

# Cass County Appendix

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# COMMUNITY PROFILE

## CASS COUNTY

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

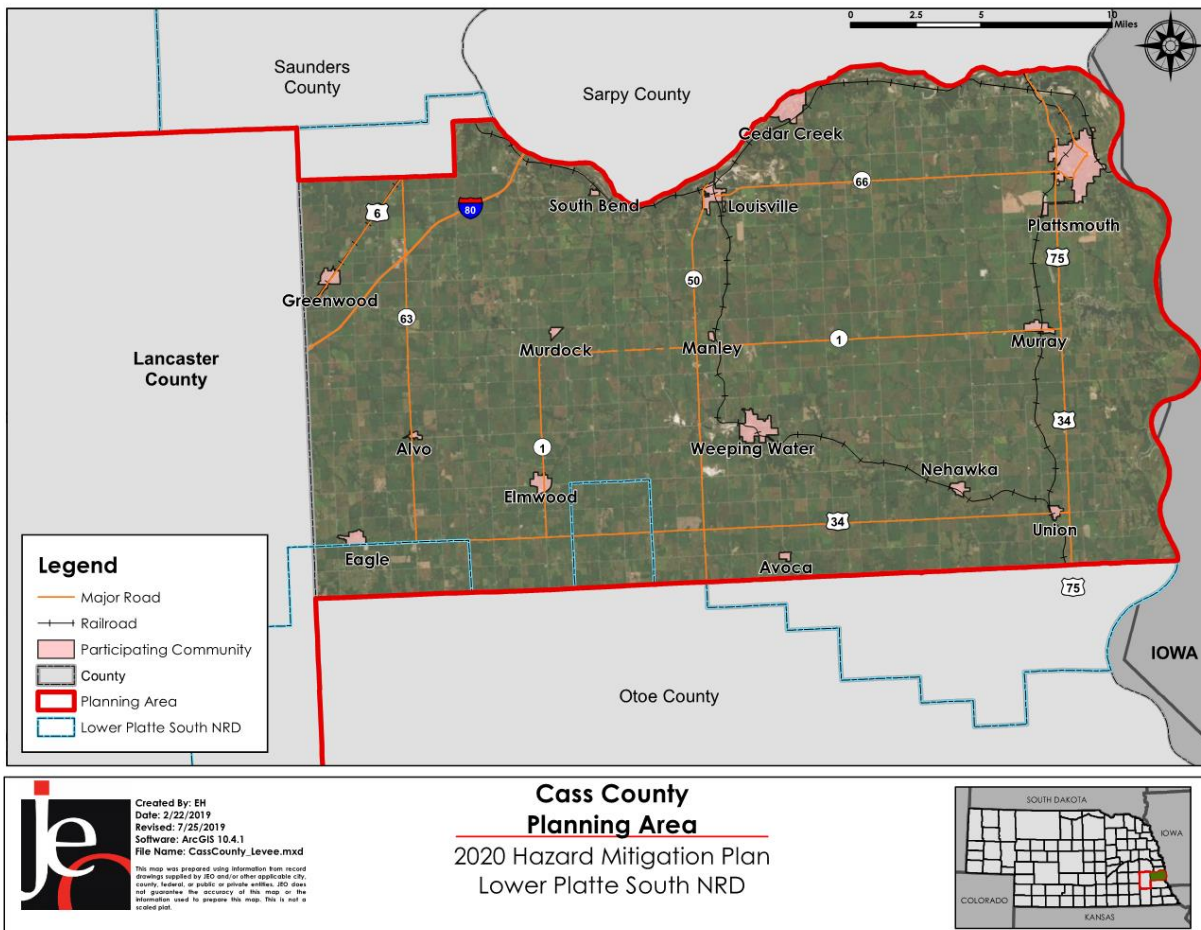
Table CSC.1: Cass County Local Planning Team

Name	Title	Jurisdiction
Sandra Weyers	Director	Cass County Emergency Management Agency (CEEMA)
Chad Korte	Chief Deputy Director	CEEMA
Tim Maloney	Chief Operations Manager	CEEMA
Tandra Sudman	Administrative Officer	CEEMA
Roseann Dobesh-DeGraff	Administrative Officer	CEEMA

## Location and Geography

Cass County is in eastern Nebraska and is bordered by Otoe, Lancaster, Saunders, and Sarpy counties as well as the State of Iowa. The total area of Cass County is 566 square miles. Major waterways within the county include the Platte and Missouri Rivers; Beaver Lake, and the Ervine, Weeping Water, Wilson, and Stove Creeks. Most of Cass County lies in the rolling hills topographic region<sup>1</sup> with slight incursions of bluffs and valleys from the Platte and Missouri Rivers. Most of the county's land is characterized by agricultural fields.

