff Time
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Emergency Management
Status	Not Started

Mitigation Action	Tree Planting / Assistance for Tree Planting
Description	Educate public on appropriate tree planning and establish an annual tree trimming program to assist low income and elderly residents; develop tree planting and maintenance guidelines.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$500
Local Funding	General Fund, NRD Cost Share
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	The village established a new park and trees will be planted there.

Plan Maintenance

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

Alda last reviewed their section of the HMP in 2017 during the plan update. The Board Chairman, Village Emergency Management Director, and Clerk/Treasurer will be responsible for reviewing and updating the plan in the future. These individuals will review the plan annually during a public board meeting. The public will also be notified through social media.

Community Profile

Village of Cairo

Central Platte NRD
Hazard Mitigation Plan

2022

Local Planning Team

The Village of Cairo'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 the community.

Table CAI.1: Cairo Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Jaime Rathman	Clerk/Treasurer	Village of Cairo	Grand Island	Grand Island
Chad Nabity	Floodplain Administrator	Village of Cairo, Hall County	Lexington – Virtual	Grand Island

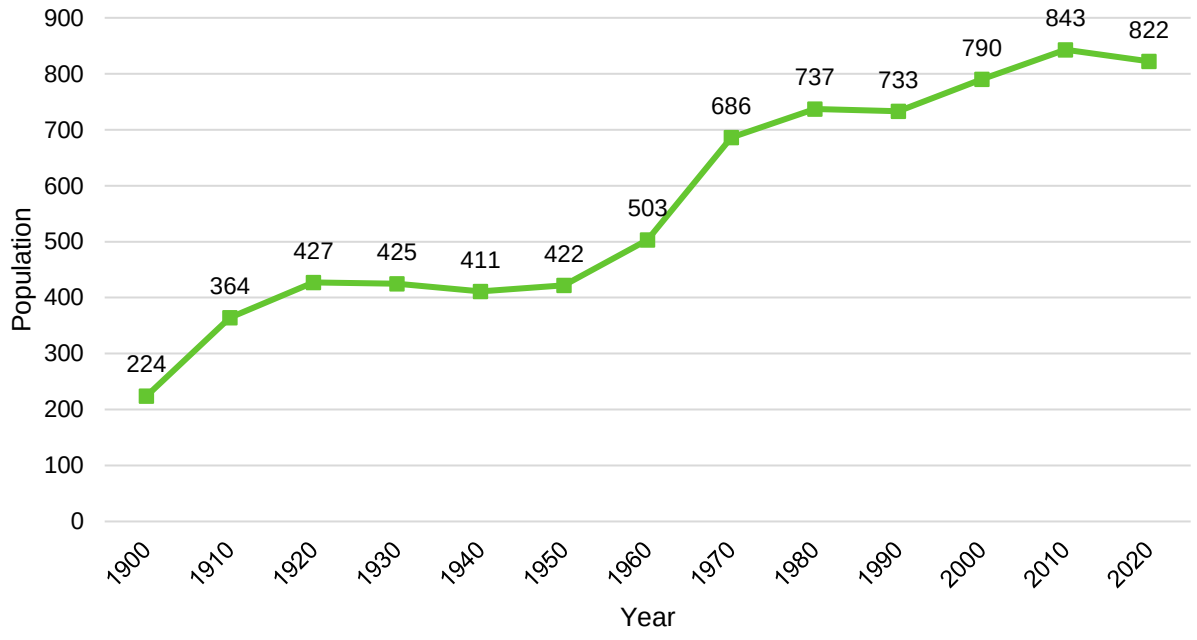
Location and Geography

The Village of Cairo is in northwestern Hall County and covers an area of 0.77 square miles. The Middle Loup River is located a couple of miles north of the community.

Demographics

The following figure displays the historical population trend for the Village of Cairo. This figure indicates that the population has been declining since 2010 to 822 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Cairo's population accounted for 1.3% of Hall County's population in 2020.[24]

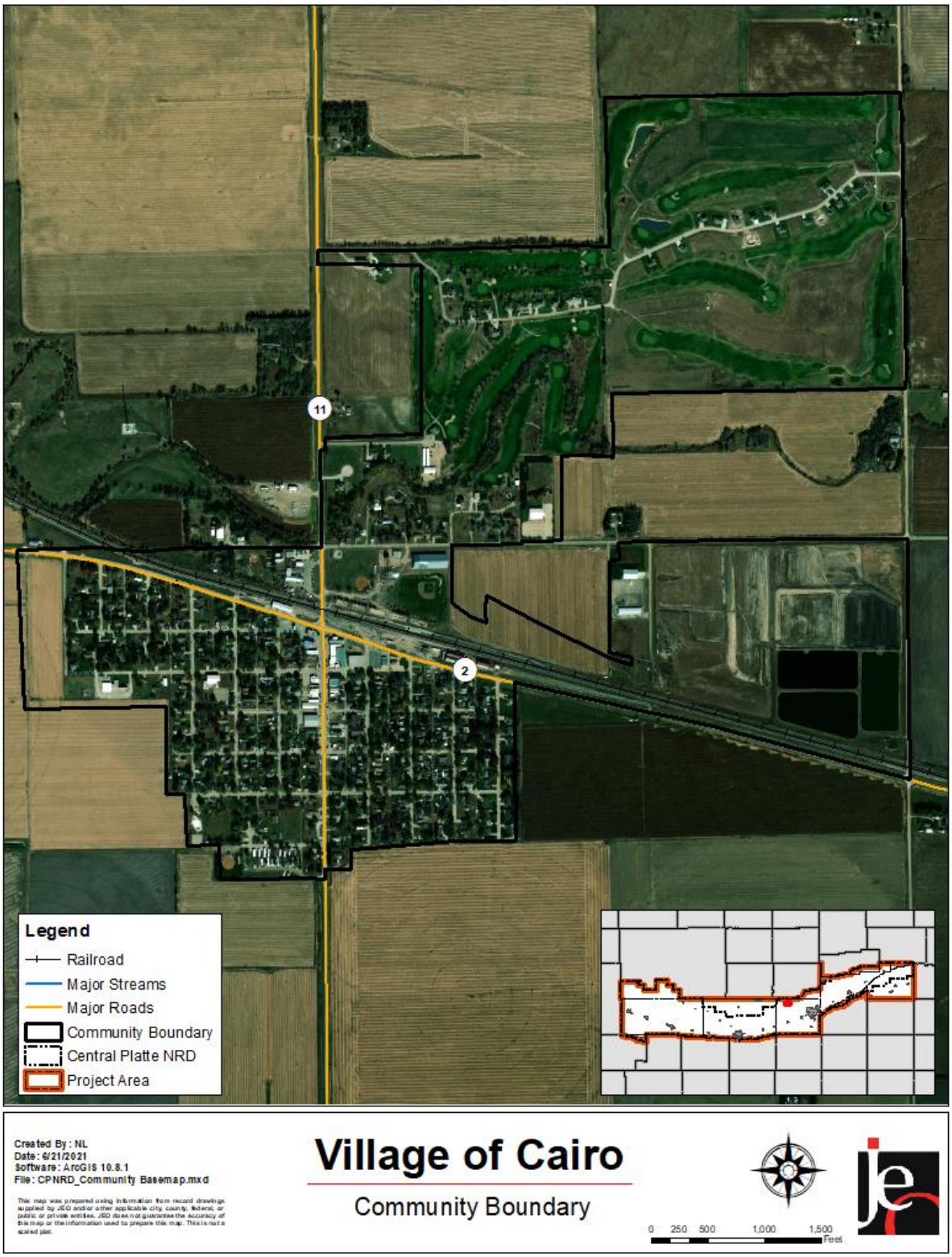
Figure CAI.1: Population 1900 – 2020



Source: U.S. Census Bureau

24 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

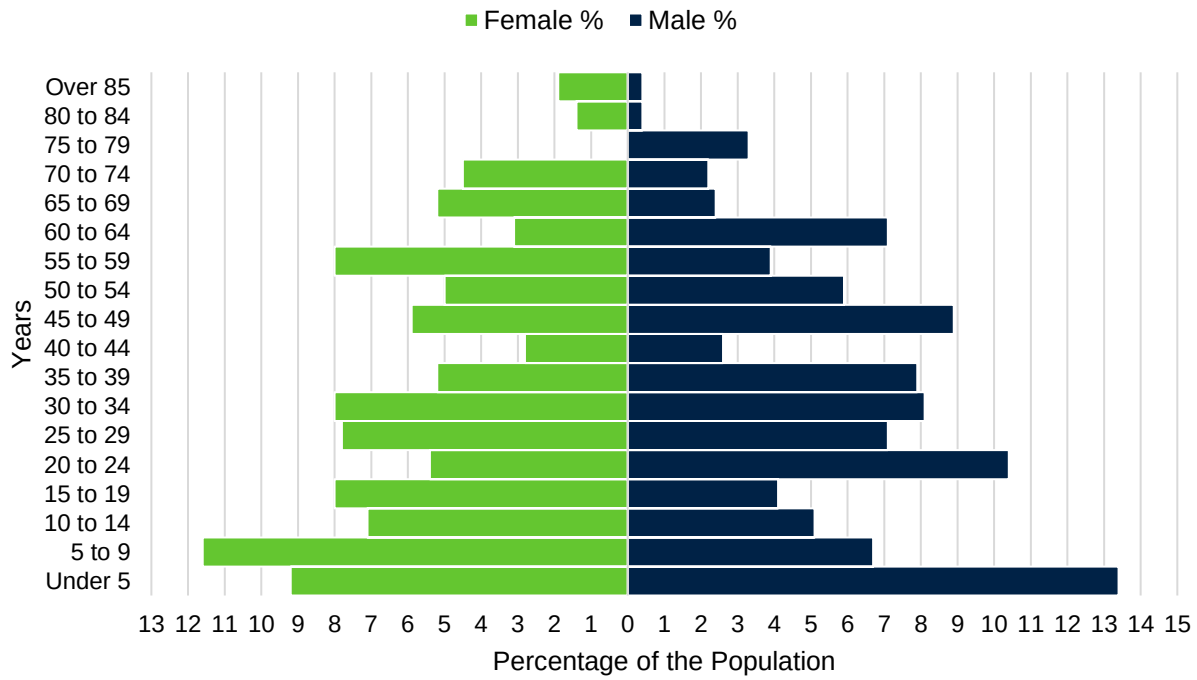
Figure CAI.2: Village of Cairo



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

- **5.1% is non-white.** Since 2010, Cairo grew more ethnically diverse. In 2010, 0.8% of the villages' population was non-white. By 2019, 5.1% was non-white.[25]
- **Younger median age.** The median age of Cairo was 31.2 years in old 2019. The population grew younger since 2010, when the median age was 37.7.[26]

Figure CAI.3: Cairo's Population Pyramid



The figure above shows Cairo's population percentage broken down by sex and five-year age groups. Cairo's population is younger with a much higher percentage of the population below 40 years of age. This likely indicates a growing population in the years to come.

Employment and Economics

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

- **11.8% of people living below the poverty line.** The poverty rate (11.8%) in the Village of Cairo was higher than the state's poverty rate (7.2%) in 2019.[27]
- **$56,583 median household income.** Cairo's median household income in 2019 ($56,583) was $4,856 lower than the state ($61,439).[27]
- **3.6% unemployment rate.** In 2019, Cairo has a higher unemployment rate (3.6%) when compared to the state (2.3%).[27]

25 United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." https://data.census.gov/cedsci/.
26 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.
27 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

- **17.6% of workers commuted 30 minutes or more to work.** Fewer workers in Cairo commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (17.6% compared to 22.3%).[28]

Major Employers

The major employers in the community are Baasch, Pump and Pantry, ABC Daycare, Medina Street Vault, Stretch Power Sports, and Centura. Many of the residents commute to Grand Island for work.

Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team noted that there is a mobile home park with approximately 20 mobile homes located on the south edge of the village along W Oasis Street. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

- **56.7% of housing built prior to 1970.** Cairo has a larger share of housing built prior to 1970 than the state (56.7% compared to 46%).[29]
- **9.6% of housing units vacant.** Since 2010, Cairo's vacancy rate grew. In 2010 the vacancy rate was 7.2%. By 2019, 9.6% of housing units were vacant.[29]
- **7.8% mobile and manufacture housing.** The Village of Cairo had a larger share of mobile and manufactured housing (7.8%) compared to the state (3.3%).[29]
- **37% renter-occupied.** The rental rate of Cairo was 37% in 2019. The percentage went up since 2010, when renter occupied housing was at 24.6%.[29]

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 Cairo is governed by a Board Chairperson and a four-member village board; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk/Treasurer
- Volunteer Fire Department
- Cairo QRT
- Street/Water Commissioner
- Park and Recreation
- Floodplain Administrator

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

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

Capability Assessment

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

The village creates a budget each year for all capital expense. There is a surplus of funds for emergencies, but those funds are rarely used. Municipal funds have stayed the same over recent years.

Table CAI.2: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	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
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	County
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No

Survey Components/Subcomponents		Yes/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)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

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

Plan Integration

Cairo 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. The village will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Building Code (2021)

The building code sets standards for constructed buildings and structures. The village's building code was last updated in 2021 and follows Hall County's building code, which is based on the 2018 International Building Code and 2018 Residential Code. Some local amendments have been made.

Comprehensive Plan (2021)

The comprehensive plan is designed to guide the future actions and growth of the village. It contains goals and objectives aimed at safe growth, encourages clustering of development in sensitive areas, encourages elevation of structures located in the floodplain, identifies areas that need emergency shelters, and encourages preservation of open space in hazard-prone areas. Specific hazards such as flooding, severe weather, and drought are also discussed in the plan.

Hall County Local Emergency Operations Plan (2020)

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

Zoning Ordinance (2004), Floodplain Ordinance, and Subdivision Regulations (2004)

The village's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. These documents discourage development in the floodplain, prohibit development in the floodway, discourage residential development near chemical storage sites and major transportation routes, and contain natural hazard layers. They also encourage maintaining open space within the floodplain and limit development in the extraterritorial jurisdiction

1- & 6-Year Plan (2022)

Cairo has a 1 & 6-Year Plan that is reviewed and updated annually. The plan includes stormwater projects, upsizing of culverts and drainage structures, regular maintenance of structures, and upgrading and maintenance of the storm sewer system. It also includes the installation of street aprons to facilitate drainage, improving transportation routes for drainage, bridge improvements and installing emergency generators in critical facilities.

Future Development Trends

In the past five years, the Village of Cairo has had a new bank, golf course, and multiple homes built. There has also been new infrastructure built at the industrial park and two new lagoons constructed. In the next five years, the community hopes to have housing and businesses built at the industrial park.

Community Lifelines

Transportation

Cairo's major transportation corridors include State Highway 2, and 11. The most traveled route is Highway 2 with an average of 3,460 vehicles daily, 325 of which are trucks.[30] The village has one Burlington Northern Santa Fe Railway line traveling southeast to northwest through the central portion of the community. The local planning team noted that the fire department, senior center, and New Hope Christian School are all located along Highway 11. 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

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are four chemical storage sites within or near Cairo which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

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

Table CAI.3: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Agricultural Services Inc	6068 N Highway 11	Y (1%)
Aurora Co-op Elevator Company	10501 W One-R Rd	Y (1%)
Bosselman Energy Inc	W Nebraska Highway 2	N
CenturyLink	103 E Nile St	N

Source: Nebraska Department of Environment and Energy[31]

Health and Medical Facilities

There are no medical and health facilities located within the community.

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

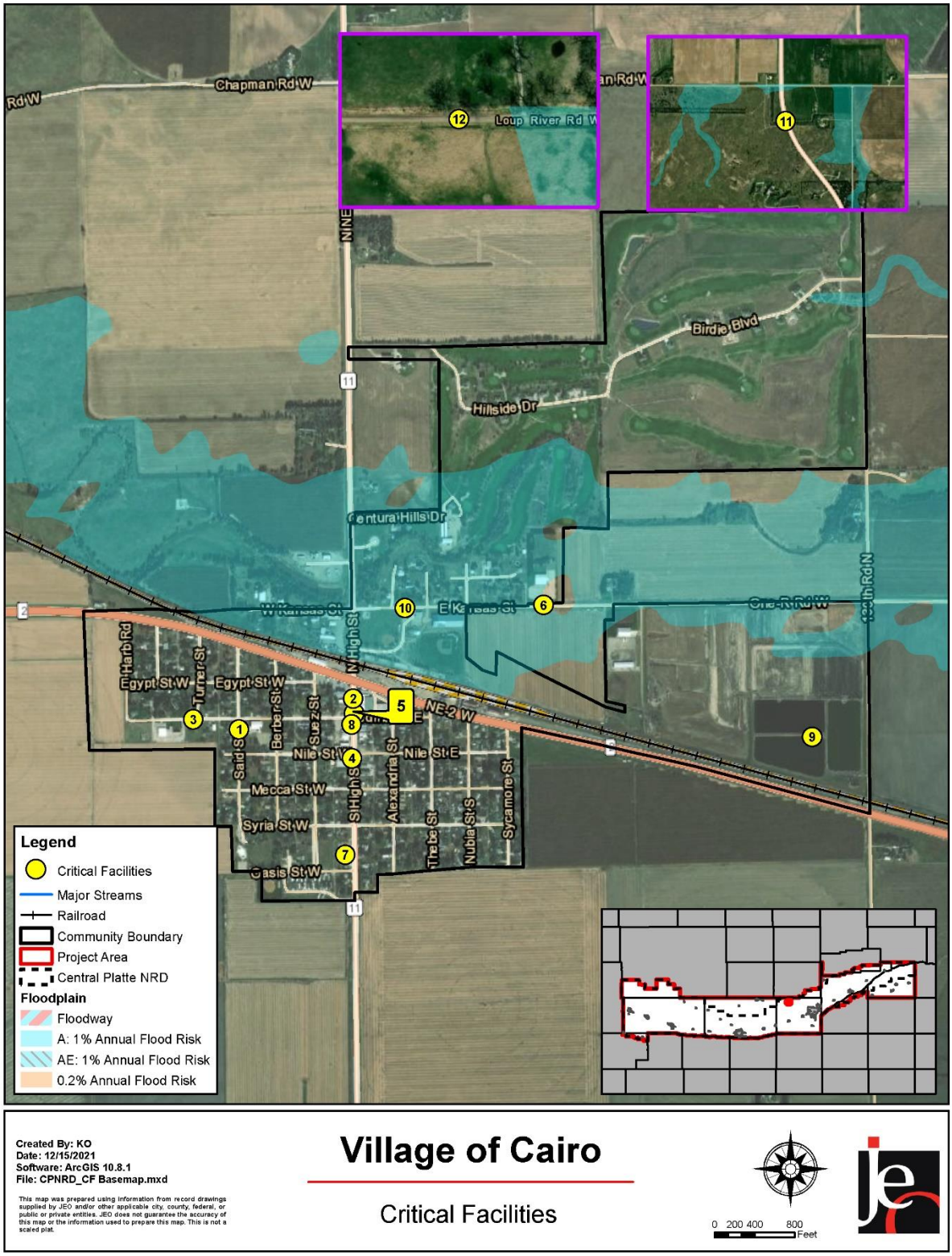
Table CAI.4: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Cairo Community Center	Y	N	N
2	Centura Public School	Y	N	N
3	Christ Lutheran Church	Y	N	N
4	Fire & Rescue/Village Hall Building	N	Y	N
5	First Baptist Church	Y	N	N
6	Methodist Church	N	N	Y (1%)
7	New Hope Christian School	N	N	N
8	Senior Center	N	N	N
9	Wastewater Lagoon	N	N	N
10	Water Tower	N	N	Y (1%)
11*	Water Well	N	N	N
12**	Water Well	N	N	N

*Water well is located approximately two miles north of the village off Highway 11.
*Water well is located approximately three miles northeast of the village off Loup River Rd W.

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

Figure CAI.4: Critical Facilities



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 tables.

Table CAI.5: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
390	$45,041,079	35	$5,212,307	9.0%

Source: County Assessor, 2021

Table CAI.6: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
390	$45,041,079	0	$0	0%

Source: County Assessor, 2021

Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger scale and more damaging events that impacted the community are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

Cairo's flood risk area of concern passes through the center of the community parallel to Highway 2, along its northern edge. The creek in this area is at risk of flash flooding. Previously, the northern part of town was at greatest risk of flooding during heavy rain events, and poor stormwater drainage in that area was an issue. However, many of the risks associated with flooding have been mitigated in part by previous actions. The community conducted a stormwater drainage study and implemented the subsequent findings. During the flooding event in 2019 the village experienced high water in some areas but did not experience any damages. No evacuations were necessary during the event. The community has been working on drainage projects and has installed wider culverts to alleviate some flood-prone areas.

In 2007, the NRD provided $50,000 to the community of Cairo to add a 48" drainage outlet for the downtown improvement project to divert excess water along the Highway 11 corridor. The previous drainage system couldn't handle a one-year rainfall event, which caused overflow ponds and flooding in low areas.

Cairo is a member of the NFIP, and the village's Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the village was delineated in 6/20/1978 and the current effective map date is 9/26/2008. An estimated 9% of

parcel improvements in the village are located in the 1% annual flood risk area (see table in the Parcel Improvements and Valuation section). As of October 31, 2021, there are four NFIP policies in-force covering $616,400. Cairo does not currently have any repetitive loss or severe repetitive loss structures.

Severe Thunderstorms

In May of 2002, a particularly strong thunderstorm passed through central Nebraska. In Cairo, 80mph winds blew windows out of cars and damage the roofs of businesses. Property damages totaled $150,000 in the area. In 2019, severe thunderstorm winds caused damage to roofs, bleachers, and sprinklers that had to be replaced in the community. The primary concern regarding severe thunderstorms is power outages. Approximately ten percent of the power lines in Cairo are buried. There are weather radios in the Fire Hall and Centura Public Schools. Critical municipal records are protected with surge protectors and most critical facilities have backup power generators. Future thunderstorm hazard mitigation plans include providing backup generators to the critical facilities without backup sources of power and identifying storm shelters.