Figure CSC.1: Cass County



1 Center for Applied Rural Innovation. "Topographic Regions Map of Nebraska." 2001. <http://digitalcommons.unl.edu/caripubs/62>.

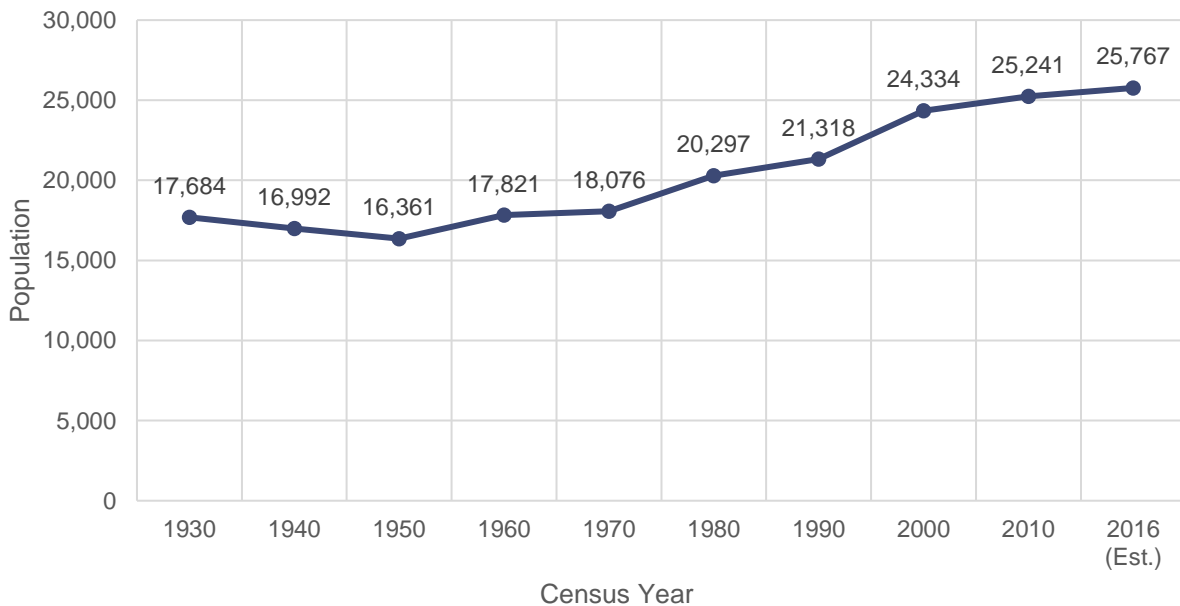
## Transportation

Cass County’s major transportation corridors include Interstate 80, US Highways 6,34, and 75; and Nebraska Highways 1, 43, 50, 63, 66, and 67.<sup>2</sup> All of these major transportation routes are of concern due to the high volume of traffic carrying hazardous materials through the county. Historically, past events have required Cass County Emergency Management to respond and assist in response and material clean-up and remediation. The county also has one municipal airport in Plattsmouth averaging 56 flight operations per day<sup>3</sup> and one private airport in Weeping Water averaging 115 flight operations per week.<sup>4</sup> There are also two railroads operating in the county, Burlington Northern Santa Fe (BNSF) to the north, and Union Pacific (UP) in the east and center.<sup>5</sup> There are businesses and communities located along all identified transportation routes. The Cass County Law Enforcement Center (including the 911 Center & Jail) and Courthouse are located in close proximity to the Burlington Northern main line in Plattsmouth. There are also schools, childcare providers, and nursing home/elderly adult living facilities in close proximity of these transportation routes within Cass County. This information is important to hazard mitigation plans as it suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents.

## Demographics

The following figure displays the historical population trend from 1930 to 2017. This figure indicates that the population of Cass County has been increasing since 1950. Growing populations are notable for hazard mitigation as it can lead to greater areas of hazard vulnerability or require additional mitigation actions to reduce overall risk.

**Figure CSC.2: Cass County Population 1930 – 2017**



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

The following table indicates the State of Nebraska has a higher percentage of people under the age of 5 and over the age of 65. However, the County has an older median age. This is relevant

<sup>2</sup> Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.  
<sup>3</sup> Airnav.com. "Plattsmouth Municipal Airport." Accessed December 2018. <https://www.airnav.com/airport/KPMV>.  
<sup>4</sup> Airnav.com. "Browns Airport." Accessed December 2018. <https://www.airnav.com/airport/NE69>.  
<sup>5</sup> Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.  
<sup>6</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

## Section Seven: Cass County Community Profile

to hazard mitigation as very young and elderly populations may be at greater risk from certain hazards than others and the age distribution of Cass County impacts hazard mitigation priorities. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

**Table CSC.2: Population by Age**

Age	Cass County	State of Nebraska
<5	5.9%	6.9%
5-64	78.1%	77.8%
>64	16%	15.3%
<b>Median</b>	41.9	36.3

Source: U.S. Census Bureau<sup>7</sup>

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

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

	Cass County	State of Nebraska
<b>Median Household Income</b>	\$68,284	\$52,997
<b>Per Capita Income</b>	\$32,509	\$27,882
<b>Median Home Value</b>	\$166,200	\$133,200
<b>Median Rent</b>	\$779	\$726

Source: U.S. Census Bureau<sup>8,9</sup>

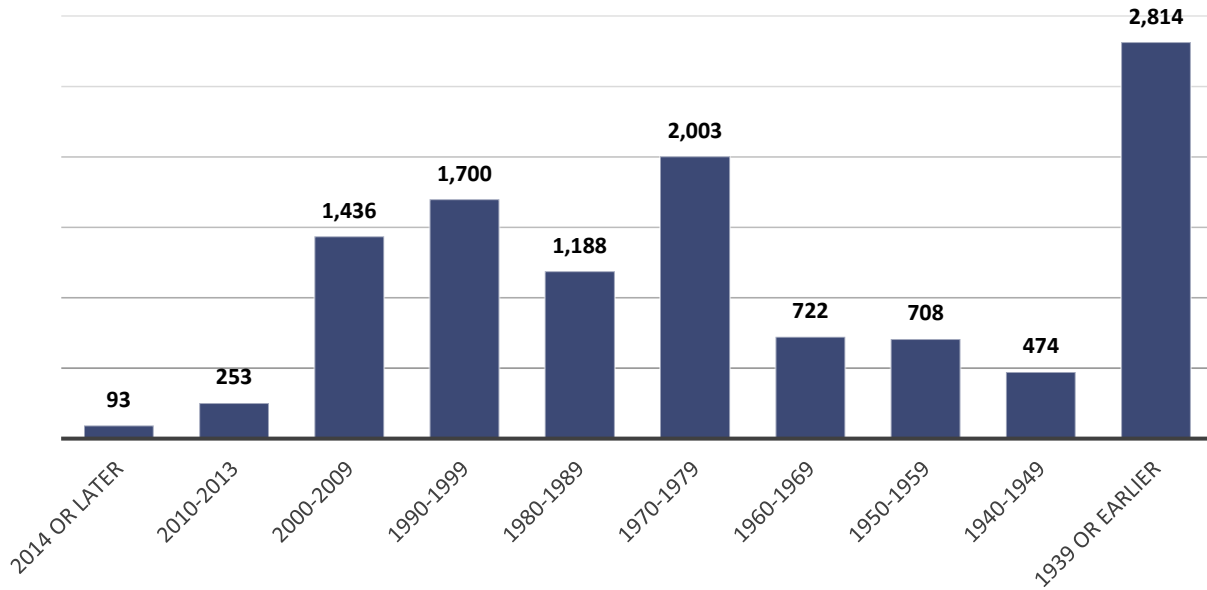
The following figure indicates that most of housing in Cass County was built prior to 1979 (59%). Housing age can serve as an indicator of risk as structures built prior to state building codes may be at greater risk. According to 2012-2017 ACS 5-year estimates, the county has 11,391 housing units with 86.9% of those units occupied. There are approximately 407 mobile homes in the county representing 3.6% of the housing stock. Residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. In Cass County, several mobile homes are located throughout the county such as in Plattsmouth, Weeping Water, and Louisville.