Severe Winter Storms

Cairo has experienced many significant severe winter storms. The local planning team and NCEI report three storms that were particularly fierce. In January of 1999, several deaths were caused in vehicle accidents on Highway 30 when ice and snow caused the Highway to become treacherous. Sub-zero temperatures during this storm caused the death of a 55-year-old man in Cairo due to exposure. The December 2009 blizzard brought almost a foot of snow in three days and subsequent power outages across central Nebraska. The blizzard of February 2016 had such significant snow falls that snow removal and associated public works costs totaled $438,000. The main concern about winter storms is power outages. Village Maintenance is in charge of snow removal for the village, especially along the snow route. The tractor, bobcat, and payloader are considered adequate for Cairo's snow removal needs. The village recently purchased a blower attachment for the tractor to move larger amounts of snow. There are currently no designated snow routes in town. Severe winter storm hazard mitigation plans involve providing backup generators for those critical facilities without them.

Tornadoes and High Winds

The last tornado to touch down near Cairo occurred in June of 1997. This F1 tornado destroyed a barn and resulted in $450,000 in property damage. The local planning team is concerned about power outages related to tornadoes and high winds. Critical municipal records are backed up with software and thumb drives. There is a FEMA-certified safe room in the community center for public use, and alternate safe rooms in the bank and fire hall. Community education outreach centers mostly on tornadoes. The school conducts tornado drills, and the Fire Department sponsors weather alert meetings. Severe weather notification is limited to the warning siren located by the fire department. It effectively covers all of Cairo but does need to be updated. In the case of a disaster event, mutual aid agreements are in place with Doniphan, Wood River, Alda, Grand Island, and rural Hall County. The village has removed hazardous trees in the community. Hazard mitigation plans include providing backup generators, replacing the alert siren, and identifying storm shelters in the community.

Mitigation Strategy

New Mitigation Actions

Mitigation Action Name	Alert Sirens
Description	Evaluate and replace the existing tornado siren.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$18,000
Local Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Hall County Emergency Management
Status	Paperwork for the grant has been submitted.

Mitigation Action Name	Improve Flood and Stormwater Detention / Retention Capacity
Description	Expand the culvert on the south side of the community.
Hazard(s) Addressed	Flooding
Estimated Cost	Unknown
Local Funding	Street Account
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Planning Stage. Currently in talks with a bulldozer company for an estimate on cost.

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Evaluate repetitive loss or potential loss structures located in floodplain; acquire and relocate or demolish flood prone property or elevate flood prone property; elevate equipment vulnerable to flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	$500,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Administrator
Status	This is an ongoing project. It is checked with each flood event.

Kept Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators; obtain additional generators based on identification and evaluation; provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	$20,000-$75,000+ per Generator
Local Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Planning Stage

Mitigation Action	Storm Shelter Identification
Description	Identify any existing private or public storm shelters.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	Staff Time
Local Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Hall County Emergency Management
Status	Planning Stage

Plan Maintenance

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

Cairo last reviewed their section of the HMP in 2017 during the required plan update. The Community Developer, Village Board, Clerk, and Deputy Clerk will be responsible for reviewing and updating the plan in the future. These individuals will review the plan annually at a council meeting.

Community Profile

Village of Doniphan

Central Platte NRD
Hazard Mitigation Plan

2022

Local Planning Team

The Village of Doniphan'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 by the community.

Table DON.1: Doniphan Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Karee Dvorak	Village Emergency Manager	Village of Doniphan	-	Recording
Kim Finecy	Village Clerk	Village of Doniphan	-	-
Tyson Coble	Doniphan Fire Department	Village of Doniphan	Grand Island	-
Chad Nabity	Floodplain Administrator	Village of Doniphan, Hall County	Lexington – Virtually	Grand Island
Carla Maurer	-	Village of Doniphan	Grand Island	-

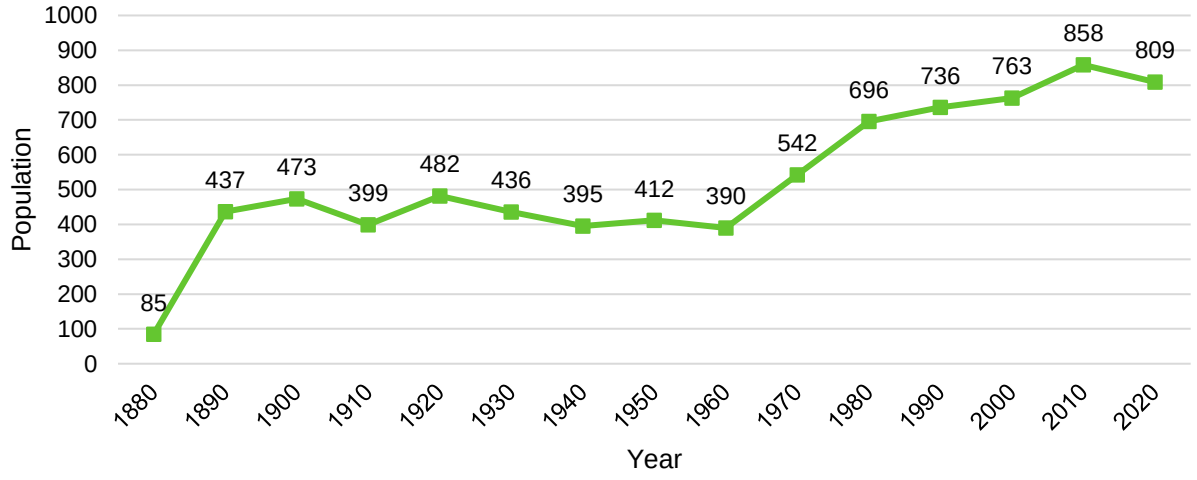
Location and Geography

The Village of Doniphan is in the southeastern corner of Hall County and covers an area of 0.51 square miles. The major waterway in the area is the Platte River.

Demographics

The following figure displays the historical population trend for the Village of Doniphan. This figure indicates that the population of Doniphan has been declining since 2010 to 809 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Doniphan's population accounted for 1.3% of Hall County's population in 2020.[32]

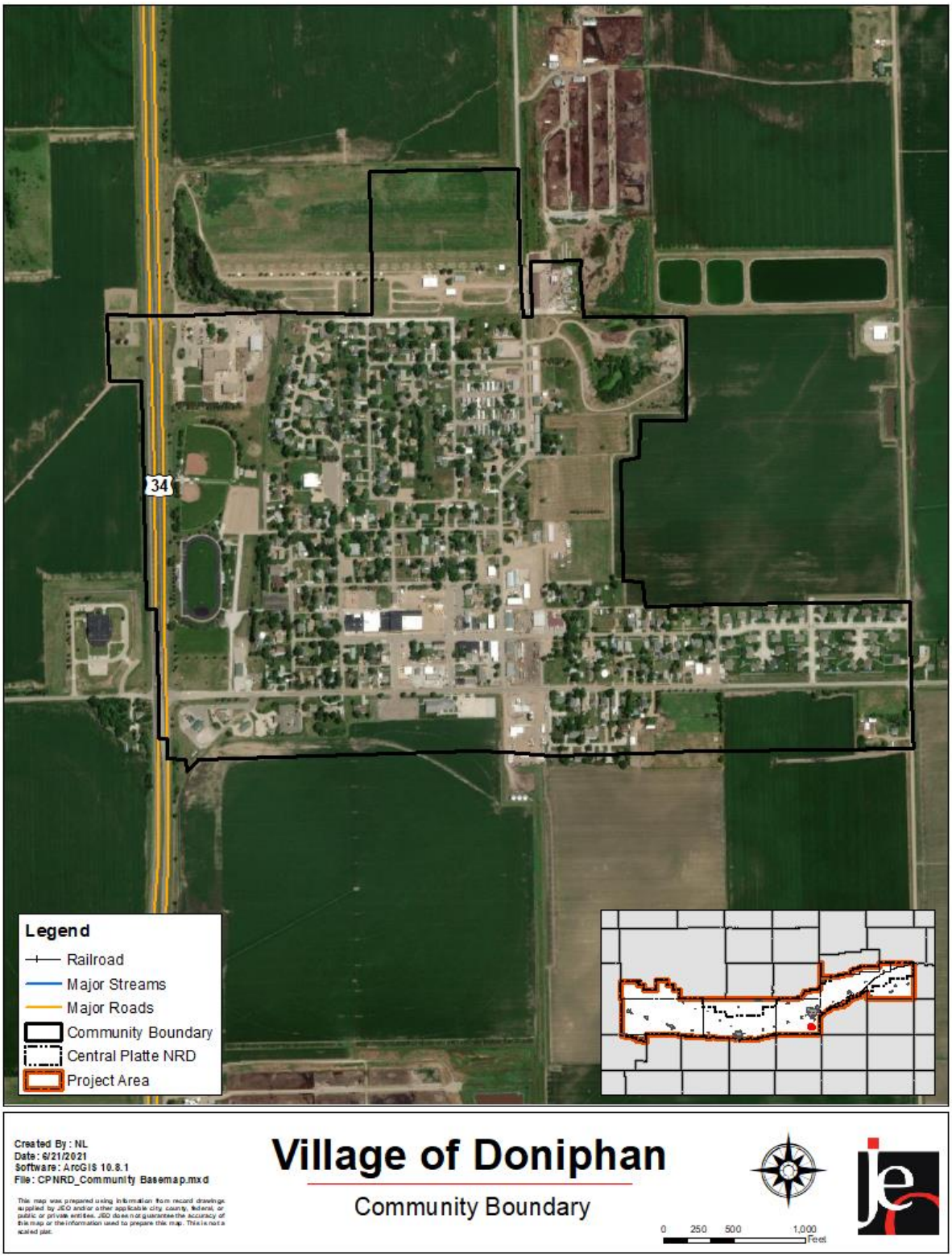
Figure DON.1: Population 1880 – 2020



Source: U.S. Census Bureau

32 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

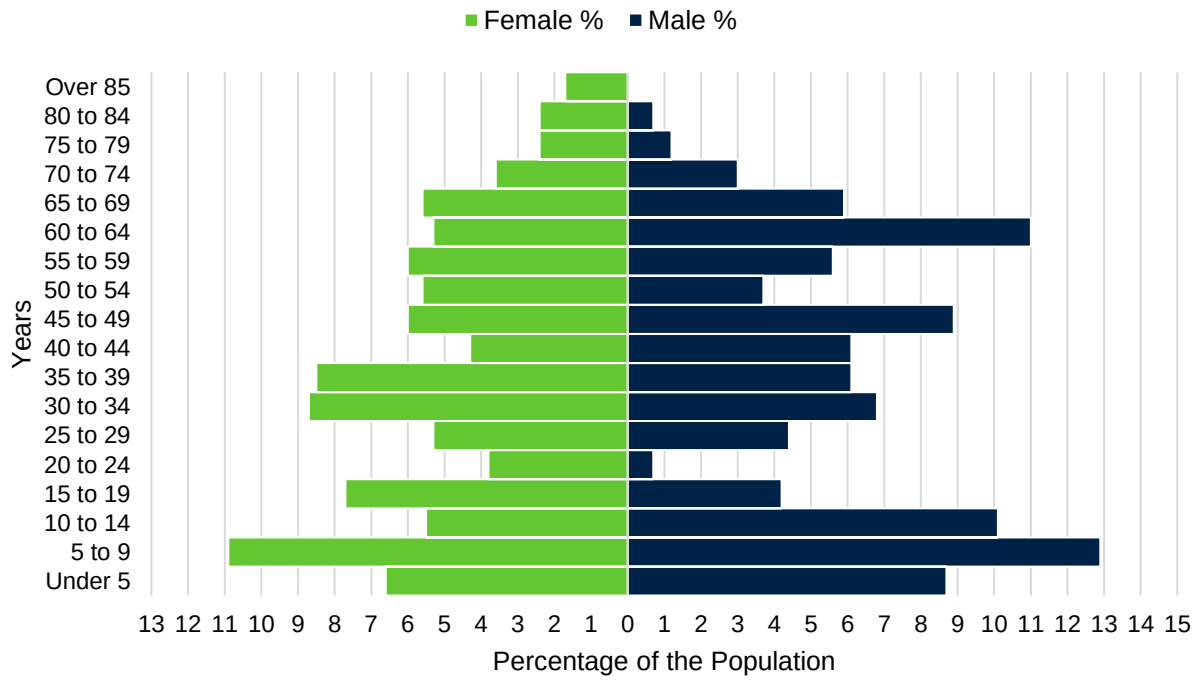
Figure DON.2: Village of Doniphan



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

- **1.1% is non-white.** Since 2010, Doniphan grew less ethnically diverse. In 2010, 4.2% of the Doniphan's population was non-white. By 2019, 1.1% was non-white.[33]
- **Older median age.** The median age of Doniphan was 36.9 years in old 2019. The population grew older since 2010, when the median age was 34.[34]

Figure DON.3: Doniphan's Population Pyramid



The figure above shows Doniphan's population percentage broken down by sex and five-year age groups. Doniphan's population is younger with a much higher percentage of the population below 40 years of age. This likely indicates a growing population in the years to come.

Employment and Economics

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

- **2.6% of people living below the poverty line.** The poverty rate (2.6%) in the Village of Doniphan was lower than the state's poverty rate (7.2%) in 2019.[35]
- **$73,083 median household income.** Doniphan's median household income in 2019 ($73,083) was $11,000 higher than the state ($61,439).[35]
- **5.5% unemployment rate.** In 2019 Doniphan had a higher unemployment rate (5.5%) when compared to the state (2.3%).[35]

33 United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." https://data.census.gov/cedsci/.
34 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.
35 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

- **9% of workers commuted 30 minutes or more to work.** Less workers in Doniphan commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (9% compared to 28.4%).[36]

Major Employers

The major employers in the community are the Doniphan-Trumbull School District, Frito Lay Distribution Center, H & H Concrete and Construction, and Nebraska Machinery. A large percentage of residents commute to work in Grand Island and Kearney.

Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team noted that there is a large mobile home park with approximately 38 mobile homes located on the northeast side of the community. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

- **37.4% of housing built prior to 1970.** Doniphan has a smaller share of housing built prior to 1970 than the state (37.4% compared to 46%).[37]
- **10.4% of housing units vacant.** Since 2010, Doniphan's vacancy rate declined. In 2010 the vacancy rate was 11.10%. By 2019, 10.4% of housing units were vacant.[37]
- **8.4% mobile and manufacture housing.** The Village of Doniphan had a larger share of mobile and manufactured housing (8.4%) compared to the state (3.3%).[37]
- **21.5% renter-occupied.** The rental rate of Doniphan was 21.5% in 2019. The percentage went down since 2010, when renter occupied housing was at 23.2%.[37]

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 Doniphan is governed by a Board Chairperson and four-member village board; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk/Treasurer
- Utility Department
- Streets/Parks Department
- Planning Commission
- Housing Authority
- Water and Sewer Department
- Volunteer Fire Department
- Maintenance Department
- Village Emergency Management

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

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

Capability Assessment

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

Municipal funds are limited to maintaining current facilities and systems. Funds have increased over recent years.

Table DON.2: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	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
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	Yes
	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	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	No
	Awarded a grant in the past	No
	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

Survey Components/Subcomponents		Yes/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	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	-

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

Plan Integration

Doniphan 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. The village will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Building Code (2021)

The building code sets standards for constructed buildings and structures. The village's building code was last updated in 2021 and follows Hall County's building code, which is based on the 2018 International Building Code and 2018 Residential Building Code. Some local amendments have been made.

Comprehensive Plan (2003)

The comprehensive plan is designed to guide the future actions and growth of the village. It contains goals and objectives aimed at directing development away from the floodplain, chemical storage facilities, and major transportation routes. It also limits density in areas adjacent to known hazards areas, encourages infill development, and encourages elevation of structures located in the floodplain. The plan also encourages preservation of open space in hazard-prone areas and allows for emergency access to all areas of the village. At this time, there is no strategy regarding further plan integration. Local officials may consider including a list of critical facilities, examination of chemical storage, and documenting the hazard prioritization in future comprehensive plan updates.

Hall County Local Emergency Operations Plan (2020)

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

Zoning Ordinance (2021), Floodplain Ordinance, and Subdivision Regulations (2021)

The zoning ordinance was last updated in 2021. The ordinance discourages development in the floodplain, prohibits development in the floodway, and discourages residential development near chemical storage sites and major transportation routes. It also encourages maintaining open space within the floodplain, limits development in the extraterrestrial jurisdiction, and accounts for current population trends.

Future Development Trends

In the past five years, the Village of Doniphan has had one new business come to the village. In the next five years some new housing is planned for development on the west side of Highway 281.

Community Lifelines

Transportation

Doniphan's major transportation corridor includes US Highway 34, which accommodates an average of 11,585 vehicles daily, 1,140 of which are trucks.[38] There are no rail lines in the community. The local planning team also identified Locust Street as another transportation route of concern. Fuel and fertilizer trucks are often transported along local routes. The village hall and prairie winds assisted living are both located along main transportation routes. 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

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are six chemical storage sites within or near Doniphan which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

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

Table DON.3: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Agricultural Services Inc	101 E Pine St	N
Nebraska Machinery Co	10501 S US Highway 281	N
Pioneer Hi-Bred Intl Inc	12937 S US Highway 281	N
Magellan Pipeline Company LP	12275 S US Highway 281	N
NPPD Doniphan Sys Control Ctr	2060 W Platte River Dr	Y (1%)
Aurora Co-op Elevator Company	2062 W Binfield Rd	N

Source: Nebraska Department of Environment and Energy[39]

Health and Medical Facilities

The following medical and health facilities are located within the community.

Table DON.4: Health and Medical Facilities

Name	Type of Facility	Address	Number of Beds
Prairie Winds	Assisted Living Facility	603 West 6th St	35

Source: Nebraska Department of Health and Human Services[40,41,42,43]

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

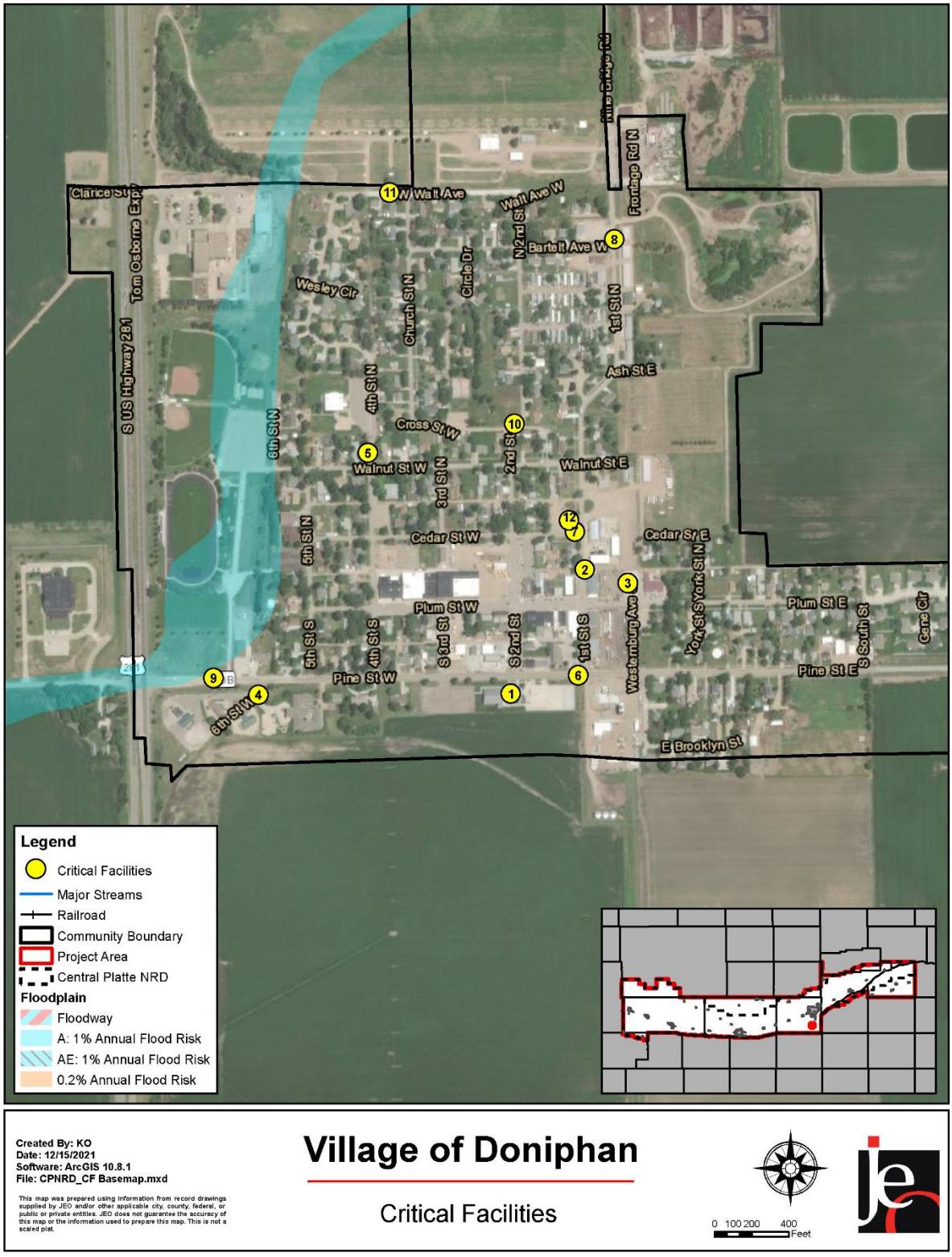
Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

39 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021.
40 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities." https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf.
41 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals." https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf.
42 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities." https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf.
43 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic." https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

Table DON.5: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Doniphan Community Center/EOC	N	N	N
2	Doniphan-Trumbull Public School	Y	N	N
3	Fire & Rescue	N	Y	N
4	Prairie Winds Assisted Living Center	Y	Y	N
5	United Methodist Church	Y	N	N
6	Village Hall	N	Y - Portable	N
7	Village Maintenance Shop	N	N	N
8	Wastewater Lagoon	N	N	N
9	Water Tower	N	N	N
10	Well	N	N	N
11	Well	N	N	N
12	Well	N	N	N

Figure DON.3: Critical Facilities



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 tables.

Table DON.6: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
360	$43,851,537	10	$3,640,321	2.8%

Source: County Assessor, 2021

Table DON.7: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
360	$43,851,537	0	$0	0%

Source: County Assessor, 2021

Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger scale and more damaging events that impacted the community are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

The Village of Doniphan has a flood risk area that goes through the western side of the community. According to NCEI data, there have been five flooding events since 1996 that have caused approximately $1,006,000 in property damages. In December of 2010, ice jams caused the Platte River to flood, necessitating home evacuations for areas just west of Doniphan. A second flood in June of 2015 was caused by heavy rains. Water accumulated on the southbound lane of Highway 281 near Rosedale Road, causing a few traffic accidents.

Doniphan is a member of the NFIP, and the village's Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the village was delineated in 8/1/1978 in and the current effective map date is 9/26/2008. Nearly 3% of parcel improvements in the village are located in the 1% annual flood risk area (see table in the Parcel Improvements and Valuation section). As of October 31, 2021, there are no NFIP policies in place. Doniphan does not currently have any repetitive loss or severe repetitive loss structures.

The Village of Doniphan has gone through the Risk Mapping, Assessment, and Planning (MAP) process. Risk MAP is a FEMA program that provides communities with flood information and additional flood risk data (e.g., flood depth grids, percent chance grids, areas of mitigation interest,

etc.). As part of that process, a HAZUS analysis was performed for the Risk MAP areas. The figure below shows the HAZUS analysis results for Doniphan.

Figure DON.4: Estimated Potential Losses for Flood Event Scenarios

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses[1]	10% Loss Ratio[2]	2% (50-yr) Dollar Losses[1]	2% Loss Ratio[2]	1% (100-yr) Dollar Losses[1]	1% Loss Ratio[2]	0.2% (500-yr) Dollar Losses[1]	0.2% Loss Ratio[2]	Annualized Losses[1] ($/yr)	Ann. Loss Ratio[2]
Residential Building & Contents	$110,600,000	76%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Commercial Building & Contents	$26,300,000	18%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Building & Contents	$8,500,000	6%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Building & Contents[3]	$146,400,000	100%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Business Disruption[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL[5]	**$146,400,000**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

[1]Losses shown are rounded to nearest $10,000 for values under $100,000 and to the nearest $100,000 for values over $100,000.
[2]Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.
[3]Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.
[4]Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.
[5]Total = Total Building and Contents + Business Disruption

The figures in this table only represent information within the West Fork Big Blue
Source: FEMA[44]

Hazardous Materials Release

The planning team identified this a hazard of top concern due to concerns over fertilizer stations located in the community that have the potential to leak. Doniphan has experienced one chemical release incident on a transportation route. The incident occurred in 2011 and involved 42 liquid gallons of ammonia spilling on a county road and causing $2,500 in damages. Additionally, Doniphan has experienced three fixed chemical spill events that involved 30 barrels of oil, 420 gallons of gasoline, and ammonia. In the event of a spill, the Doniphan Volunteer Fire Department would respond. They are trained on spill cleanup and have protective gear.

Severe Thunderstorms

According to NCEI data, there have been 41 severe thunderstorm events in Doniphan that have caused $1,418,500 in damages. Doniphan protects its critical municipal records with surge protectors and a cloud-based backup system. Approximately ten percent of power lines are buried leaving the village vulnerable to power outages from fallen trees and branches.

Hail is a top concern for the local planning team because of the potential for property damage. The most significant hail event in Doniphan caused $1,000,000 in property damage in May of 2002 when 2.75-inch hail destroyed roofs, windows, and vehicles. The community's critical facilities are not fitted with hail resistant building materials but are insured for hail damage. Residents do not receive information on hail resistant building materials with building permits. The local tree board manages hazardous trees in the area.

Severe Winter Storms

One of the worst winter storms in recent memory is an ice storm that occurred in December of 2006. Property damages of $100,000 were incurred when freezing rain broke tree limbs and downed power lines and power poles. Several days of power outages were reported in the area. A blizzard in February 2016 had such significant snow falls that snow removal and associated

[44] FEMA. January 2017. "Flood Risk Report: West Fork Big Blue, 10270203".

public works costs totaled $438,000. The local planning team is concerned about power outages and emergency personnel mobility during severe winter storms. There are no designated snow routes or snow fences in place. The Maintenance Department utilizes a truck with a plow and a loader with a plow for snow removal.

Tornadoes and High Winds

According to NCEI data, there have been two tornadoes in the community. In June of 1997, several EF0 tornadoes passed near Doniphan, causing no property damage. In October of 2000, a funnel cloud was spotted near the village, also causing no property damage. Critical municipal records are backed up with cloud-based software. The warning siren in Doniphan is maintained by Hall County Emergency Management and can be heard throughout the community. The county also offers text alerts. Doniphan has mutual aid agreements with surrounding communities and participates in NEWARN, a mutual aid network that provides essential utilities after a disaster event. As there are no safe rooms in Doniphan, hazard mitigation actions include providing safe rooms to shelter the community. The event center and bank are available for shelter if necessary.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Evaluate repetitive loss or potential loss structures located in floodplain; acquire and relocate or demolish flood prone property or elevate flood prone property; elevate equipment vulnerable to flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	$500,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Administrator
Status	This is an ongoing project. It is checked with each flood event.

Kept Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators; obtain additional generators based on identification and evaluation; provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	$20,000+
Local Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Utilities Department
Status	A backup generator is available in the Hoffman Subdivision. The village has a tractor for the wells. However, a backup generator would work better in the event the tractor is not available.

Mitigation Action	Reduce Tree Damage and Damage from Trees
Description	Conduct tree inventory; develop tree maintenance/trimming program; implement tree maintenance/trimming program; remove hazardous limbs and/or trees.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms, Severe Winter Storms
Estimated Cost	$500
Local Funding	General Budget
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board, Utilities Department
Status	This is an ongoing action. Trees are trimmed with the help of the Southern Public Power District. Letters are sent to property owners to remove hazardous limbs from events.

Mitigation Action	Storm Shelter / Safe Room
Description	Identify and evaluate existing safe rooms and/or storm shelters; improve and/or construct safe rooms and/or storm shelters; design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$150/sq ft for retrofit; $300/sq ft for new construction
Local Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	The village currently uses the church as a storm shelter but will continue to seek out other storm shelters.

Removed Mitigation Actions

Mitigation Action	Improve Electrical Service
Description	Evaluate hardening, retrofitting, looping and/or burying of power lines and related infrastructure and/or comparable protection measures; provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails; implement measures to improve electrical service; bury power lines for future construction.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms, Severe Winter Storms
Status	This project is better handled by the Southern Public Power District as they take care of the electrical system including lines, service, construction, etc. in the village.

Mitigation Action	Weather Radios
Description	Purchase weather radios for all critical facilities; inform areas with high noise pollution to consider purchasing a weather radio.
Hazard(s) Addressed	All Hazards
Status	The village office has a weather radio, and all employees have their cell phones, which alert them in the event of a severe storm.

Plan Maintenance

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

Doniphan last reviewed their section of the HMP in 2017 during the plan update. The Board Chairman, Maintenance Director, and Doniphan Emergency Management Director will be responsible for reviewing updating the plan in the future. These individuals will review the plan annually during a public board meeting.

Community Profile

City of Grand Island

Central Platte NRD
Hazard Mitigation Plan

2022

Local Planning Team

The City of Grand Island'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 the community and local stakeholders.

Table GRA.1: Grand Island Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Rashad Moxey	Planner 1	City of Grand Island	-	-
Chad Nabity	Floodplain Administrator	Hall County, City of Grand Island	Lexington – Virtually	Grand Island
Keith Kurz	Assistant Public Works Director	City of Grand Island	Grand Island	Grand Island
Shannon Callahan	Street Superintendent	City of Grand Island	-	Grand Island
Bill Redinger	Risk Manager	Grand Island Regional Medical Center	Grand Island	Lexington - Virtually
Lee Jacobsen	Safety Coordinator	Grand Island Public Schools	-	-

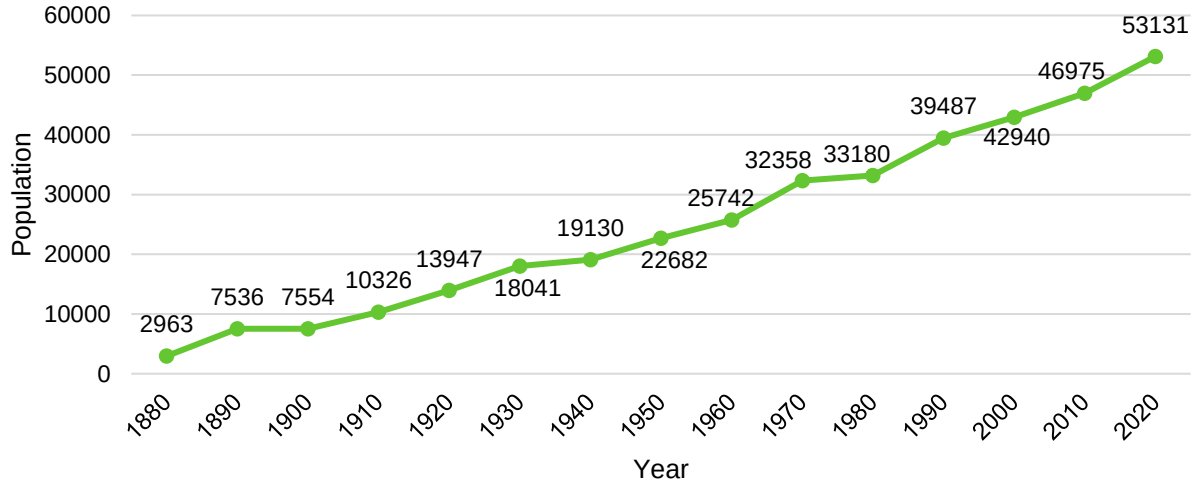
Location and Geography

The City of Grand Island is in northeastern Hall County and covers an area of 28.6 square miles. The major waterway in the area is the Platte River, located south of the city and running from the southwest to the northeast. Grand Island is the county seat and largest community in Hall County.

Demographics

The following figure displays the historical population trend for the City of Grand Island. This figure indicates that the population of Grand Island has been increasing since 1880 to 53,131 people in 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Grand Island's population accounted for 84.5% of Hall County's population in 2020.[45]

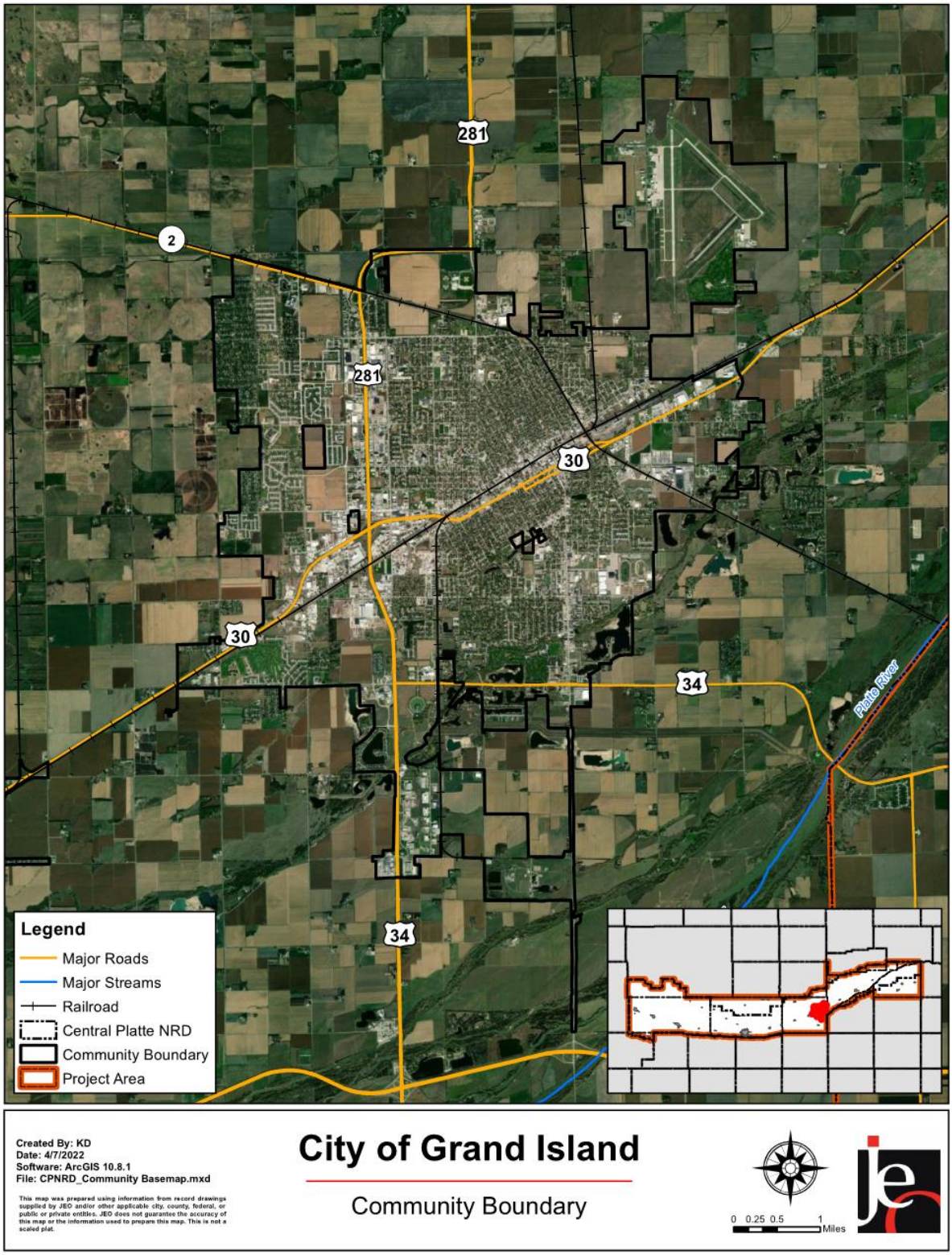
Figure GRA.1: Population 1880 - 2020



Source: U.S. Census Bureau

45 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

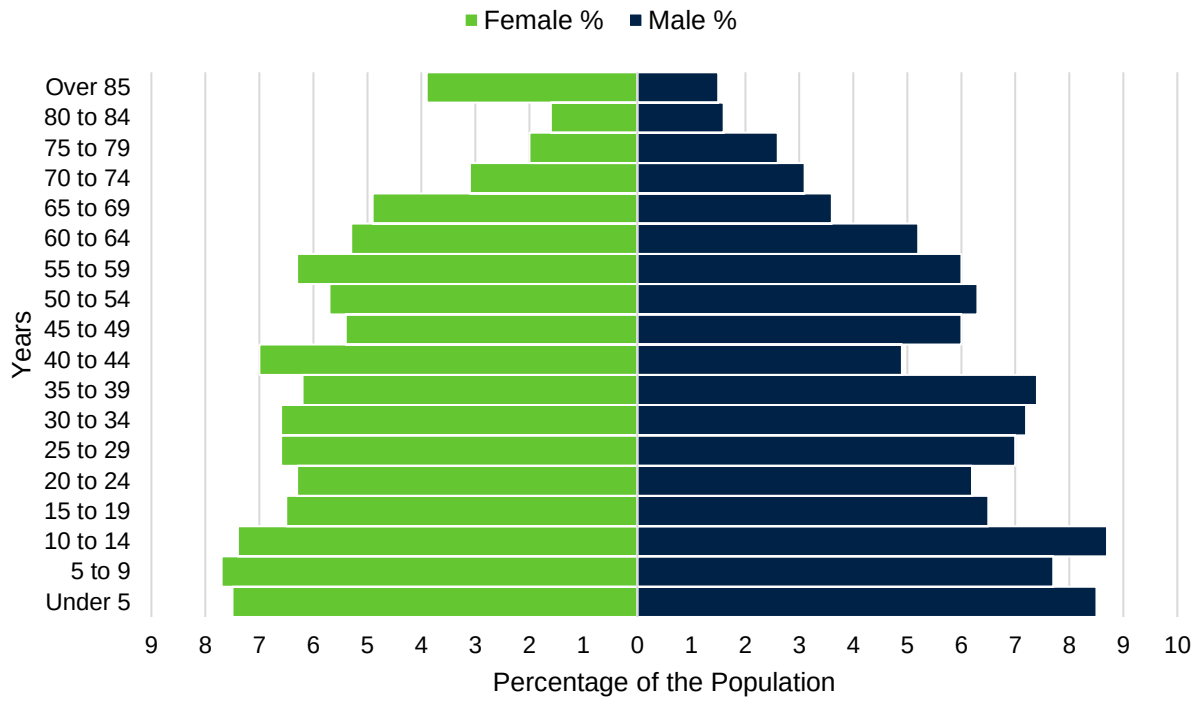
Figure GRA.2: City of Grand Island



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

- **18% is non-white.** Since 2010, Grand Island grew more ethnically diverse. In 2010, 11.6% of the Grand Island's population was non-white. By 2019, 18.0% was non-white.[46]
- **34.9 median age.** The median age of Grand Island was 34.9 years in old 2019. The population grew slightly older since 2010, when the median age was 34.7.[47]

Figure GRA.3: Grand Island's Population Pyramid



The figure above shows Grand Island's population percentage broken down by sex and five-year age groups. Grand Island's population is likely to continue growing with a higher percentage of the population less than 40 years of age.

Employment and Economics

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

- **10.9% of people living below the poverty line.** The poverty rate (10.9%) in the City of Grand Island was higher than the state's poverty rate (7.2%) in 2019.[48]
- **$54,965 median household income.** Grand Island's median household income in 2019 ($54,965) was $6,474 lower than the state ($61,439).[48]

46 United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." https://data.census.gov/cedsci/.
47 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.
48 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

- **3% unemployment rate.** In 2019 Grand Island had a slightly higher unemployment rate (3.0%) when compared to the state (2.3%).[48]
- **14.3% of workers commuted 30 minutes or more to work.** Less workers in Grand Island commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (14.3% compared to 56.7%).[49]

Major Employers

The major employers in the community are the St. Francis Hospital, JBS Swift, Principal Financial, Chief Industries, Grand Island Public Schools, Case IH, Hornady Manufacturing, and Global Industries. Most community members stay in Grand Island for work.

Housing

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

- **71% of housing built prior to 1970.** Grand Island has a larger share of housing built prior to 1970 than the state (71% compared to 46%).[50]
- **6.5% of housing units vacant.** Since 2010, Grand Island's vacancy rate grew. In 2010 the vacancy rate was 5.4%. By 2019, 6.5% of housing units were vacant.[50]
- **4.4% mobile and manufacture housing.** The City of Grand Island had a larger share of mobile and manufactured housing (4.4%) compared to the state (3.3%).[50] Northwest Grand Island has two mobile home parks, northeast Grand Island has two mobile home parks, and southeast Grand Island has three mobile home parks.
- **41.2% renter occupied.** The rental rate of Grand Island was 41.2% in 2019. The percentage went up since 2010, when renter occupied housing was at 36.6%.[50]

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 Grand Island is governed by a mayor and ten-member city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk/Treasurer
- Streets/Parks Superintendent
- Planning Commission
- Housing Authority
- Public Works Department
- Fire Department

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

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

- Tree Board
- City Engineer
- Floodplain Administrator
- Finance Department
- Utilities Department
- Police Department
- Emergency Management and Utilities

Capability Assessment

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

Municipal funds are sufficient to pursue new capital projects but are limited by the money available. Capital improvement plans are in place as budgets allow and are roughly planned several years out due to project timelines but can change as needs and budgets dictate. Currently a large portion of funds are already dedicated to stormwater drainage projects, the Platte Valley Industrial Park, and Upper Prairie Silver Moores Flood Control Project. Funds have increased over recent years.

Table GRA.2: Capability Assessment

Survey Components/Subcomponents		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	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Regulation	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	Long Range Transportation Plan, Wood River Watershed Flood Risk Reduction Plan, Wood River Watershed Study
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes

Survey Components/Subcomponents		Yes/No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	Yes
	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
	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	Yes
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	-

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

Plan Integration

Grand Island 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. The city will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Building Codes (2021)
The building code sets standards for constructed buildings and structures. The city's building codes are based on the 2018 International Building Code and 2018 International Residential Code. Some local amendments have been made.

Capital Improvements Plan (2022)
The capital improvements plan annually outlines projects the city would like to pursue and provides a planning schedule and financing options. Projects include upsizing culverts and drainage structures, upgrading storm sewer systems, and improving roadway drainage. The capital improvements plan is updated annually. Projects identified in the HMP are reviewed for inclusion in the capital improvement plan.

Comprehensive Plan (2004)
The comprehensive plan is designed to guide the future actions and growth of the city. The plan includes hazard mitigation goals that are similar to the goals identified in the HMP and includes a hazard mitigation section. This section has a risk assessment that discusses flooding, severe weather, erosion, drought, infrastructure failure, and hazardous material accidents. It also contains recommendations for implementation of the hazard mitigation goals and objectives. Due to the age of the document many of the recommendations will need to be updated and integrated with the current HMP. This plan will start to be updated in 2022.

Floodplain Ordinance, Zoning Ordinance, and Subdivision Regulations (2004)
The city's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. They discourage development in the floodplain, require a floodplain permit for new developments or substantial improvements in the floodplain, require at least one foot of elevation above base flood elevation in the floodplain, prohibit new habitable structures within the floodway, and allow for the city to restrict the subdivision of land within the floodplain. They also discourage development near chemical storage sites and along major transportation routes. The documents encourage maintaining open space within the floodplain and limit development in the extraterrestrial jurisdiction.

Hall County Local Emergency Operations Plan (2020)
Grand Island is an annex in the Hall County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

Long Range Transportation Plan (2021)
The long-range transportation plan is a 25-year plan for the region's future transportation system. It identifies the most pressing issues facing the transportation system and creates solutions to these issues. Alternatives identified in the plan were evaluated to see how well they would fit in the natural and built environment. Specific considerations were given to wetlands, floodplains, and levees.

Stormwater Management Ordinance (2004)
The stormwater management ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system in order to help the city maintain

compliance with the National Pollution Discharge Elimination System permit process. Objectives include prohibiting illicit connections and discharges, preventing non-stormwater discharges to the stormwater system, reducing pollutants from construction activities, and requiring stormwater runoff controls.