7 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

8 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

9 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov>.

Figure CSC.3: Housing Units by Year Built



Source: U.S. Census Bureau<sup>10</sup>

Table CSC.4: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Cass County	9,894	86.9%	1,497	13.1%	8,093	81.8%	1,801	18.2%
Nebraska	736,613	91.0%	73,198	9.0%	487,948	66.2%	248,665	33.8%

Source: U.S. Census Bureau<sup>11</sup>

### Major Employers

The following table presents the number of establishments, paid employees, and the annual pay role in thousands of dollars. This information is relevant to hazard mitigation as it indicates the diversification of industry. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table CSC.5: Business in Cass County

Total Businesses	Number of Paid Employees	Annual Payroll (in thousands)
551	3,853	148,262,000

Source: U.S. Census Bureau<sup>12</sup>

Agriculture is also important to the economic fabric of Cass County, and the state of Nebraska as a whole. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute as well by producing, processing and marketing farm and food products. These businesses generate income, employment, and economic activity throughout the region.

10 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

11 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

12 United States Census Bureau. "American Fact Finder: Geography Area Series County Business Patterns 2015 Business Patterns." [database file]. <https://factfinder.census.gov>.

**Table CSC.6: Cass County Agricultural Inventory**

Cass County Agricultural Inventory	
Number of Farms	731
Land in Farms	344,869

Source: USDA 2012 Census of Agriculture<sup>13</sup>

### Future Development Trends

The County has experienced several changes over the past five years. New housing developments have been built near Louisville/Hwy 50, Eagle/Hwy 34, and Plattsmouth. Highway 63 has been widened to accommodate interstate access and additional widening of Highway 75 has been completed near Plattsmouth. The population in Cass County is increasing which the local planning team attributes to residents wanting to live in more rural areas but within easy access to Omaha and Lincoln. Cass County also has several main highways making travel to metropolitan areas easy.

In the next five years additional housing developments are planned in Eagle and Louisville and additional highway expansion on Highway 75 is anticipated in the Plattsmouth and Murray areas. Commercially a new truck stop in Eagle is in development. Within the next few years a large anhydrous storage area between Elmwood and Murdock and several additional businesses near Plattsmouth and Louisville are planned.

### Structural Inventory and Valuation

GIS parcel data was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table CSC.7: Structural Inventory/Parcel Improvements**

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
14,552	\$1,721,057,775	\$118,270	3,029	\$384,537,621

Source: GIS Workshop/Cass County Assessor<sup>14</sup>

### Critical Infrastructure/Key Resources

#### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are a total of 30 chemical storage sites in the unincorporated areas of Cass County. For a description and map of the chemical sites located in incorporated areas, please see the jurisdiction’s participant section.

**Table CSC.8: Chemical Storage Fixed Sites**

Facility Name	Address	City	In Floodplain (Y/N)
Kerford Limestone Co	36110 Fletcher Ave	Weeping Water	N
Midwest Farmers Cooperative	813 Mynard Rd	Plattsmouth	N
Midwest Farmers Cooperative	219 Highway 6	Greenwood	N

13 United States Department of Agriculture, National Agricultural Statistics Server. 2012. “2012 Census of Agriculture – County Data.” <https://www.agcensus.usda.gov/Publications/2012/>.