Wood River Watershed Flood Risk Reduction Plan (Under Development)

The primary purpose of the Wood River Watershed Flood Risk Reduction Plan is flood risk reduction within and near the communities of Riverdale, Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. It will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. This plan is being funded by the Central Platte NRD and NRCS through the Watershed and Flood Prevention Operations (WFPO) Program. Projects identified in the plan with a positive benefit-cost ratio will be reviewed for inclusion in the HMP.

Wood River Watershed Study (2020)

This study was conducted by the Nebraska Silver Jackets to develop the 1% Annual Exceedance Probability (AEP) frequency flow data for the communities of Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. Results reflect that the flow frequency is larger than the effective Flood Insurance Study for the Kearney to Alda reach of the Wood River. The results also estimate a 1% AEP peak discharge that is 15% less than the current design for the Grand Island diversion channel. This study will help support ongoing WFPO studies and future NFIP mapping efforts in the region.

Future Development Trends

Over the past five years the new emergency operation center was completed, a fire station was relocated, and a new hospital was built along Husker Highway and Highway 281. In addition, road expansion and improvements were made to North Road/Old Potash Highway. No new structures were developed in the floodplain or other known hazardous areas. In the next five years, two new housing developments are planned. One will be located in northwest Grand Island near Highway 2 and Independence Avenue. The other is planned to be in the southern portion of Grand Island along Highway 281. A Tabitha housing project that will have 200 residents and staff will be completed in August 2022. The project will be directly west of the Grand Island Medical Center. This will add a high concentration of vulnerable individuals to the area.

Community Lifelines

Transportation

Grand Island's major transportation corridors include US Highway 30, 34, 281 and State Highway 2. The most traveled route is Highway 281 with an average of 21,680 vehicles daily, 1,325 of which are trucks.[51] The city has a Burlington Northern Santa Fe, Union Pacific, and Nebraska Central Railroad Company rail lines that go through 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.

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

Figure GRA.4: Tabitha Housing Project Construction

Hazardous Materials

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 56 chemical storage sites within or near Grand Island which house hazardous materials (listed below). In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

Table GRA.3: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Gerhold Concrete Co	1431 S Webb Rd	N
Overhead Door Co	2514 E US Highway 30	N
VA Nebraska - Western Iowa HCS	2201 N Broadwell Ave	N
US Foods	3636 W Stolley Park Rd	N
GI Truck Service	432 S Stuhr Rd	N
Swift Beef Company	555 S Stuhr Rd	N
McCain Foods USA Inc	2629 N Broadwell Ave	N
CNH Industrial America LLC	3445 W Stolley Park Rd	N
Agricultural Services Inc	2777 N Broadwell Ave	N
Trego/Dugan Aviation Inc	3661 Sky Park Rd	N
ARS Nebraska LLC	1209 S Alda Rd	N
Jiffy Lube 0029	3423 W State St	N
Lineage Logistics LLC	205 E Roberts St	N

Name	Address	Floodplain (Y/N)
Oil Dealers Association	4032 W Old Highway 30	N
Sapp Bros Petroleum Inc	1013 S Adams St	N
Consolidated Concrete Co	3440 W Old Highway 30	N
Ryder Truck Rental Inc 0987	4039 Stauss Rd	N
Chief Industries Inc	1119 S Adams St	N
Charter Communications NE23129	2533 W Old Lincoln Hwy	N
Christensen Concrete Products	3990 W US Highway 30	N
Chief Industries Buildings Div	2391 S North Rd	N
Bosselman Truck Plaza	3335 W Wood River Rd	Y (1%)*
Darling Ingredients Inc	5251 W Guenther Rd	Y (1%)
Sunbelt Rentals 416	510 Claude Rd	N
Grand Island Water Department	370 N Pine St	N
C W Burdick Generating Station	800 Bischeld St	N
Pepsi Bottling Group LLC	2422 E US Highway 30	N
Matheson Tri-Gas Inc	2320 S Webb Rd	N
Alter Nebraska Corporation	1119 E 4th St	N
Union Pacific Railroad	601 E South Front St	N
NDOT Grand Island Yard	3305 W Old Potash Hwy	N
Platte Generating Station	1035 W Wildwood Dr	N
Hornady Manufacturing Company	3625 W Old Potash Hwy	N
BKEP Materials LLC	4112 N Academy Rd	Y (1%)
CenturyLink Central Office	105 N Wheeler Ave	N
Sprint Grand Island POP	333 N Pine St	N
AT&T NE0900	144 W Roberts St	N
Chesterman Coca-Cola	1617 Holland Dr	N
Safety-Kleen Systems Inc	2700 W 2nd St	N
CNH America LLC - Miller Bldg	1011 Claude Rd	N
Sam's Club 6461	1510 N Diers Ave	N
Windstream Communications	3650 W 13th St	N
AmeriCold Logistics LLC	204 E Roberts St	N
The Home Depot Store 3208	911 Allen Dr	N
Grand Island Potable Water	2700 Wellfield Rd	Y (1%)
GIUD Rogers Reservoir	3990 W Old Potash Hwy	N
Standard Iron Inc	4160 Gold Core Rd	N
Army Aviation Support Facility	3010 E Airport Rd	N
Central Sand & Gravel Co 97	1672 S Shady Bend Rd	N
Aurora Co-op Elevator Company	4155 E US Highway 30	Y (1%)
Bosselman Energy Inc	4705 Juergen Rd	N
American Eagle Airlines	3743 Sky Park Rd	N
Verizon Wireless MTSO	3650 W 13th St	N
Verizon Wireless Newfair	1203 S Stuhr Rd	Y (1%)
RoadBuilders Machinery & Sup	4949 Juergen Rd	N
Grand Island Olsen Water Tower	997 S Engleman Rd	N

Source: Nebraska Department of Environment and Energy[52]
**Has a LOMA.*

Health and Medical Facilities

The following medical and health facilities are located within the community.

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

Table GRA.4: Health and Medical Facilities

Name	Type of Facility	Address	Number of Beds
CHI Health St. Francis	Hospital	2620 West Faidley Ave	155
Grand Island Regional Medical Center	Hospital	3533 Prairieview St	67
Edgewood Grand Island Senior Living	Assisted Living Facility	214 North Piper	14
Emerald Nursing and Rehab Lakeview	Assisted Living Facility/Long Term Care Facility	1405 West HWY 34	113
Crane Meadows Assisted Living	Assisted Living Facility	4071 Timberline St	44
Grand Island Bickford Cottage LLC	Assisted Living Facility	3285 Woodridge Blvd	44
Grand Island Country House	Assisted Living Facility	833 Alpha St	29
Lebensraum Assisted Living	Assisted Living Facility	118 South Ingalls St	33
Primrose Retirement Community of Grand Island	Assisted Living Facility	3990 W Capital Ave	42
Riverside Lodge	Assisted Living Facility	404 Woodland Dr	75
The Heritage at Sagewood	Assisted Living Facility	1920 Sagewood Ave	136
Azria Health Broadwell	Long Term Care Facility	800 Stoeger Drive	76
CHI Health St. Francis	Long Term Care Facility	2116 West Faidley Ave	36
Good Samaritan Society - Grand Island Village	Long Term Care Facility	4061 Timberline St	67
Tiffany Square	Long Term Care Facility	3119 West Faidley Ave	103

Source: Nebraska Department of Health and Human Services[53,54,55,56]

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

Table GRA.5: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	American Red Cross	N	N	N
2	Barr Jr. High School	Y	N	N
3	Blessed Sacrament Church	Y	N	N
4	Burdick Power Station	N	N	N
5	Career Pathway Institute	N	N	N
6	Central District Health Department	N	Y*	N

53 Department of Health and Human Services. 2021. "State of Nebraska: Assisted Living Facilities." https://dhhs.ne.gov/licensure/Documents/ALF%20Roster.pdf.
54 Department of Health and Human Services. 2021. "State of Nebraska Roster: Hospitals." https://dhhs.ne.gov/licensure/Documents/Hospital%20Roster.pdf.
55 Department of Health and Human Services. 2021. "State of Nebraska Roster: Long Term Care Facilities." https://dhhs.ne.gov/licensure/Documents/LTCRoster.pdf.
56 Department of Health and Human Services. 2021. "State of Nebraska Roster: Rural Health Clinic." https://dhhs.ne.gov/licensure/Documents/RHC_Roster.pdf.

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
7	Central NE Regional Airport	N	N	N
8	Century Link	N	N	N
9	Christ Lutheran School	N	N	N
10	City Hall	N	Y	N
11	Davita Dialysis	N	N	N
12	Dodge School	Y	N	N
13	E Free Church	Y	N	N
14	O'Conner Learning Center	N	N	N
15	Elec Division Facility	N	N	N
16	Engleman Elementary School	Y	N	N
17	FBI Office	N	N	N
18	First Presbyterian Church	Y	N	N
19	Fonner Park	Y	N	N
20	Gates Elementary School	Y	Y	N
21	Grand Island Fire #1	N	Y	N
22	Grand Island Fire #2	N	Y	N
23	Grand Island Fire #3	N	Y*	N
24	Grand Island Fire #4	N	Y	N
25	Grand Island Fleet Services/Streets Division	N	N	N
26	Grand Island Public Schools Administration	Y	Y	N
27	Grand Island Regional Medical Center	N	Y	N
28	Grand Island Rural Fire	N	Y	N
29	Grand Island Senior High School	Y	N	N
30	Heartland Lutheran High School	N	N	N
31	Howard Elementary School	Y	N	N
32	Jefferson Elementary School	Y	N	N
33	West Lawn Elementary School	Y	N	N
34	Knickrehm Elementary School	Y	N	N
35	KRGI	N	Y	N
36	Law Enforcement Center	N	Y	N
37	Lift Station 1	N	Y*	N
38	Lift Station 4	N	Y*	N
39	Lift Station 6	N	Y*	N
40	Lift Station 7	N	Y	N
41	Lift Station 17	N	Y*	N
42	Lift Station 18	N	Y*	N
43	Lift Station 22	N	Y*	N
44	Lift Station 23	N	Y	N
45	Lift Station 24	N	Y*	N
46	Lift Station 25	N	Y	Y (1%)
47	Lift Station 26	N	Y	Y (1%)
48	Lift Station 28	N	Y	N
49	Lift Station 29	N	Y	N
50	Lift Station 30	N	Y	N
51	Lincoln Elementary School	Y	N	N
52	NDOR District Office	N	Y	N
53	NDOR Maintenance Yard	N	Y	N
54	Nebraska Health and Human Services	N	N	N
55	Nebraska Law Enforcement Training Center	N	Y	N
56	Nebraska State Patrol	N	Y	N
57	Newell Elementary School	Y	Y	N
58	Northwest High School	Y	N	N
59	Westridge Middle School	Y	N	N
60	Phelps Control Center	N	N	N

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
61	Platte Generation Station	N	N	Y (1%)
62	Private Northview Lift Station	N	N	N
63	Salvation Army	N	N	N
64	Seedling Mile Elementary	Y	Y	N
65	Shoemaker Elementary School	Y	N	N
66	Southern Public Power	N	Y	N
67	St. Francis Medical Center	N	Y	N
68	St. Leos Church	Y	N	N
69	St. Paul's Lutheran Church	Y	N	N
70	Starr Elementary School	Y	Y	N
71	Stolley Park Elementary School	Y	N	N
72	Transfer Station	N	N	N
73	Islander Annex	N	Y	N
74	United Veterans Club, Inc.	Y	N	Y (1%)
75	Water Division	N	N	N
76	Wasmer Elementary School	Y	N	N
77	Wastewater/Water Treatment Plant	N	Y	Y (1%)
78	Y.M.C.A.	Y	N	N
79	Y.W.C.A.	Y	N	N

**Portable generator available.*

Figure GRA.5: Critical Facilities 1-41

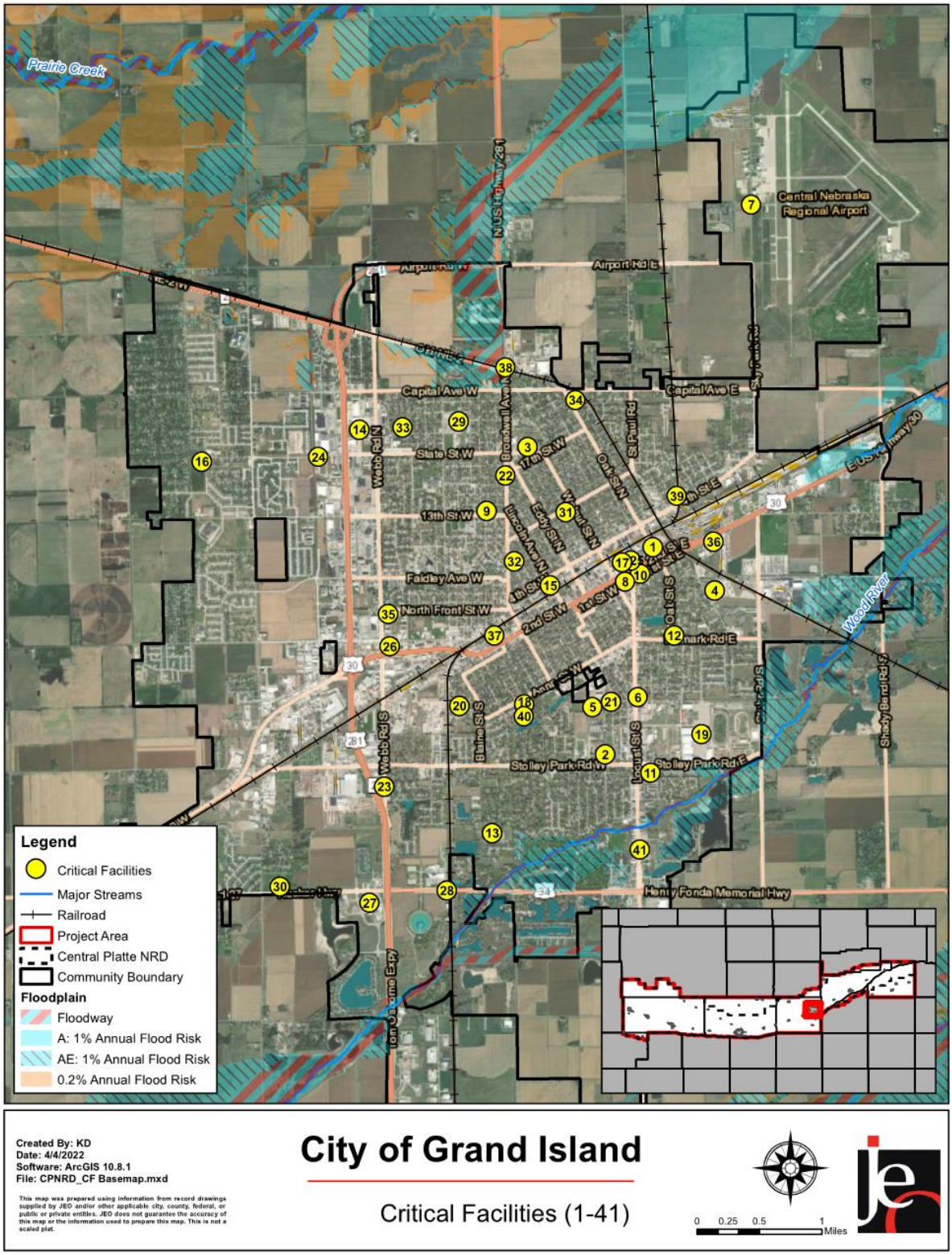
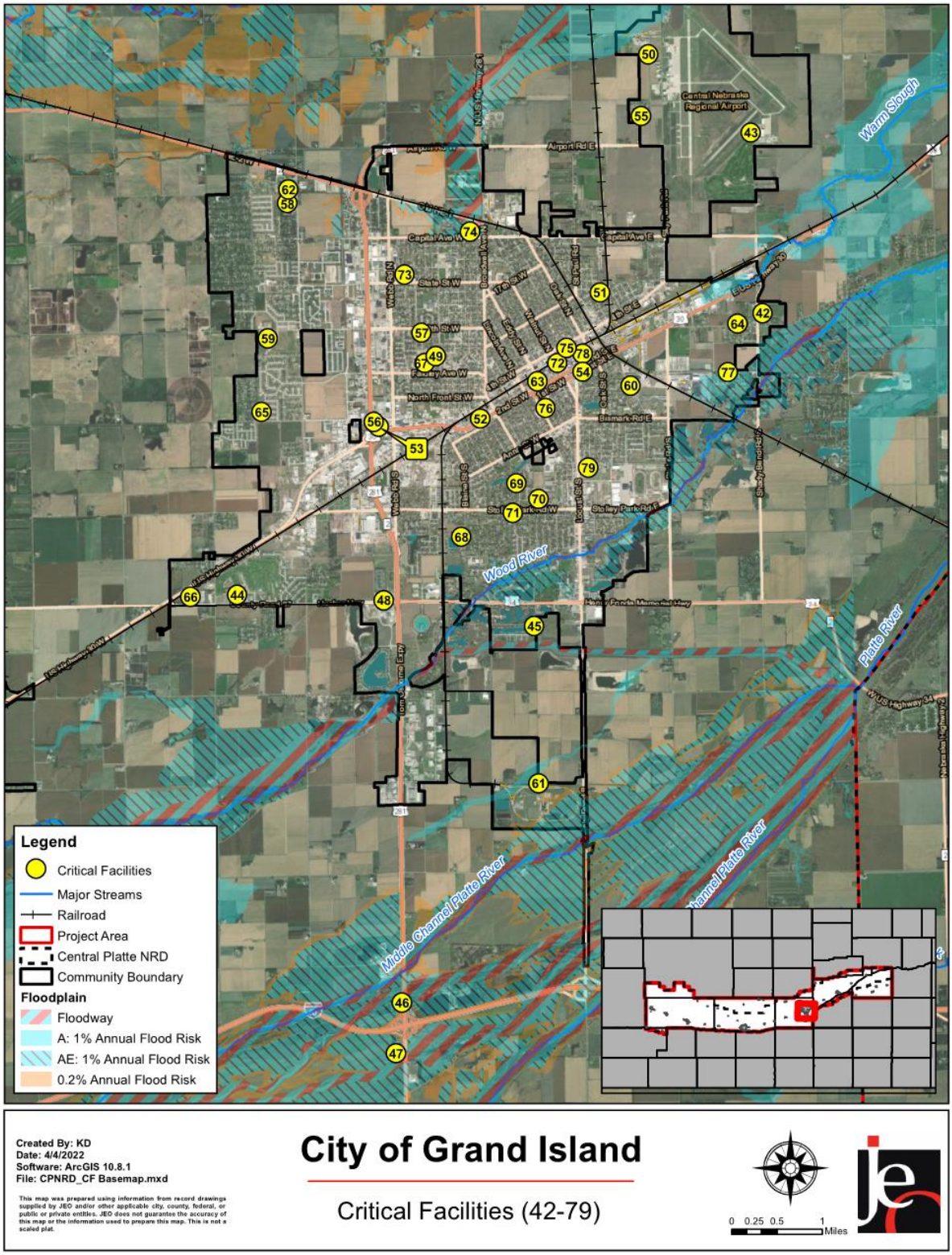


Figure GRA.6: Critical Facilities 42-79



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 tables.

Table GRA.6: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
17,314	$3,061,583,607	271	$146,891,911	1.6%

Source: County Assessor, 2021

Table GRA.7: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
17,314	$3,061,583,607	79	$22,894,956	0.5%

Source: County Assessor, 2021

Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger Scale and more damaging events that impacted the community are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

Grand Island's flood risk areas of concern surround the city on the north, east, and south sides. The planning team also noted that the areas in the community most prone to flooding are northwest Grand Island, north of Capitol Avenue, west of Highway 281. Compounding this, the planning team mentioned that when the city receives brief intense rain events (at least two plus inches of water per hour), stormwater drainage systems lose efficiency. The closest bodies of water of concern are Wood River, Prairie Creek, Silver Creek, and Moores Creek.

The local planning team listed several dates of Grand Island flooding events, 1947, 1949, 1967, 1976, 1993-94, 2005, 2007, 2011, 2015, and 2019. In May 2005, the city set a rainfall record for a single event with over 7.21 inches of rain. Thirty-six homes were evacuated as flooding was worse in the west and north parts of the city. Many businesses and residential houses sustained some type of water damage from the event.

The city has completed and is finishing flood control projects to mitigate flooding in the community. First, the Wood River floodplain has largely been mitigated due to the construction of a levee system, completed in 2004. Then in partnership with the CPNRD, the Upper Prairie Silver Moores Flood Control Project impacted the northern floodplain. The flood control project that included stormwater detention cells, a diversion channel, and a series of upland detention dams. This

project was completed in 2019 and removed 600 structures out of the floodplain. Damage from the 2019 floods was minimal thanks in large part to the Upper Prairie Silver Moores Flood Control Project. It was estimated that in 2019, Grand Island avoided $47 million in potential damages because of the project. In July of 2019, the city and Central Platte NRD hosted a “Flood Control Stroll” through downtown Grand Island to increase community awareness of flood mitigation and flood safety.

The southern portion of the city falls under the Wood River Watershed Flood Risk Reduction Plan, which is currently under development. The plan will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. Projects deemed feasible in the plan will be added to this HMP once the planning process has concluded.

Based on the flooding observations and impacts experienced during the March 2019 flood event, a Flood Risk Assessment north of the city is underway for selected areas along Silver Creek and Moores Creek. As part the flood risk assessment for these areas, available flood risk models will be utilized to develop additional flood risk scenarios based on March 2019 flooding observations. In addition, building footprint data and field visits will identify flood impact vulnerabilities and risks in these areas.

These flood impact observations and risk assessment findings will be utilized to identify potential flood risk reduction mitigation actions. The mitigation actions will be identified and prioritized based on the most at-risk buildings and property considering the risk assessment. It is anticipated the potential mitigation action alternatives considered will include but not necessarily be limited to structural mitigation actions (levees, diversion channels, floodplain storage), nonstructural mitigation actions (floodproofing, elevation, acquisition), and programmatic actions (NFIP participation, flooding studies, capital improvement programs). Once the Flood Risk Assessment is completed it will be added to this hazard mitigation plan as an appendix, and recommended mitigation actions integrated into the appropriate jurisdictional profiles.

The Grand Island Regional Medical Center is concerned with low level flooding affecting transportation in and out of the medical center. The center is 10 feet above the floodplain, but the surrounding area is much lower and is more likely to flood.