14 Cass County Assessors. Personal correspondence, September 12, 2017.



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Facility Name	Address	City	In Floodplain (Y/N)
Beaver Lake	9410 Clubhouse Cir	Plattsmouth	N
Cubby's Greenwood Truck Plaza	13504 238th St	Greenwood	N
Iowa Limestone Co	36320 Fletcher Ave	Weeping Water	N
Jerico Services Inc	36712 Fletcher Ave	Weeping Water	Y
Platte River State Park	14421 346th St	Louisville	N
Eugene T Mahoney State Park	28500 W Park Hwy	Ashland	N
Plattsmouth Terminal	13909 Chicago Ave	Plattsmouth	N
Plattsmouth Municipal Airport	411 Church Rd	Plattsmouth	N
NDOT Greenwood Yard	12909 238th St	Greenwood	N
Windstream Communications	208 1/2 Cherry Street	Louisville	N
Windstream Communications	Jct Murray Rd & Bellvue Dr	Murray	N
Ferrellgas	Jct Highways 75 & 34	Union	N
OPPD Substation No 961	Mill Rd	Murray	N
OPPD Substation No 972	Highway 50	Weeping Water	N
OPPD Substation No 982	Jct 286th & O Sts	Elmwood	N
YMCA Camp Kitaki	14917 E Park Hwy	Louisville	N
OPPD Substation No 985	Davy Jones Dr	Plattsmouth	N
Midwest Farmers Cooperative	5224 Andersen Dr	Nehawka	N
Quarry Oaks Golf Course	16600 Quarry Oaks Dr	Ashland	N
OPPD Cass County Station	3520 Mill Rd	Plattsmouth	N
Cass County Highway Dept	13780 12th St	Plattsmouth	N
Lyman-Richey Sand & Gravel 04	300 E Bay Rd	Plattsmouth	Y
Lyman-Richey Sand & Gravel 03	19746 72nd St	Plattsmouth	N
NDOT Salt Brine Storage Yard	Highway 43	Eagle	N
Buel Trucking Inc	300 S 214th St	Eagle	N
Wiles Bros Fertilizer Inc	606 Wiles Rd	Plattsmouth	N
Cass County Highway Dept Shop	7600 Highway 50	Weeping Water	N

Source: Nebraska Department of Environment and Energy, 2017<sup>15</sup>

15 Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed August 2017. <https://deq-iis.ne.gov/tier2/search.faces>.

15l United States Census Bureau. "American Fact Finder: Cartographic Boundary Shapefiles - Counties." [database file]. [https://www.census.gov/geo/maps-data/data/cbf/cbf\\_counties.html](https://www.census.gov/geo/maps-data/data/cbf/cbf_counties.html)

**Critical Facilities**

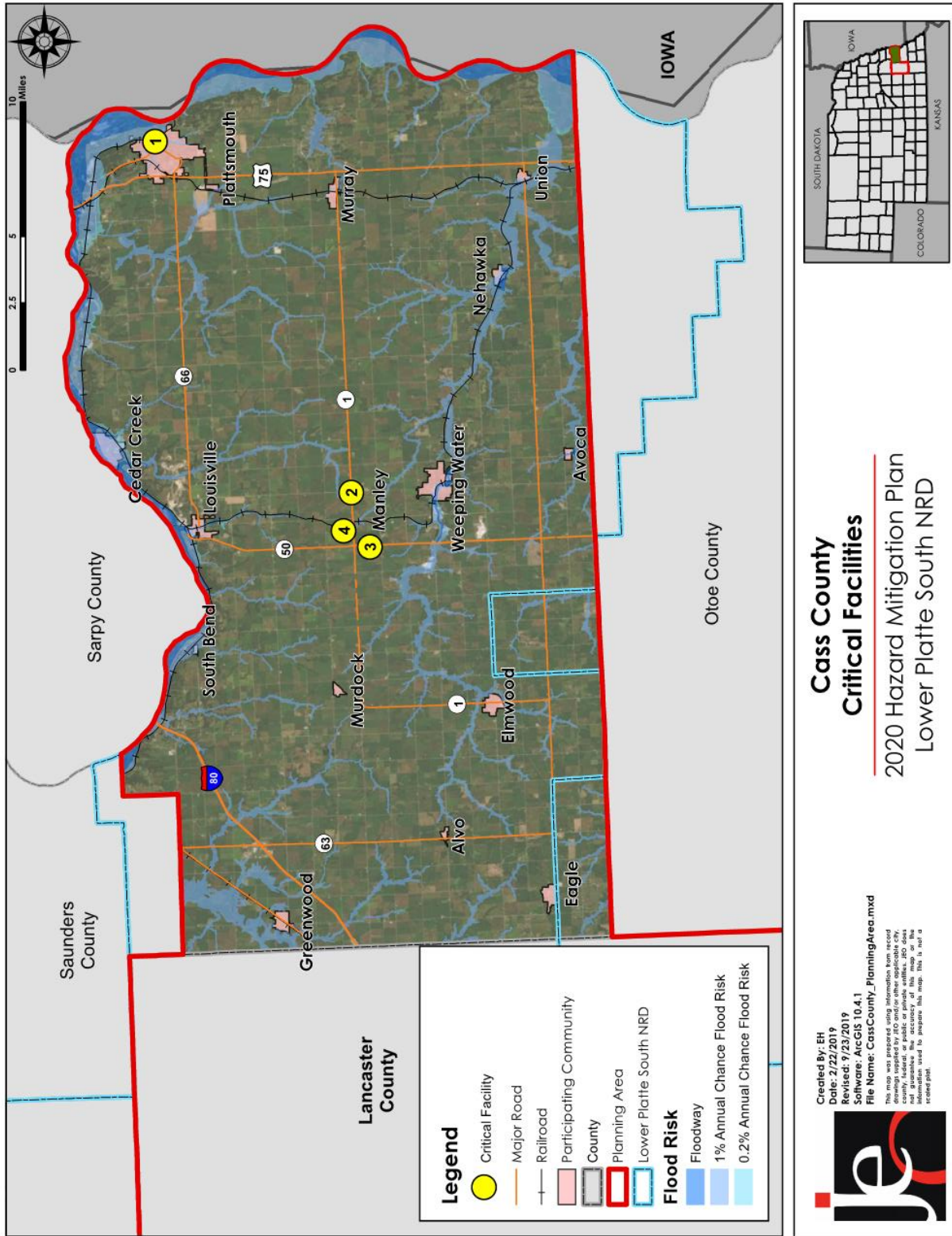
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public (i.e. Red Cross Shelter), and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