Grand Island is a member of the NFIP, and the city’s Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the city was delineated in 3/2/1983 and the current effective map date is 9/26/2008. Over 2% of parcel improvements in the city are located in either the 0.2% or 1% annual flood risk areas (see tables in the Parcel Improvements and Valuation section). As of October 31, 2021, there are 50 NFIP policies in-force covering $11,315,600. Grand Island has two single-family repetitive loss structures. A mitigation action can be found in the city’s Mitigation Strategy to address this structure.

Hazardous Materials Release

Union Pacific, Central Nebraska Railroad Company, and Burlington Northern Santa Fe have main rail lines through Grand Island. In addition, Highways 2, 30, and 281 all run through the city. Many manufacturing facilities have reportable quantities of stored hazardous material. Chemicals are presumed to be transported daily by highway; however, the local planning team is not sure which types of chemicals are being transported. According to the Pipeline and Hazardous Materials Safety Administration, there have been 128 reports of chemical spills. Most of the events were small but in total the spills have caused $196,910 in damages. The most damaging occurred in 2013 when 70 liquid gallons of hypochlorite solution caused $94,000 in damage. Hall County

LEPC works regularly to identify and mitigate hazardous chemicals, including trainings and exercises. The hospital has all necessary components to receive patients affected by a hazardous materials event but would like to participate in more practical exercises.

Levee Failure

Levee failure may cause loss of life and injuries as well as damages to property, the environment, and the economy. There are four levee systems in or near Grand Island, the Wood River FPP, Grand Island – Wood River RB, Grand Island – Silver Creek RB, and Grand Island – Wood River LB. These levees protect 9,428 people and 3,833 buildings with a combined property value of $936 million. The Grand Island – LB accounts for most of the protected people and buildings. Wood River FPP, Grand Island – Wood River RB, and Grand Island – Wood River LB are FEMA accredited. The figure below shows the locations of the levees. There have been no reports of levee failure in Grand Island. All levees are regularly inspected and maintained.

Public Health Emergency

This hazard was identified by the Grand Island Regional Medical Center as a hazard of top concern. A public health emergency similar to the ongoing Covid-19 pandemic could stretch hospital equipment and staffing. The hospital would be the primary location for patients to go during a public health emergency. The ongoing Covid-19 pandemic impacted the hospital on the essential supply equipment side. To help with the potential impacts of this hazard, MOUs with other nearby hospitals are in place and the medical center is part of the TRIMRS 23 County Healthcare Coalition.

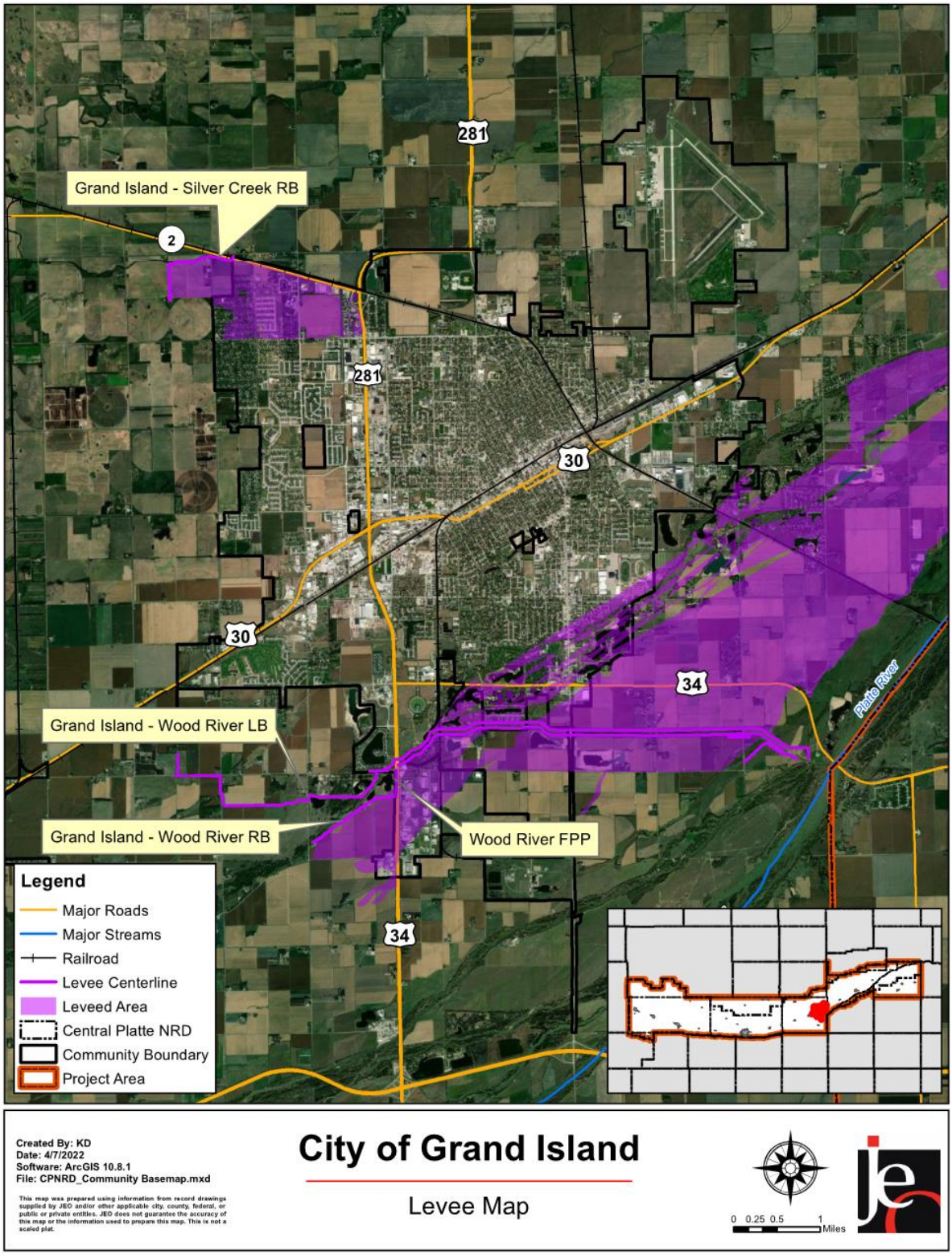
Severe Thunderstorms

The NCEI reported 198 severe thunderstorm events since 1996. Official reports of property damage topped $20,149,500 for Grand Island. The most damaging event occurred in 2017 when 2.5-inch hail caused $10,000,000 in damages. The planning team is concerned with the potential impact on utilities and transportation routes as well as property damage. There are weather radios in critical facilities, but not all have backup generators. Grand Island has an active tree management program that seeks to reduce the damage from falling trees and branches. Grand Island City Utilities estimates that 30% of their lines are buried and SPPD reports 10% of their lines are buried. Most of the critical facilities are fitted with hail resistant building materials and are insured. Building code limits community members to one layer of shingles which encourages hail resistant building materials. The city also has educational materials for severe thunderstorms, winter storms, and tornadoes on its website.

Severe Winter Storms

This hazard was identified by the Grand Island Regional Medical Center as a hazard of top concern. During the winter of 2020, whiteout conditions affected staffing availability and patient care. Extreme snow events can impact supply lines for equipment, fuel for generators, and transportation routes to and from the medical center. The hospital has built some relationships with small local companies to remove snow in proximity to the hospital but needs to work closer with the City of Grand Island on priority snow removal areas. In addition, the Prairie Commons Medical Office Building that is attached to the hospital has an emergency generator and could be used to house a significant number of individuals during a disaster event.

Figure GRA.7: Levee Map



Terrorism

This hazard was identified by the Grand Island Regional Medical Center as a hazard of top concern. They are primarily concerned with cyber terrorism. Hospitals have been targeted more than other industries and one cyber-attack could cripple the hospital's operational processes. Grand Island has two unaffiliated hospitals, so if one were to go down the other could help take patients if necessary.

Tornadoes and High Winds

There are two reports of tornadoes since 1996 in the City of Grand Island. However, on June 3rd, 1980, there were seven tornadoes that touched down in or near the community over the span of nearly three hours. This outbreak devastated entire sections of Grand Island killing five people and injuring more than 400. When it was over, the tornadoes had caused $300 million in damages. This event is most famously referred to as Night of the Twisters after a book and television movie were made based on these events. Now, municipal servers are backed up to multiple locations; the city has warning sirens and some safe rooms, which are FEMA-certified. The County Emergency Management Agency offers text alerts, and the community does educational outreach through Grand Island TV, and the Weatherwise program.

Mitigation Strategy

Completed Mitigation Actions

Mitigation Action	Develop an Emergency Preparedness Plan
Description	Develop an Emergency Preparedness Plan (EPP) for the Grand Island Levee System in coordination with Hall County Emergency Management and the CPNRD (the plan should include stakeholder roles and responsibilities, a risk communication plan, emergency activation levels, activation process, evacuation plan, and training and exercise plan)
Hazard(s) Addressed	Levee Failure
Status	Completed in 2018.

New Mitigation Actions

Mitigation Action	Emergency Exercise: Hazardous Spill
Description	Perform tabletop exercises for a hazardous materials release for all who would be involved.
Hazard(s) Addressed	Hazardous Materials Release
Estimated Cost	Staff Time
Local Funding	Staff Time
Timeline	2-5 Years
Priority	Medium
Lead Agency	City Administrator, Fire Department, County Emergency Management, Grand Island Regional Medical Center
Status	Not Started

Mitigation Action	Phragmites Reduction
Description	Work with Platte River Resiliency Project to fund projects to reduce phragmites in the Platte River to help keep channels open and flowing.
Hazard(s) Addressed	Flooding, Animal and Plant Disease
Estimated Cost	$750,000 per year
Local Funding	General Fund
Timeline	Ongoing
Priority	High
Lead Agency	Planning Commission, Platte River Resiliency Project, Central Platte NRD, Hall County
Status	This is an ongoing action with phragmites reduction occurring annually.

Mitigation Action	Project Scoping
Description	Evaluate potential flood risk reduction alternatives as identified through either the NRCS WFPO or Grand Island Flood Risk Assessment including project scoping and implementation.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Fund, WFPO, Cost Share
Timeline	2-5 Years
Priority	Medium
Lead Agency	City Engineer, City Administrator, Floodplain Administrator
Status	The Wood River Watershed Flood Risk Reduction Plan and Grand Island Flood Risk Assessment are currently under development. No formal alternatives have yet been determined; however, several alternatives are under further review.

Mitigation Action	Repetitive Loss Property Mitigation
Description	Identify and perform flood mitigation options on repetitive loss properties within the community.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Fund, Private Owner Funds
Timeline	5+ Years
Priority	Low
Lead Agency	City Administrator, Floodplain Administrator, City Engineer
Status	Not Started

Kept Mitigation Actions

Mitigation Action	Improve Electrical Service
Description	Evaluate hardening, retrofitting, looping and/or burying of power lines and related infrastructure and/or comparable protection measures; provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails; implement measures to improve electrical service; bury power lines for future construction
Hazard(s) Addressed	All Hazards
Estimated Cost	$1,000,000+
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City Engineer
Status	Not Started

Mitigation Action	Improve Warning Systems
Description	Evaluate current warning systems (defined as alert sirens, weather radios, and television, telephone, and radio warning systems, etc.); improve warning systems/develop new warning system; obtain/upgrade warning system equipment and methods; conduct evaluation of existing alert sirens for replacement or placement of new sirens; identify location of weather warning radios; improve weather radio system; obtain/upgrade weather radios.
Hazard(s) Addressed	All Hazards
Estimated Cost	$25,000 - $50,000
Local Funding	City Emergency Management Budget
Timeline	Ongoing
Priority	High
Lead Agency	City Administrator, County Emergency Management
Status	Ongoing effort to upgrade and replace aging sirens. Instituted IPAWS capabilities. New sirens are installed as the city continues to grow.

Mitigation Action	Public Awareness/Education
Description	Obtain or develop hazard education materials; conduct multi-faceted public education; distribute fact sheets or maps at community events, public schools, other venues and to public and private communication systems; conduct scheduled siren/warning system tests; prepare educational materials listing safe rooms and shelters and evacuation plans; distribute educational materials listing safe rooms and shelters; purchase equipment such as overhead projectors and laptops to facilitate presentation of information.
Hazard(s) Addressed	All Hazards
Estimated Cost	$5,000
Local Funding	Staff Time
Timeline	Ongoing
Priority	High
Lead Agency	City Administrator, County Emergency Management
Status	Ongoing Action. Promoting preparedness through social media, local media, BeReady, siren tests, and the Flood Control Stroll. No equipment has been purchased yet.

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Evaluate repetitive loss or potential loss structures located in floodplain; acquire and relocate or demolish flood prone property or elevate flood prone property; elevate equipment vulnerable to flooding. Conduct stormwater drainage study; evaluate and implement recommendations or comparable measures to improve drainage; evaluate and improve stormwater system. Analyze system for issues and develop a plan to remedy the issues.
Hazard(s) Addressed	Flooding
Estimated Cost	$500,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Administrator
Status	This is an ongoing project. It is checked with each flood event.

Mitigation Action	Reduce Tree Damage and Damage from Trees
Description	Conduct tree inventory; develop tree maintenance/trimming program; implement tree maintenance/trimming program; remove hazardous limbs and/or trees.
Hazard(s) Addressed	Tornadoes, Severe Winter Storms, Severe Thunderstorms, High Winds, Grass/Wildfire
Estimated Cost	$5,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Tree Board
Status	Trees are trimmed when issues are identified.

Mitigation Action	Storm Shelter / Safe Room
Description	Identify and evaluate existing safe rooms and/or storm shelters; improve and/or construct safe rooms and/or storm shelters; design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.
Hazard(s) Addressed	Tornadoes, Severe Thunderstorms, High Winds
Estimated Cost	$200 - $250 per sq ft
Local Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Planning Commission, County Emergency Management
Status	Some saferoom projects have been identified and an NOI has been submitted.

Plan Maintenance

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

Grand Island last reviewed their section of the HMP in 2019. The Floodplain Administrator, County Emergency Management Director, and Public Works Director will be responsible for reviewing and updating the plan in the future. These individuals will review the plan annually. The public will be notified using social media, the city's website, and council meetings.

Community Profile

City of Wood River

Central Platte NRD
Hazard Mitigation Plan

2022

Local Planning Team

The City of Wood River'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 the community.

Table WRV.1: Wood River Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Eric Nielsen	City Council	City of Wood River	-	-
Greg Cramer	Mayor	City of Wood River	Grand Island	Grand Island
Todd King	Assistant Fire Chief	Wood River Rural Fire Dept.	-	-
Nate Mayhew	Fire Chief	Wood River Rural Fire Dept.	-	-
Chad Nabity	Floodplain Administrator	Hall County, City of Wood River	Lexington – Virtually	Grand Island

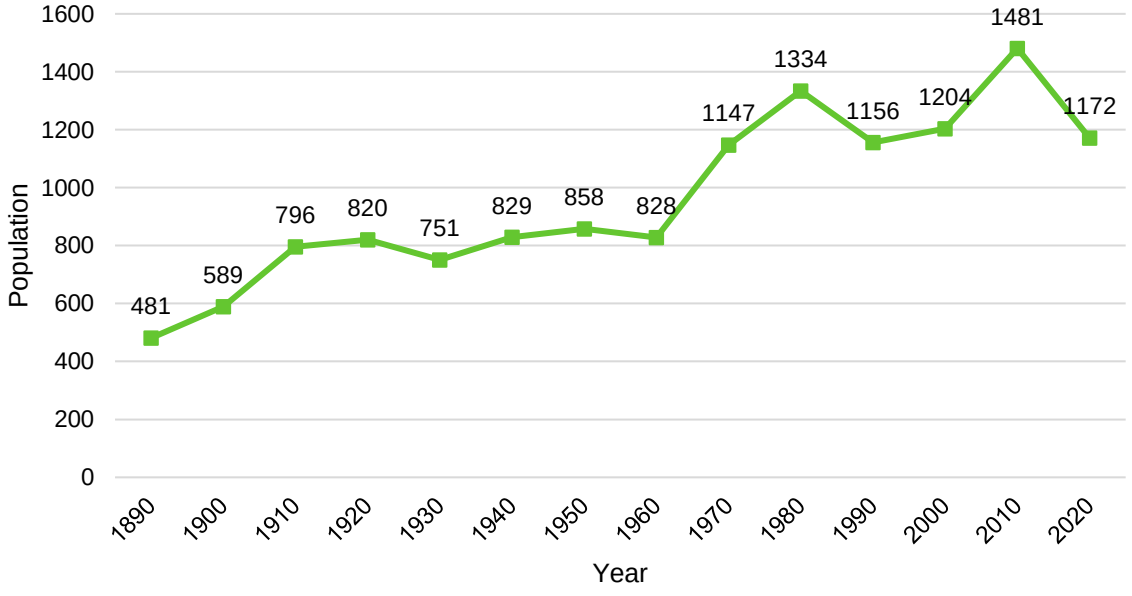
Location and Geography

The City of Wood River is in western Hall County and covers an area of 0.79 square miles. The major waterway in the area is the Wood River.

Demographics

The following figure displays the historical population trend for the City of Wood River. This figure indicates that the population of Wood River has been declining since 2010 to 1,172 people in 2020. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. However, the local planning team indicated that the census numbers may not be correct, and that the city actually grew in population. Wood River's population accounted for 1.9% of Hall County's population in 2020.[57]

Figure WRV.1: Population 1890 – 2020



Source: U.S. Census Bureau

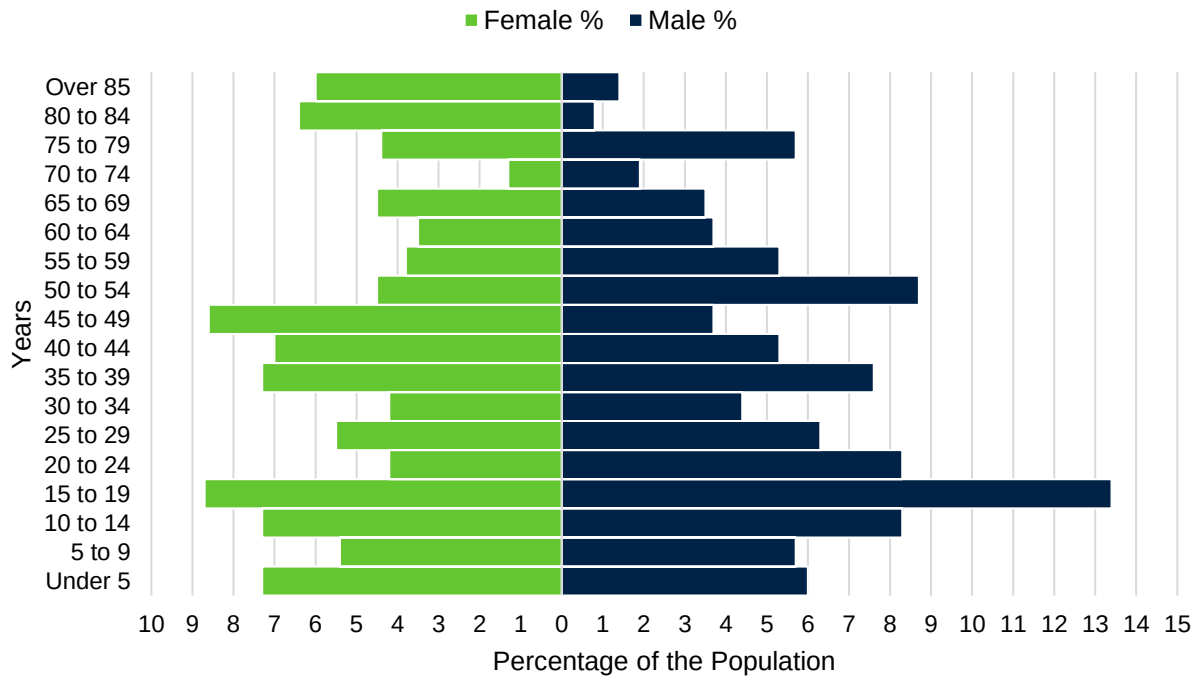
57 United States Census Bureau. "2020 Decennial Census: P1: DEC Redistricting Data." https://data.census.gov/cedsci/.

Figure WRV.2: City of Wood River

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

- **21% is non-white.** Since 2010, Wood River grew more ethnically diverse. In 2010, 4.7% of the Wood River's population was non-white. By 2019, 21% was non-white.[58]
- **Younger median age.** The median age of Wood River was 36.7 years in old 2019. The population grew younger since 2010, when the median age was 38.6.[59]

Figure WRV.3: Wood River's Population Pyramid



The figure above shows Wood River's population percentage broken down by sex and five-year age groups. Wood River's population is younger with a much high percentage of the population below 50 years of age. This likely indicates a growing population in the years to come.

Employment and Economics

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

- **6.1% of people living below the poverty line.** The poverty rate (6.1%) in the City of Wood River was lower than the state's poverty rate (7.2%) in 2019.[60]
- **$54,750 median household income.** Wood River's median household income in 2019 ($54,750) was $6,500 lower than the state ($61,439).[60]
- **5% unemployment rate.** In 2019 Wood River has a higher unemployment rate (5%) when compared to the state (2.3%).[60]

58 United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." https://data.census.gov/cedsci/.
59 United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." https://data.census.gov/cedsci/.
60 United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." https://data.census.gov/cedsci/.

- **26.4% of workers commuted 30 minutes or more to work.** More workers in Wood River commuted 30 minutes or more to work than compared to workers commuting less than 15 minutes (26.4% compared to 22.6%).[61]

Major Employers

Major employers for the community include the City of Wood River, Wood River Aqueduct Center, Wood River Schools, Stick Creek Kids Child Center, Green Plains Ethanol, Agricultural Services, Cooperative Producers Incorporated, Aurora Coop, Hefty Seeds, Soil View, ABC Siding, Casey's, Dollar General, MNO Market, Mead Industries, Mead Fabrication, Watts Welding, Tourney Brothers Fabrication, Heritage Bank, Whiskey River Bar, American Legion, Wood River Post Office, Subway, Bang & Steward CPA, and Mid-Nebraska Insurance Agency. Many of the community's residents commute to neighboring cities including Grand Island, Kearney, and Hastings.

Housing

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe thunderstorms if those homes are not anchored correctly. The local planning team noted that there are three areas in town with mobile homes. Packer Trailer Court West located at 8th and Dodd, Packer Trailer Court East located at 13th and Pine, a few trailers located on 13th and Lilley Street, and a few located on the south side of town near 5th street. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

- **49% of housing built prior to 1970.** Wood River has a larger share of housing built prior to 1970 than the state (49% compared to 46%).[62]
- **12.5% of housing units vacant.** Since 2010, Wood River's vacancy rate grew. In 2010 the vacancy rate was 9.8%. By 2019, 12.5% of housing units were vacant.[62]
- **19.7% mobile and manufacture housing.** The City of Wood River had a larger share of mobile and manufactured housing (19.7%) compared to the state (3.3%).[62]
- **26.4% renter-occupied.** The rental rate of Wood River was 26.4% in 2019. The percentage went up since 2010, when renter occupied housing was at 16.5%.[62]

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 Wood River is governed by a Mayor and six-member city council; other governmental offices and departments that may be involved in implementing hazard mitigation initiatives are listed below.

- Clerk/Treasurer
- Economic Development
- Housing Authority

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

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

- Hall County Sheriff Department
- Police Department
- Parks & Recreation
- Stick Creek Kids Board of Directors
- Volunteer Fire Department
- Wood River Library Board
- 2020 Wood River Vision Board
- Wood River Rural Fire Board
- Wood River School Board

Capability Assessment

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

Municipal funds are limited to maintaining current facilities and systems with a large portion already dedicated to a downtown revitalization project, Walnut and Pine Street drainage project, FSU drainage study, and street repairs. Funds have increased over recent years.

Table WRV.2: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	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
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	Blight & Substandard Determination Study, General Redevelopment Plan, Wood River Watershed Flood Risk Reduction Plan, Wood River Watershed Study
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No

Survey Components/Subcomponents		Yes/No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	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 – Hall County LEPC
	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
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

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

Plan Integration

Wood River 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. The city will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Blight & Substandard Determination Study & General Redevelopment Plan (2018)

The City of Wood River had a blight and substandard determination study done on the between Wood River Road, Elm Street, Fifth Street, County Road 150th, and Highway 11. This area was found to be blighted and substandard. This means there are aging and deteriorating structures in the area that could be impacted more from a hazard event. Since the area was determined to be blighted and substandard, it is now eligible for redevelopment assistance through TIF, private investment, and various grants. While the study is not integrated with the hazard mitigation plan, it could be used to determine priority areas for redevelopment.

Building Code (2018)

The building code sets standards for constructed buildings and structures. The city's building code follows Hall County's building code, which is based on the 2018 International Building Code and 2018 Residential Building Code. Some local amendments have been made.

Comprehensive Plan (2018)

The comprehensive plan is designed to guide the future actions and growth of the city. It directs development away from the floodplain and from major transportation routes. It also encourages infill development, preservation of open space in hazard-prone areas, and allows for emergency access to all areas of town. With the plan having been updated recently, there is currently no plan to further integrate the HMP into the Comprehensive Plan.

Hall County Local Emergency Operations Plan (2020)

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

Wood River Watershed Flood Risk Reduction Plan (Under Development)

The primary purpose of the Wood River Watershed Flood Risk Reduction Plan is flood risk reduction within and near the communities of Riverdale, Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. It will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. This plan is being funded by the Central Platte NRD and NRCS through the Watershed and Flood Prevention Operations (WFPO) Program. Projects identified in the plan with a positive benefit-cost ratio will be reviewed for inclusion in the HMP.

Wood River Watershed Study (2020)

This study was conducted by the Nebraska Silver Jackets to develop the 1% Annual Exceedance Probability (AEP) frequency flow data for the communities of Kearney, Gibbon, Shelton, Wood River, Alda, and Grand Island. Results reflect that the flow frequency is larger than the effective Flood Insurance Study for the Kearney to Alda reach of the Wood River. The results also estimate a 1% AEP peak discharge that is 15% less than the current design for the Grand Island diversion channel. This study will help support ongoing WFPO studies and future NFIP mapping efforts in the region.

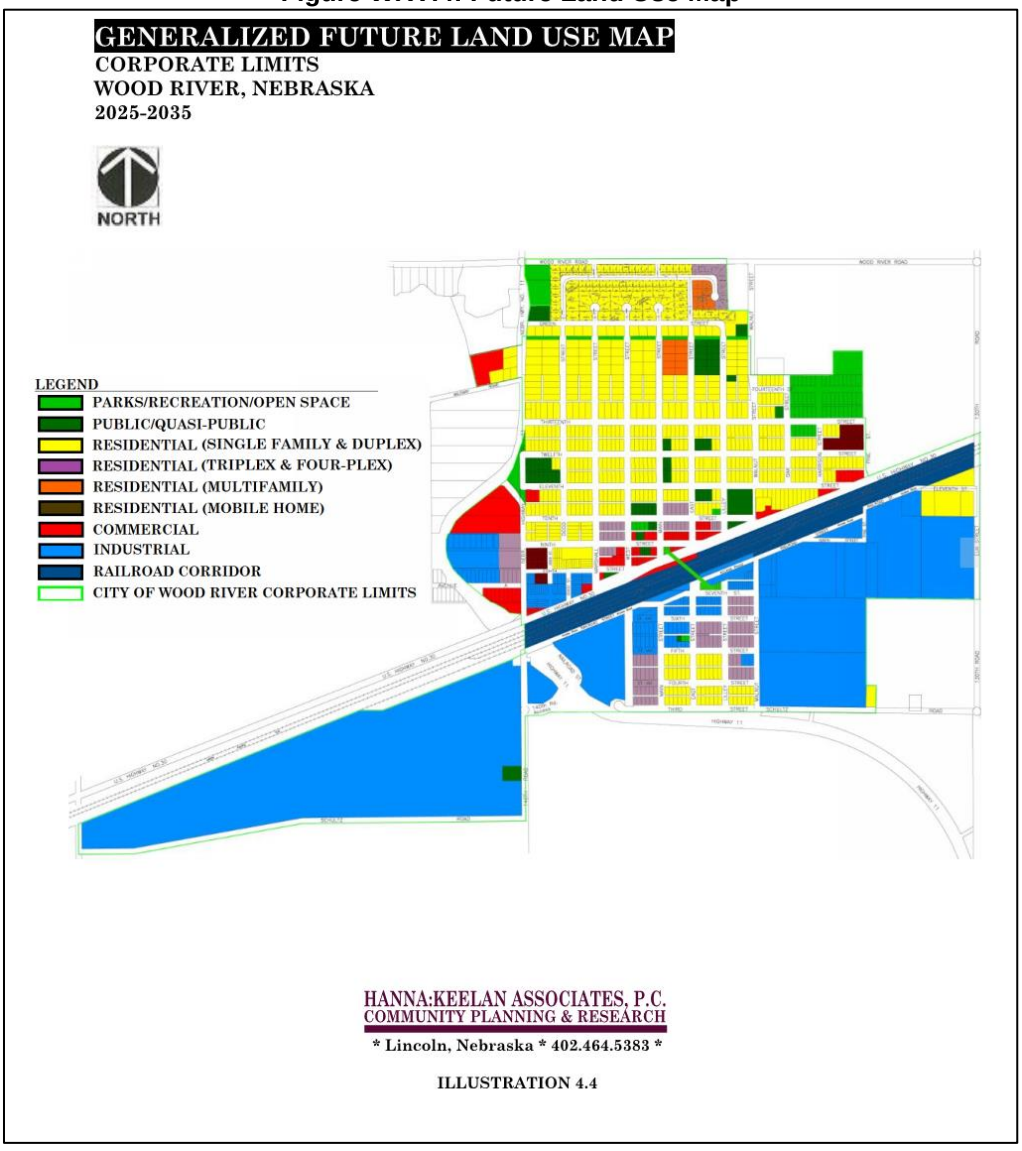
Zoning Ordinance (2015), Floodplain Ordinance, and Subdivision Regulations (2004)

The city's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. These documents discourage development in the floodplain, identify floodplain areas as parks of open space, and require at least more than one foot of elevation above base flood elevation in the floodplain. They also prohibit development within the floodways and encourage maintaining open space within the floodplain.

Future Development Trends

In the past five years, Wood River has seen six new businesses and 15 new homes built, along with the demolition of two buildings and three homes. Street improvements were made to the Dodd Street extension, Thelen Street, Pine Street, and Marshall Street extension. Additionally, there were drainage improvements on Walnut Street and a new industrial park development. No new structures were developed in the floodplain. In the next five years, new housing is planned for the Thelen Subdivision and Industrial Park continuation.

Figure WRV.4: Future Land Use Map



Community Lifelines

Transportation

Wood River's major transportation corridors include US Highway 30 and State Highway 11. The most traveled route is Highway 30 with an average of 4,640 vehicles daily, 395 of which are trucks.[63] The city has one Union Pacific rail line traveling southwest to northeast on the southern edge of the community. The planning team noted that chemicals are regularly transported along Highway 11, Highway 30, and on the Union Pacific Railroad. Additional transportation routes of concern include Walnut Street, Wood River Road, Shultz Road, Elm Street, 140th Road, and 1st Street. 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

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are nine chemical storage sites within or near Wood River which house hazardous materials (listed below). In addition, the local planning team also identify Casey's General Store and Get N' Split has locations that house bulk chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

Table WRV.3: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Pilot Flying J 912	11775 S Nebraska Hwy 11	Y (1%)
TA Grand Island West	8033 W Holling Rd	N
Agricultural Services Inc	106 W Railroad St	N
CenturyLink Central Office	1005 Main St	Y (0.2%)
Aurora Co-op Elevator Company	6236 S Schauppsville Rd	Y (0.2%)
Cooperative Producers Inc	15123 W Wood River Rd	N
Bosselman Oil Inc	4380 S Nebraska Hwy 11	N
Green Plains Wood River LLC	7874 S 140th Rd	N
Hefty Seed	8099 S 150th Rd	N

Source: Nebraska Department of Environment and Energy[64]

Health and Medical Facilities

There are no medical and health facilities located within the community.

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

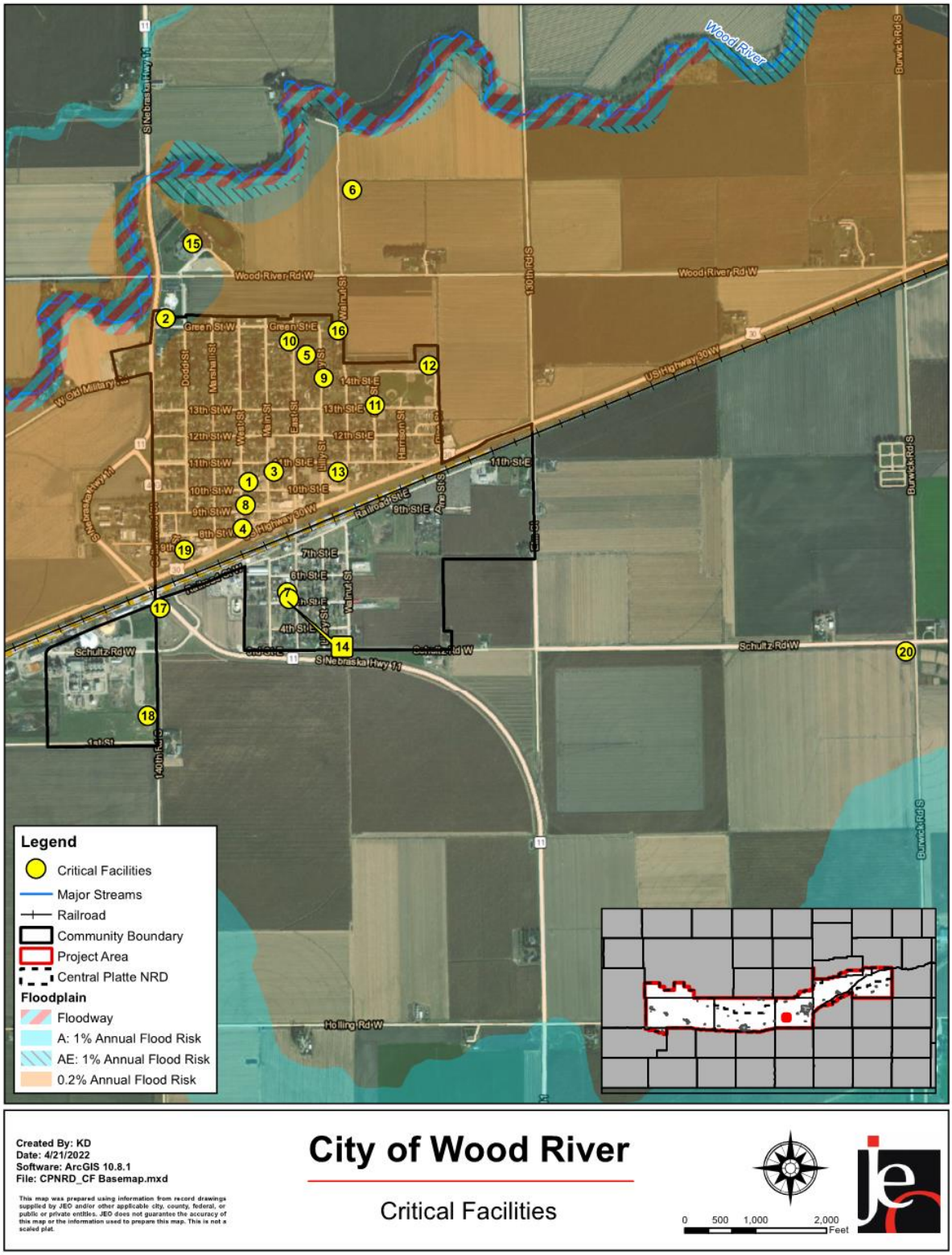
63 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

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

Table WRV.4: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	City Hall/Community Center/Public Works	N	Y	Y (0.2%)
2	Fire Station	N	Y	N
3	Century Link Phone Hub	N	N	Y (0.2%)
4	Sheriff Sub Station	N	N	Y (0.2%)
5	Stick Creek Child Center	N	Y	Y (0.2%)
6	Wastewater Treatment Plant	N	Y	Y (0.2%)
7	Water Tower	N	N	N
8	Great Plains Fiber Hub	N	N	Y (0.2%)
9	Well (Lilley Street)	N	Y	Y (0.2%)
10	Well (East Street)	N	N	Y (0.2%)
11	Well (13th Street)	N	N	Y (0.2%)
12	Wood River Blue 4H Building	N	N	Y (0.2%)
13	Wood River Elementary School	Y	N	Y (0.2%)
14	Wood River Public Works So. Quancet	N	N	N
15	Wood River Rural High School	N	N	Y (0.2%)
16	Sewer Lift Station (Walnut Street)	N	N	Y (0.2%)
17	Sewer Lift Station (140th Rd)	N	N	N
18	Electrical Sub Station	N	N	N
19	Black Hills Energy	N	N	Y (0.2%)
20	SP Electrical Sub Station	N	N	N

Figure WRV.5: Critical Facilities



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 tables.

Table WRV.5: Parcel Improvements and Value in the 1% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
541	$52,893,880	0	$0	0%

Source: County Assessor, 2021

Table WRV.6: Parcel Improvements and Value in the 0.2% Annual Flood Risk Area

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
541	$52,893,880	450	$44,583,334	83.2%

Source: County Assessor, 2021

Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger scale and more damaging events that impacted the community are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

The flood risk areas of concern for the City of Wood River are located north of Highway 30 and impacts almost all of the northern portion of the city. In May 2005, 12 people were evacuated due to rising water and it was estimated that every structure in Wood River sustained some sort of storm damage. Twelve homes sustained severe damages. The City of Wood River experienced a devastating flood in March of 2019. This flood was the result of a strong blizzard followed by a rapid melting of ice which caused water to escape the banks of the Wood River and flow into the city from the west. The flood waters Covered streets from 8th Street to Green Street in several feet of water with 11th street being inundated with over eight feet of water. Evacuations occurred from 8th street to Green Street and impacted many residents. This water caused massive damage in the city with 372 structures affected, 128 having minor flood damage, and 39 structures sustaining structural damage with some houses having to be demolished. A second flood in July of 2019 was caused by torrential rains near Kearney resulting in Wood River flooding. This time emergency management officials had a little more time to react allowing for flood diversions efforts to be deployed pushing over 38 million gallons of water around the city by forcing the waters to the south side ditch of Highway 30 near the Highway 11 overpass. This allowed the remaining 27 million gallons of water to easily pass-through the city down 11th street and not affect any homes or businesses.

Figure WRV.6: 2019 Flooding

The community has undergone building code changes and other flood mitigation efforts such as the Walnut Street drainage project, Pine Street drainage project, FHU drainage study, installation of water diversion berm at the base of Highway 11 overpass near Highway 30 and regrading of the Highway 30 south ditch.

The entire city falls under the Wood River Watershed Flood Risk Reduction Plan, which is currently under development. The plan will identify projects within the watershed to help reduce flood risk and damages to agricultural property, homes, and businesses. Projects deemed feasible in the plan will be added to this HMP once the planning process has concluded.

Wood River is a member of the NFIP, and the city's Floodplain Administrator (Chad Nabity) will oversee the commitments and requirements of the NFIP. The initial FIRM for the city was delineated in 12/1/1978 and the current effective map date is 9/26/2008. Over 83% of parcel improvements in the city are located in the 02% annual flood risk area (see table in the Parcel Improvements and Valuation section). As of October 31, 2021, there are nine NFIP policies in-force covering $2,058,000. Wood River does not currently have any repetitive loss or severe repetitive loss structures.

Hazardous Materials Release

There have been two chemical spills along transportation routes near Wood River recorded by PHMSA. The first was a hydrogen peroxide leak in a defective transport container in 1984. The second spill occurred in January of 2003, when blizzard conditions caused a tanker carrying liquid helium to crash. Neither of these was a significant release event. Ethanol, ammonia and other unknown chemicals are frequently transported by Hwy 30 and the railroad. These transportation corridors are within a half-mile of the community center, city hall, fire hall, and elementary school. Local response resources include a regional hazmat team located in Grand Island and Platte Valley mutual aid, both of which are equipped with foam dispensers and storage. Chemical spill

mitigation projects involve participating in a hazardous chemical spill emergency exercise and educating the public on chemical spill hazards and response.

Severe Thunderstorms

Wood River's local planning team is concerned about property damage, phone service, power outages, injuries, and crop damage related to hail. According to NCEI data, there have been 46 severe thunderstorm events in the community that caused $884,000 in property damages. The most severe hailstorm recorded by the NCEI occurred in June of 2006 when 1.75-inch hail damage property, trees, and crops throughout the area. Property damage from this event totaled $200,000. Approximately 10% of power lines are buried in the community with most located between 13th Street and Green Street. Wood River has recently improved the severe weather notification systems in their critical facilities to mitigate some of the risk associated with hail. Many of the city and fire buildings are constructed of metal or block/brick materials. The community has added a generator to the community well located on Lilley Street as well as a generator to the fire station. Some remodeling has been done to the community center and Stick Creek Child Center to ensure they are better suited for severe weather events.

Tornadoes and High Winds

Concerns around tornadoes and high winds in Wood River are property damage, communication tower damage, power loss, injuries, and an interruption in natural gas distribution. According to NCEI data, there have been five tornadoes that were reported in or near the community since 1999 and have caused a total of $250,000 in property damages. A high wind event in May of 2012 caused $350,000 in property damage from fallen trees and power poles. This storm tripped the main breakers at the substation, causing power to be lost until noon the next day. The fire hall also suffered some damage during this event. An EF0 tornado hit the south side of Wood River in May of 2005. This tornado caused damage to a house, trees, and overturned an empty rail car. Critical municipal records are backed up on an external hard drive. The fire hall and city hall have weather radios. There are warning sirens in the community that are activated by the Hall County Emergency Management. The city has community shelters in the local churches, but no FEMA-certified safe rooms. The city also maintains hazardous and dead trees through regular trimming and maintenance. In the event of a disaster, Wood River has mutual aid agreements with the Hall County Rural Fire Department, Grand Island, Cairo, and Doniphan.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Install a new generator at the wastewater treatment plant.
Hazard(s) Addressed	All Hazards
Estimated Cost	$40,000+
Local Funding	Taxes, Service Fees
Timeline	2-5 Years
Priority	High
Lead Agency	City Council, City Utilities
Status	Not Started

Mitigation Action	Improve Drainage
Description	Improve the drainage of water through the city with the widening of the Walnut Street ditches, along with concrete lining of Walnut Street and Pine Street ditches. Installation of a diversion berm along Cottonwood Street and Highway 30 to divert water to the ditch on the south side of the Highway. 11th Street and Pine Street culvert replacement and drainage improvement. Yearly cleaning and mowing of the Highway 30 drainage ditch to Schauppsville Road. Install a concrete retaining wall around the sewer line access at the Walnut Street lift station.
Hazard(s) Addressed	Flooding, Severe Thunderstorms
Estimated Cost	Varies on Project
Local Funding	Taxes, Service Fees
Timeline	2-5 Years
Priority	High
Lead Agency	City Council, City Utilities
Status	In Progress. The Walnut and Pine Street improvements are currently under development.

Mitigation Action	Project Scoping
Description	Evaluate potential flood risk reduction alternatives as identified through the NRCS WFPO including project scoping and implementation.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by Project
Local Funding	General Budget, WFPO
Timeline	2-5 Years
Priority	Medium
Lead Agency	City Council, Floodplain Administrator
Status	Wood River Watershed Flood Risk Reduction Plan is currently under development. No formal alternatives have yet been determined; however, several alternatives are under further review for each program with communities in the district.

Mitigation Action	Reduce Damages from Floods, Stormwater, and Heavy Precipitation Events
Description	Evaluate repetitive loss or potential loss structures located in floodplain; acquire and relocate or demolish flood prone property or elevate flood prone property; elevate equipment vulnerable to flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	$500,000+
Local Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Floodplain Administrator
Status	This is an ongoing project. It is checked with each flood event.

Kept Mitigation Actions

Mitigation Action	Emergency Exercise: Hazardous Spill
Description	Utilize exercise to prepare for potential explosions or hazardous spills; ensure that nearby businesses and residents have appropriate plans in place.
Hazard(s) Addressed	Hazardous Materials Release
Estimated Cost	$5,000+
Local Funding	General Fund
Timeline	5+ Years
Priority	High
Lead Agency	City Council, County Emergency Management
Status	Not Started

Mitigation Action	Ensure Adequate Water Supply for Health and Safety
Description	Work with the Nebraska Department of Health and Human Services to secure revolving loan funding for supplementing Wood River's water supply with an additional source; determine a method to have citizens from Wood River voluntarily reduce demand for water during times of drought: this may involve instituting a moratorium on unnecessary water usage and implementing a fine/penalty system for those found in violation.
Hazard(s) Addressed	Drought
Estimated Cost	$5,000+
Local Funding	Taxes, Service Fees, State Hwy Enterprise Funds
Timeline	Ongoing
Priority	Medium
Lead Agency	Utilities
Status	This is an ongoing action for the city.

Mitigation Action	Public Awareness/Education
Description	Obtain or develop hazard education materials; conduct multi-faceted public education; distribute fact sheets or maps at community events, public schools, other venues and to public and private communication systems; conduct scheduled siren/warning system tests; prepare educational materials listing safe rooms and shelters and evacuation plans; distribute educational materials listing safe rooms and shelters; purchase equipment such as overhead projectors and laptops to facilitate presentation of information.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Local Funding	Staff Time
Timeline	Ongoing
Priority	High
Lead Agency	Clerk, Department Heads, County Emergency Management
Status	Public education is an ongoing action for the city.

Mitigation Action	Reduce Tree Damage and Damage from Trees
Description	Conduct tree inventory; develop tree maintenance/trimming program; implement tree maintenance/trimming program; remove hazardous limbs and/or trees.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms, Severe Winter Storms, Grass/Wildfire
Estimated Cost	$100+ per tree
Local Funding	General Budget, Cost Share Program with Homeowners
Timeline	Ongoing
Priority	Medium
Lead Agency	Parks, Utilities
Status	Removal of hazardous trees and limbs is an ongoing action as issues are identified.

Mitigation Action	Storm Shelter / Safe Room
Description	Identify and evaluate existing safe rooms and/or storm shelters; improve and/or construct safe rooms and/or storm shelters; design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$150 square ft for retrofit; $300 square ft for new construction
Local Funding	Taxes, Service Fees
Timeline	2-5 Years
Priority	High
Lead Agency	City Council, Fire Department
Status	Not Started

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (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 Mayor, City Council, Fire Chief, Assistant Fire Chief, and County Emergency Manager will be responsible for reviewing and updating the plan in the future. These individuals will review the plan annually and will notify the public of any changes through social media, website updates, and city council meetings.

School District Profile

Centura Public Schools

Central Platte NRD
Hazard Mitigation Plan Update

2022

Local Planning Team

Centura Public Schools' 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 the district.

Table CNS.1: Centura Public Schools Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Ryan Ruhl	Superintendent	Centura Public Schools	Lexington – Virtually	Recording

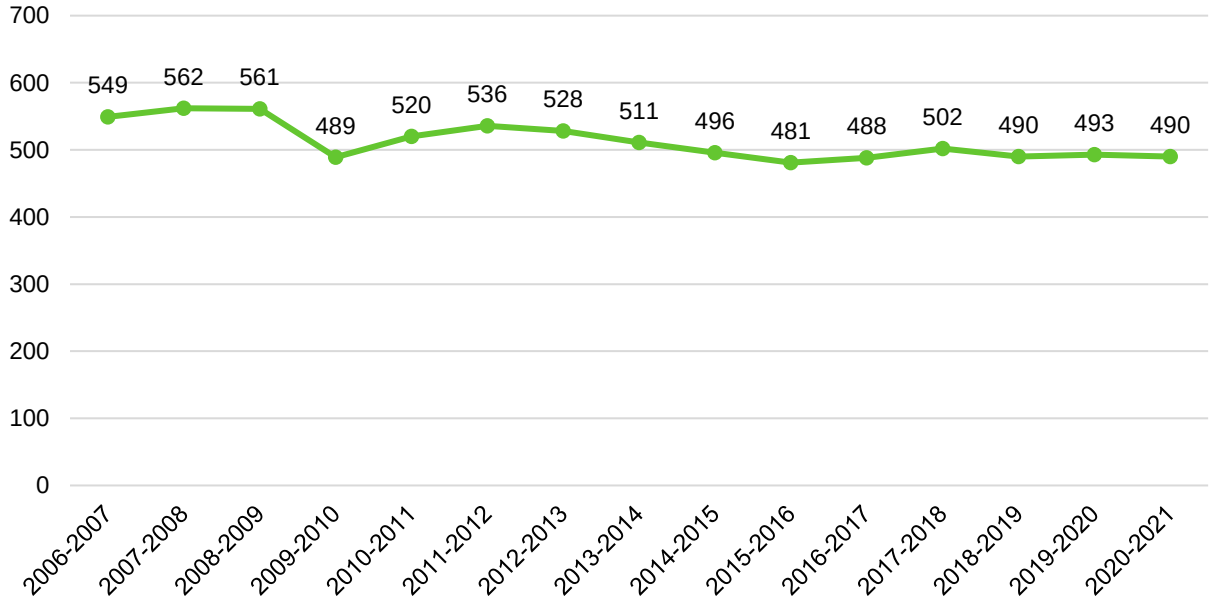
Location

Centura Public Schools is a consolidated district located in northwest Hall County, northeast Buffalo County, southwest Howard County, and southeast Sherman County. The district has two schools: Centura Elementary School and Centura Secondary School located in one building. Other district owned buildings include two storage buildings, a press box, and a shed. The district is located five miles from the communities of Boelus, Cairo, and Dannebrog and covers approximately 214 square miles. The school district provides services to students in the communities of Boelus, Cairo, Dannebrog, and the rural areas surrounding them.

Demographics

The following figure displays the historical student population trend starting with the 2006-07 school year and ending with the 2020-2021 year. It indicates that the student population has declined slightly since 2007. There are 490 students enrolled in the district.[65] The local planning team anticipates a slight increase in student population in the coming years. Both English and Spanish are spoken in the district.

Figure CNS.1: Student Population 2007-2021



Source: Nebraska Department of Education

65 Nebraska Department of Education. July 2021. "2019-2020 Education Profile for District: Grand Island Public Schools." https://nep.education.ne.gov//Districts/Index/40-0002-000?DataYears=20192020

Figure CNS.2: Centura Public Schools

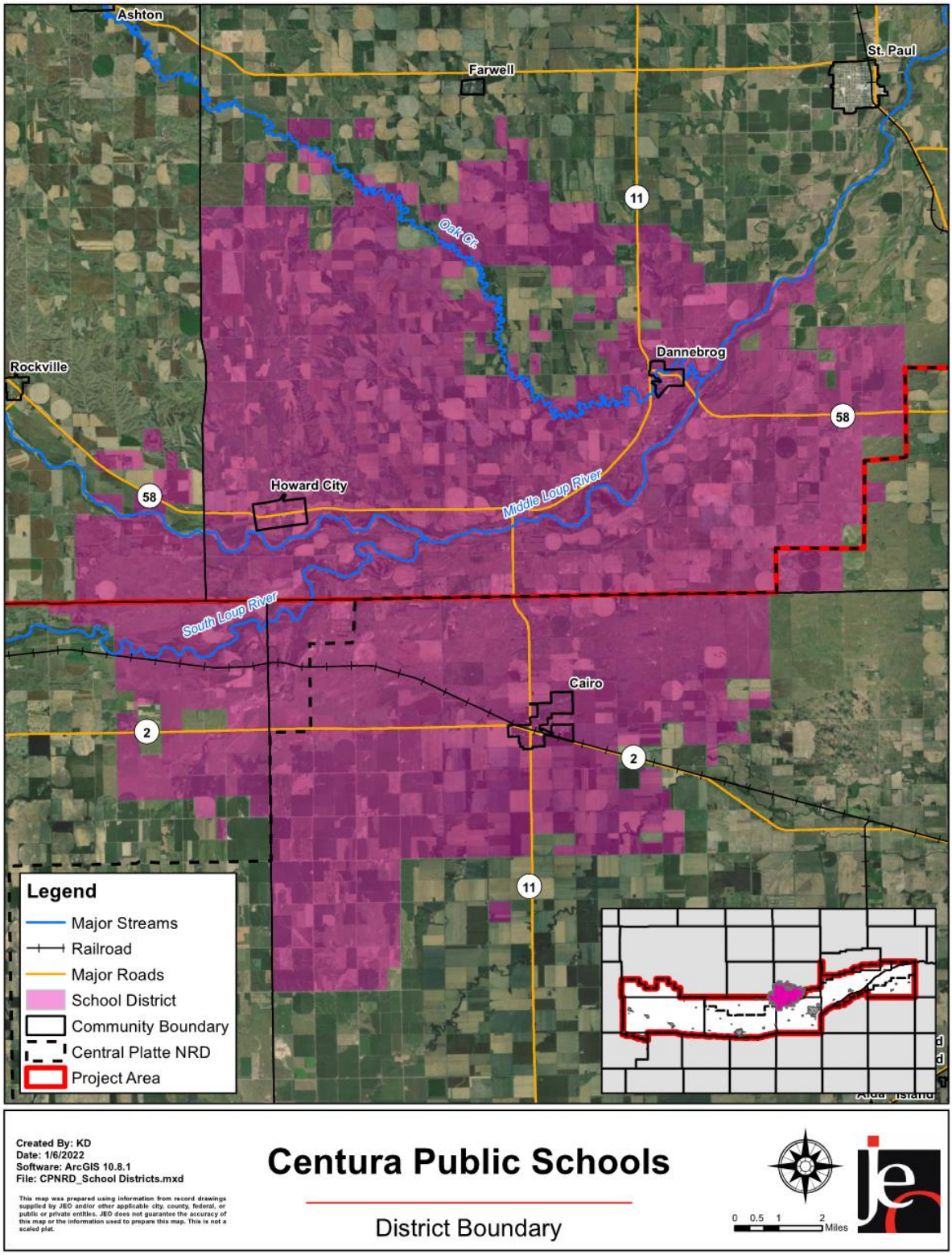
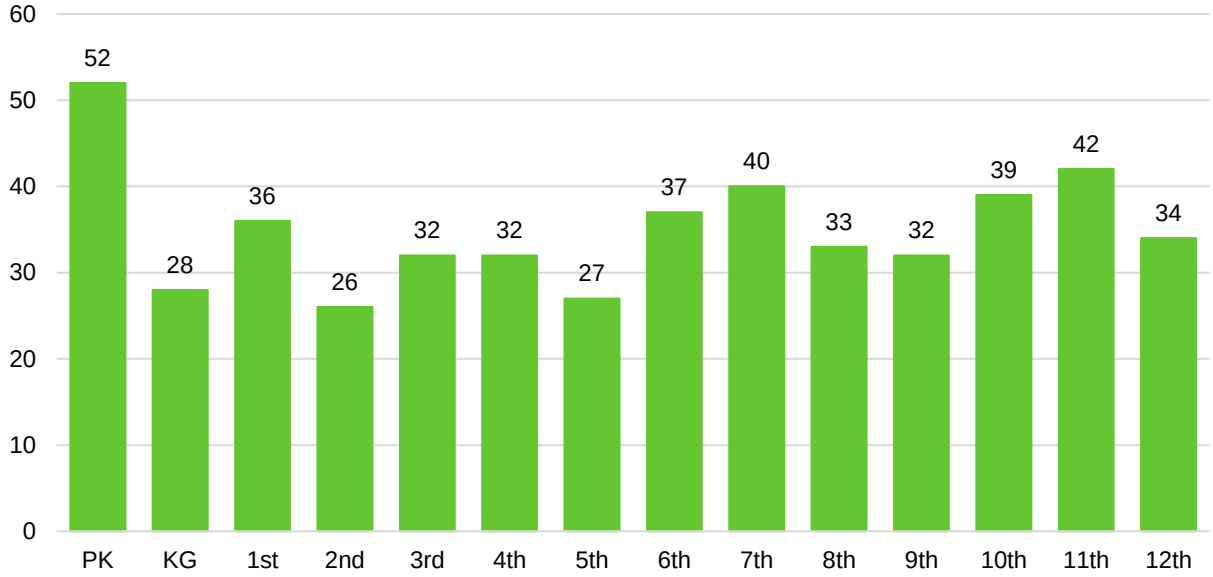


Figure CNS.3: Number of Students by Grade, 2020-2021



Source: Nebraska Department of Education

The figure above indicates that the largest number of students are in prekindergarten and 11th grades. The lowest population of students are in the 2nd and 5th grades. According to the Nebraska Department of Education (NDE), 32.24% of students receive either free or reduced priced meals at school. This is lower than the state average of 46.33%. Additionally, 14.84% of students are in the Special Education Program and the district mobility rate is 6.62%. These particular students may be more vulnerable during a hazardous event than the rest of the student population.

Table CNS.2: Student Statistics, 2020-2021

	School District	State of Nebraska
Free/Reduced Priced Meals	32.24%	46.33%
School Mobility Rate	6.62%	9.12%
English Language Learners	*	7.25%
Special Education Students	14.84%	15.67%

**Indicates 10 students or less.*
Source: Nebraska Department of Education[66]

Administration and Staff

The school district has a superintendent and two principals. The school board is made up of a six-member panel. Approximately 50 staff are employed by the district. Professional development and staff meetings are where staff are trained on emergency procedures.

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the district's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects. Students and families are educated about emergency procedures through video messages and paper handouts. The district partners with the local fire department for educational outreach.

66 Nebraska Education Profile. "School Report Card." Accessed January 2022. http://nep.education.ne.gov/Home/.

School district funds are limited to maintaining current facilities and systems with a large portion of funds already dedicated to new restrooms. Funds have stayed the same over recent years.

Table CNS.3: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	No
	Disaster Response Plan	Yes
	Other (if any)	Strategic Plan
Administration & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Local staff who can assess community's vulnerability to hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	No
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	Yes
	Awarded grants in the past	Yes
	Authority to levy taxes for specific purposes such as mitigation projects	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Approved bonds in the past	No
	Flood Insurance	Yes
	Other (if any)	-
Education & Outreach Capability	Local school groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.)	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	Yes
	StormReady Certification	No
	Other (if any)	-
Drills	Fire	10 / year
	Tornado	2 / year
	Intruder	2 / year
	Bus evacuation	2 / year
	Evacuation	2 / year
	Other (if any)	-

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

Plan Integration

Centura Public Schools has two 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. The district will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Strategic Plan (2021-2022)

The strategic plan for the district reflects master planning to improve facilities, safety, technology, and curriculum. Mitigation actions in the hazard mitigation plan will be reflected in the district's strategic plan going forward.

Crisis Response Plan (2021-2022)

The crisis response plan for the school provides response protocols for unique situations such as large-scale natural disaster or criminal activities. It assigns specific responsibilities to individuals, addresses shelter in place protocols and locations, identifies scenarios that would require evacuation, provides evacuation routes, and identifies opportunities for mitigation following an event. The entire school is familiar with the crisis response plan.

Future Development Trends

Over the past five years, the district has updated its boiler and renovated the gym and science room. In the next five years, the district is going to perform master planning and update the restrooms.

Community Lifelines

Transportation

Three major transportation corridors travel through the district: Nebraska State Highways 2, 11, and 58. The most traveled route is Highway 11 with an average of 2,965 vehicles daily, 265 of which are trucks.[67] County roads are of most concern to the district due to poor road conditions for the bus routes during the winter and after heavy rains. A Burlington Northern Santa Fe Railway rail line runs west to east through the district. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the district, as well as areas more at risk of transportation incidents. The district owns 12 buses with over 300 students bused to and from school across six routes.

Hazardous Materials

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are five chemical storage sites within the district which house hazardous materials. The school building is not located near any of the chemical facilities. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

67 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

Table CNS.4: Chemical Storage Sites

Name	Address	Floodplain (Y/N)
Bosselman Energy Inc.	W Nebraska Highway 2 Cairo, NE	N
Agricultural Services Inc.	6068 N Highway 11 Cairo, NE	Y (1%)
CenturyLink	103 E Nile St Cairo, NE	N
Aurora Co-op Elevator Company	30250 Shelton Rd Ravenna, NE	Y (1%)
Agricultural Services Inc.	422 8th St Boelus, NE	N

Source: Nebraska Department of Environment and Energy[68]

Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the district.

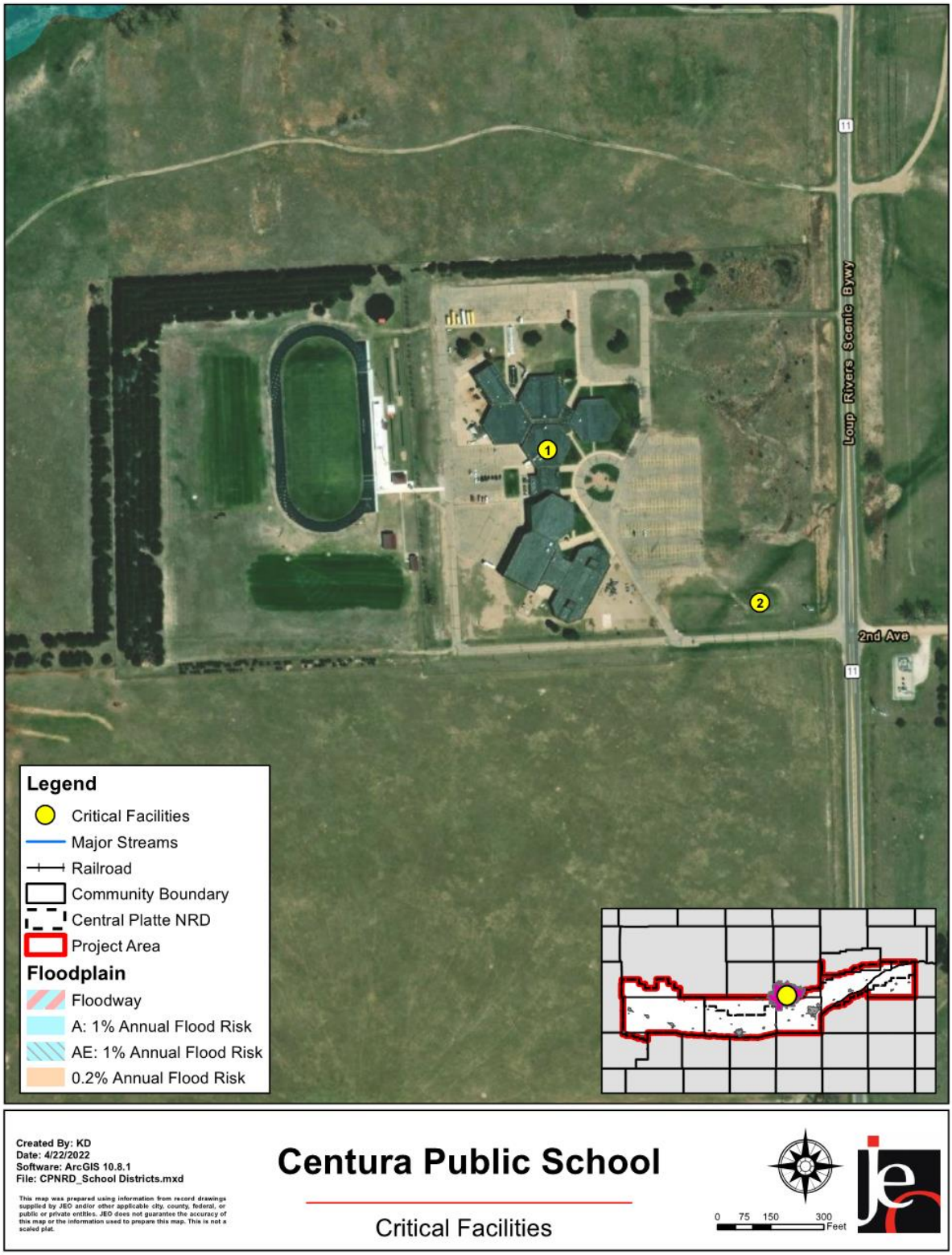
Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

Table CNS.5: Critical Facilities

CF Number	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	School Building	Y	Y	N
2	Sewer Plant	N	Y	N

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

Figure CNS.4: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the district. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Grass/Wildfire

While grass/wildfires have not impacted the district in the past, the pasture and tree line around the school is a concern. The school building is surrounded on all four sides by pastureland. In the event of a school evacuation, students and staff would either go to a neighboring farm or be bussed to Cairo depending on the time available. To reduce the risk of grass/wildfire impacting school property, the district regularly waters vegetation and continually cleans out the tree line surrounding the school.

Severe Thunderstorms / Tornadoes and High Winds

The primary concern for the district related to severe thunderstorms, tornadoes, and high winds is safety during student travel times. In December of 2021, a tornado warning occurred at the beginning of student travel. Busses had to be evacuated and students entered the school to seek safety. The school district has two areas identified as tornado shelter areas. The locker rooms were built to withstand tornadoes and high winds. All students have a routine to enter one of the four locker rooms. Centura continues to practice and drill tornado events. The National Weather Service, state patrol, and counties provide weather updates to the school during severe weather. To reduce the impacts of these events, the school has rubber laid roof that is resistant to hail and wind. In addition, more windbreaks have been added around the school.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Improve Emergency Communication Systems
Description	Update the fire, safety, and communication systems in the school buildings. These systems are for both internal and external alerts.
Hazard(s) Addressed	All Hazards
Estimated Cost	$310,000
Local Funding	Bond
Timeline	2-5 Years
Priority	High
Lead Agency	Superintendent
Status	Planning Stage

Mitigation Action	New Secure Accessible Front Entrances
Description	Remodel and redesign entrances to the elementary and high school building for additional security and to reduce wind and turbulence through the door. The single door system will be updated to a double door system with a breezeway.
Hazard(s) Addressed	Terrorism, Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$20,000 - $25,000 per Entrance
Local Funding	General Fund, Bond
Timeline	2-5 Years
Priority	High
Lead Agency	Superintendent
Status	Planning Stage

Mitigation Action	Window Updates
Description	Replace the current windows at the elementary school.
Hazard(s) Addressed	Terrorism, Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	$40,000
Local Funding	General Fund, Bond
Timeline	2-5 Years
Priority	High
Lead Agency	Superintendent
Status	Planning Stage

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside planning documents, 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 school administration and Safety Team will be responsible for reviewing and updating the plan in the future. These individuals will review the plan bi-annually. Staff and families will be notified of any changes through the school website and social media.

School District Profile

Wood River Rural Schools

Central Platte NRD
Hazard Mitigation Plan Update

2022

Local Planning Team

Wood River Rural School'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 the district.

Table WRS.1: Wood River Rural Schools Local Planning Team

Name	Title	Jurisdiction	R1 Meeting	R2 Meeting
Terry Zessin	Superintendent	Wood River Rural Schools	Grand Island	Grand Island

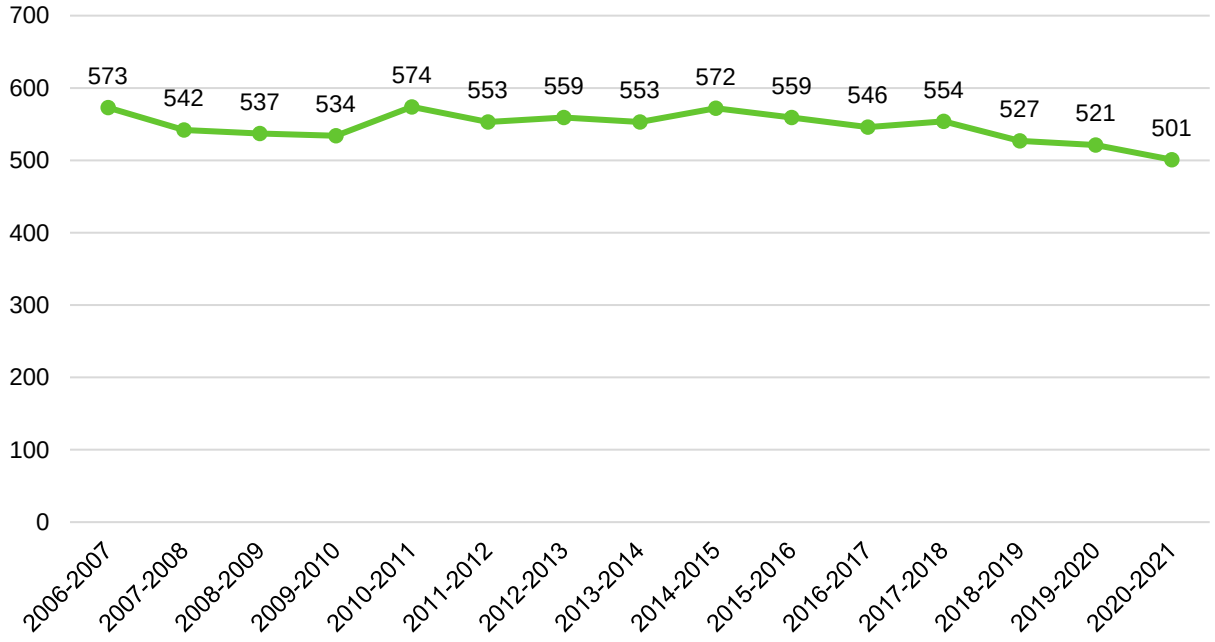
Location

Wood River Rural Schools is located in central and western Hall County. It serves three schools: Wood River Elementary School, Wood River Rural Middle School, and Wood River Rural High School. The district was formed in June of 2006 when Wood River Rural High School merged with Alda Elementary and Wood River Elementary. The school district provides services to students in the communities of Wood River, Alda, and the rural areas surrounding them.

Demographics

The following figure displays the historical student population trend starting with the 2006-07 school year and ending with the 2020-2021 year. It indicates that the student population has been declining since 2007. There are 501 students enrolled in the district.[69] The local planning team anticipates little change in the student population in the next few years. However, there is a potential for it to increase with the additional housing being built in the community. Many students in the district are bilingual in English and Spanish. Most emergency instructions are available in both English and Spanish.

Figure WRS.1: Student Population 2007-2021



Source: Nebraska Department of Education

69 Nebraska Department of Education. July 2021. "2019-2020 Education Profile for District: Grand Island Public Schools." https://nep.education.ne.gov//Districts/Index/40-0002-000?DataYears=20192020

Figure WRS.2: Wood River Rural Schools

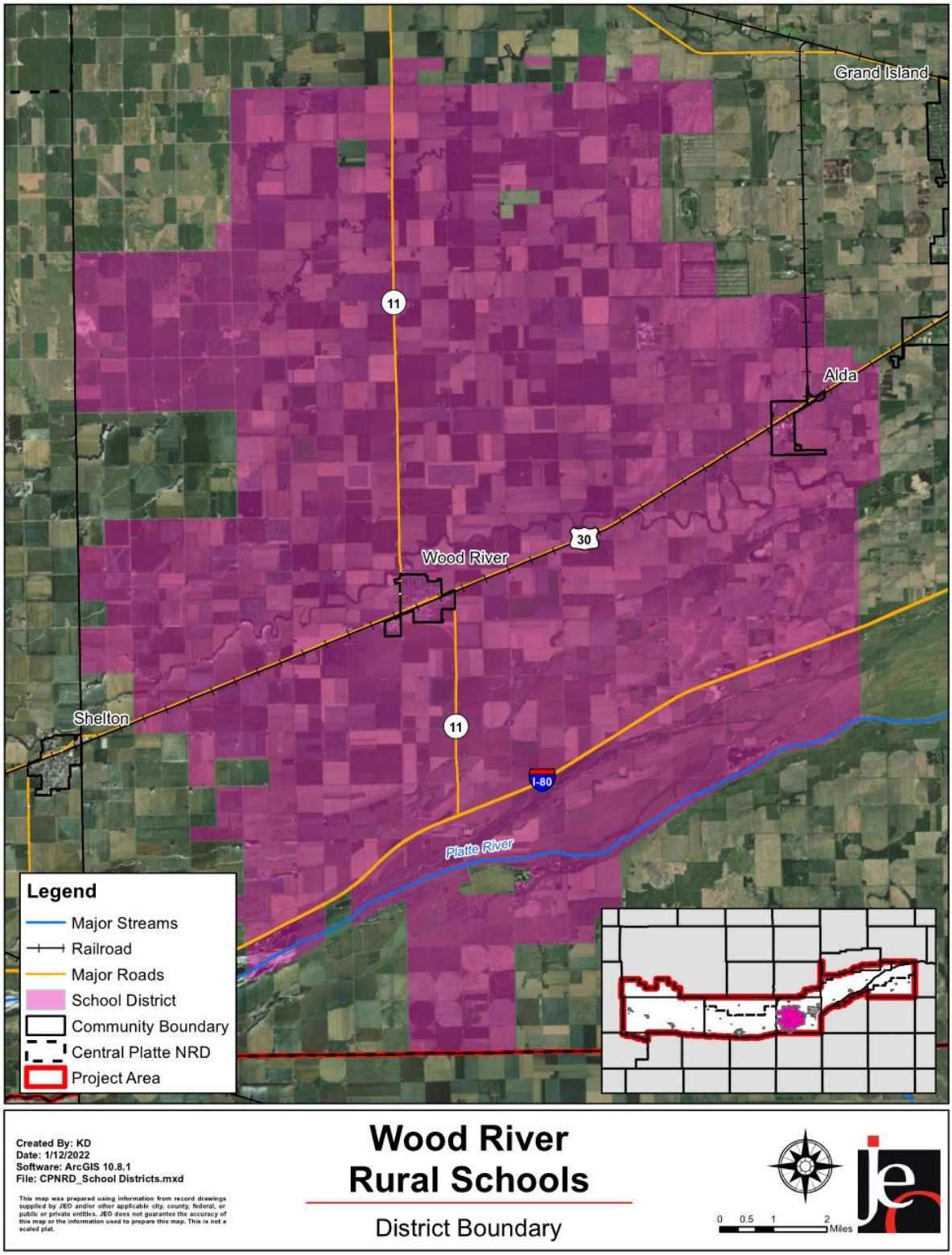
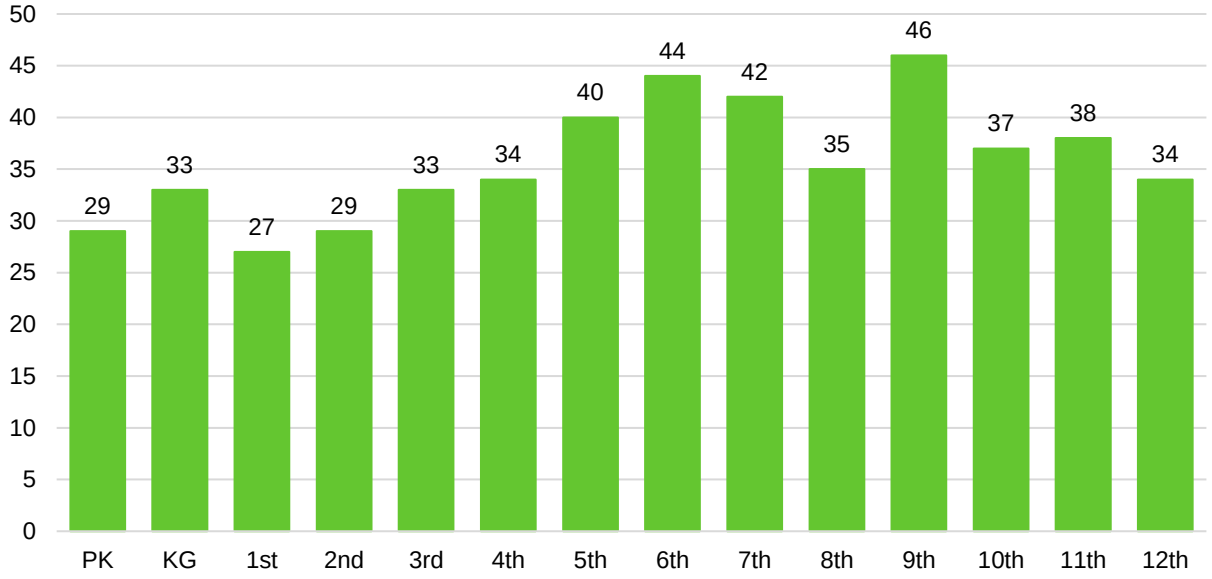


Figure WRS.3: Number of Students by Grade, 2020-2021



Source: Nebraska Department of Education

The figure above indicates that the largest number of students are in the 9th and 6th grades. The lowest population of students are in pre-kindergarten, 1st, and 2nd grades. According to the Nebraska Department of Education (NDE), 41.72% of students receive either free or reduced priced meals at school. This is lower than the state average of 46.33%. However, the local planning team indicated that the number of students getting free or reduced lunches are likely lower than they normally would be because all families get free lunch now. There are likely families who didn't fill out the forms since it is not required to get free lunches right now. Additionally, 11.02% of students are in the Special Education Program, the school mobility rate is 5.72%, and 6.14% of students are English Language Learners. These particular students may be more vulnerable during a hazardous event than the rest of the student population.

Table WRS.2: Student Statistics, 2020-2021

	School District	State of Nebraska
Free/Reduced Priced Meals	41.72%	46.33%
School Mobility Rate	5.72%	9.12%
English Language Learners	6.14%	7.25%
Special Education Students	11.02%	15.67%

Source: Nebraska Department of Education[70]

Administration and Staff

The school district has a superintendent and three principals. The school board is made up of a six-member panel. 87 staff are employed by the district. Staff are trained on emergency procedures through ESU, outside agencies, and the Nebraska Department of Education.

Capability Assessment

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

70 Nebraska Education Profile. "School Report Card." Accessed July 2021. http://nep.education.ne.gov/Home/.

educational and outreach capability; and overall capability to implement mitigation projects. The local fire department partners schools for education and drills but not as often as they could.

District funds are limited to maintaining current facilities and systems, but the administration is trying to get to the ability to do new capital projects. A large portion of funds is already dedicated to remodeling and renovating science rooms. District funds have increased slightly over recent years.

Table WRS.3: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	No
	Continuity of Operations Plan	Yes
	Disaster Response Plan	Yes
	Other (if any)	-
Administration & Technical Capability	GIS Capabilities	Yes
	Civil Engineering	No
	Local staff who can assess community's vulnerability to hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	No
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	Yes
	Awarded grants in the past	Yes
	Authority to levy taxes for specific purposes such as mitigation projects	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Approved bonds in the past	Yes
	Flood Insurance	No
	Other (if any)	-
Education & Outreach Capability	Local school groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.)	Yes (County)
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	-
Drills	Fire	10 / year
	Tornado	2 / year
	Intruder	1 / year
	Bus evacuation	2 / year
	Evacuation	1 / year
	Other (if any)	-

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

Plan Integration

Wood River Rural Schools has one planning document that discusses or relates to hazard mitigation. The plan is listed below along with a short description of how it is integrated with the hazard mitigation plan. The district will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Crisis Response Plan

The crisis response plan for the school provides response protocols for unique situations such as large-scale natural disaster or criminal activities. It assigns address shelter in place protocols, identifies scenarios that would require evacuation, identifies evacuation routes, and lists sheltering locations. Specific hazards addressed in the plan include winter storms, flooding, tornado, fire, and terrorism. The plan will be fully completed and updated during the 2021-2022 academic year.

Future Development Trends

Over the past five years, there have been no major changes to district buildings. In the next five years, the science rooms will be renovated and there is the potential to remodel the front entrances to make them more secure and accessible.

Community Lifelines

Transportation

Three major transportation corridors travel through the district: Interstate 80, US Highway 30, and Nebraska State Highway 11. The most traveled route is Interstate 80 with an average of 23,040 vehicles daily, 8,100 of which are trucks. [71] Bus routes on rural roads are the most concern due to poor road conditions. A Union Pacific rail line runs east to west through the district. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the district, as well as areas more at risk of transportation incidents. The district owns six busses.

Hazardous Materials

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 14 chemical storage sites within the district which house hazardous materials.[72] A list of the sites and addresses can be found in the Wood River and Alda participant sections. Agricultural Services Inc. is located three blocks southwest of Wood River Elementary. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

71 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.
72 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed June 2021.

Critical Facilities

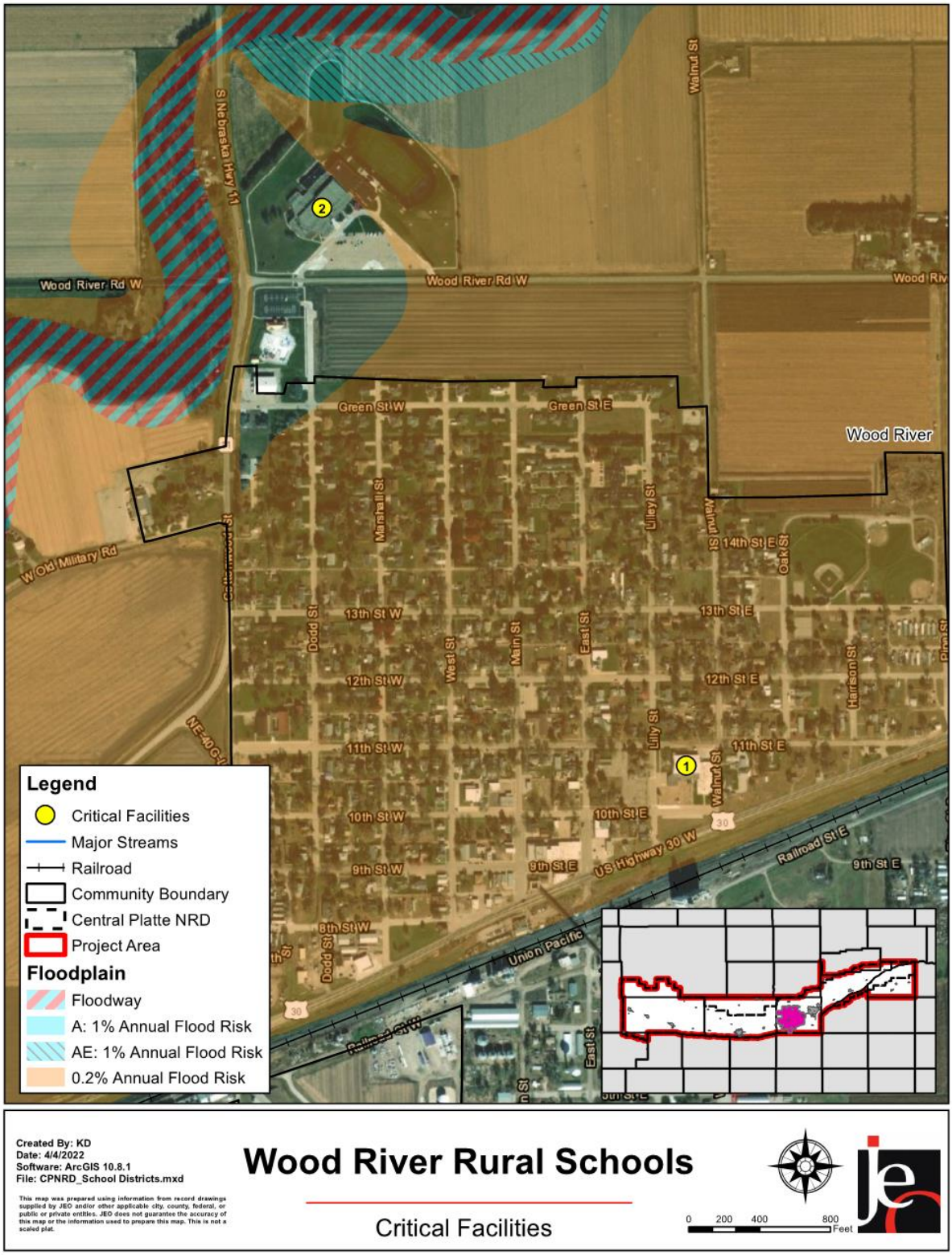
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as part of this plan update. The following table and figure provide a summary of the critical facilities for the district.

Although they may not be listed in the table below, critical infrastructure also includes power infrastructure, cell towers, alert sirens, water infrastructure, wastewater infrastructure, and roadways.

Table WRS.4: Critical Facilities

CF Number	Name	Mass Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Wood River Elementary	Y	N	Y (0.2%)
2	Wood River MS/HS	N	N	Y (0.2%)

Figure WRS.4: Critical Facilities



Historical Occurrences

See the Hall County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries. Larger scale and more damaging events that impacted the district are discussed under Hazard Prioritization.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the district. The local planning team prioritized the selected hazards based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

The last large flooding events occurred within a few months of each other in 2019. The high school was the sand bagging location during the floods. It also served as the Red Cross emergency headquarters. The school district housed 60 people during the emergency and stored supplies and food during the relief effort. The district's primary concern during a flood event is trying to keep the school in session while also helping families and individuals. No school property has been damaged from past flood events.

Hazardous Materials Release

Potential spill sources come from the Ethanol Plant, the Co-op, Highway 30, and rail line. Chemical spills have not impacted the district in the past; however, a large spill could cause an evacuation of a school. In the event of an evacuation, students would be bussed to a school in a neighboring community. Students and staff have evacuation drills at least once a year.

Public Health Emergency

The primary concern with a public health emergency is keeping both students and staff healthy. As with all schools, Wood River Rural Schools was heavily impacted by the ongoing Covid-19 pandemic. Some of the impacts include student learning loss, increased student and staff absences, and increased cost for building adjustments. To help reduce the spread of the virus, social distancing was implemented, rooms were cleaned more often, and additional technology was purchased to be able to work remotely.

Severe Winter Storms

Winter storms have the potential to close school for a number of days. In addition, ice and snow on rural bus routes can cause issues getting students bussed to school. The extremely cold temperatures in February 2021 caused the district to have late starts and bus additional students to school. Typically, the district has two-three days a year when school is closed due to poor winter weather conditions. The district works with the National Weather Service for forecasting weather conditions. Students and families are notified of a snow day through a mass text alert, social media, the school's website, and phone calls. Snow removal on school property is contracted out to a local farmer.

Terrorism

There have been several smaller instances of terrorism and threats to the district. In 2021, a former student walked through the doors at the end of the day and punched a student. Four years ago, the district had two social media threats of people saying they were going to shoot up the school. During these instances local law enforcement was contacted to help with the situation. Safety measures in place include locked doors with electronic unlocks, requiring visitors to chick

in and wear identification, procedures in place in the event of a terroristic act, and having architectural drawings of the buildings on hand. In the future, the district would like to locate office staff at the front door in order to check people in, then release them into the building.

Tornadoes and High Winds

Past high wind events have caused damage to the school roofs. Tornadoes have not damaged school buildings, but school has been released early due to likely high winds and severe weather. Neither school has a FEMA certified shelter but there are designated spots in the building where students and staff can go. Only a few people are able to fit in the basements. If a tornado warning occurred during bus routes, the passengers would use a nearby home or ditch. The district is in regular communication with the Natural Weather Service for any severe weather that may occur. Tornado drills are practiced by students and staff at least twice a year.

Mitigation Strategy

New Mitigation Actions

Mitigation Action Name	Backup and Emergency Generators
Description	A backup power generator is needed at both schools.
Hazard(s) Addressed	All Hazards
Estimated Cost	$100,000
Local Funding	Special Building Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Superintendent
Status	Planning Stage

Mitigation Action Name	Bus Barn
Description	Construct a place for buses to stay warm and out of weather conditions.
Hazard(s) Addressed	Severe Winter Storms, Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	$350,000 - $500,000
Local Funding	Special Building Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Superintendent
Status	Not Started

Mitigation Action Name	New Secure Accessible Front Entrances
Description	Both the elementary and high school need new entrances with a secure vestibule. Update the security door access system.
Hazard(s) Addressed	Terrorism
Estimated Cost	$2,100,000
Local Funding	Special Building Fund, Fundraising, Grant
Timeline	1-5 Years
Priority	High
Lead Agency	Superintendent, Principals
Status	In architectural design.

Mitigation Action Name	Virtualized Servers
Description	Virtualized servers are needed at both schools.
Hazard(s) Addressed	All Hazards
Estimated Cost	$100,000
Local Funding	Special Building Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Superintendent
Status	Planning Stage

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside planning documents, 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 superintendent, middle/high school principal, elementary principal, and the Wood River Safety Team will be responsible for reviewing and updating the plan in the future. These individuals will review the plan on an annual basis.