The County also owns and maintains communication equipment located on ten water towers throughout the County which are utilized during emergencies and hazard related events. All communication centers have their own backup source of power.

**Table CSC.9: Critical Facilities**

CF Number	Name	Address	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Cass County Courthouse/Sheriff/County Jail	4 <sup>th</sup> and Main, Plattsmouth	N	Y	N
2	County Extension, Emergency Management	8400 144 <sup>th</sup> St, Weeping Water	N	Y	N
3	County Maintenance Shop	7600 Hwy 50, Weeping Water	N	Y	N
4	Storage Shop	307 Main St, Manley	N	Y – portable	N

Figure CSC.4: Critical Facilities



## 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 – December 2018) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages are from the USDA Risk Management Agency (RMA) between 2000 and 2018.

**Table CSC.10: Severe Weather Events**

Hazard Type		Count	Property Damage	Crop Damage <sup>2</sup>
Agricultural Animal Disease <sup>11</sup>		9	NA	NA
Agricultural Plant Disease <sup>2</sup>		9	NA	\$61,491.86
Chemical Fixed Sites <sup>4</sup> <i>1 injury</i>		42	\$200,000	NA
Chemical Transportation <sup>6</sup>		30	NA	NA
Dam Failure <sup>5</sup>		1	0	NA
Drought <sup>1</sup>		101	0	\$47,030,668.05
Earthquake <sup>7</sup>		0	NA	NA
Extreme Heat <sup>1, 8</sup>		3.6 days per year	0	\$1,505,992.95
Flooding <sup>1</sup>	Flash Flood	6	\$62,000	\$55,000
	Flood	63	\$1,870,000	\$1,924,597.88
Grass/Wildfires <sup>3</sup>		308	\$242,240	\$2,225
Hail <sup>1</sup>		58/106	\$1,000,000	\$1,300,749.50
High Winds <sup>1</sup>		8/15	0	\$2,386,726.44
Severe Thunderstorms <sup>1</sup> <i>3 injuries</i>	Thunderstorm Wind	67	\$7,785,000	NA
	Heavy Rain	176	0	\$3,129,888.21
	Lightning	2	\$300,000	NA
Severe Winter Storms <sup>1</sup>	Blizzard	6	0	\$54,202.90
	Extreme Cold/Wind Chill	28	0	
	Heavy Snow	4	\$3,000,000	
	Ice Storm	3	0	
	Winter Storm	38	0	
	Winter Weather	14	0	
Tornadoes <sup>1</sup> <i>8 injuries</i>		16	\$1,009,000	\$900
<b>TOTAL LOSS IN DOLLARS</b>			<b>\$15,468,240</b>	<b>57,452,442.79</b>

NA: Data not available

1 indicates data are from NCEI (January 1996 to December 2018)

2 indicates data are from USDA RMA (2000-2017)

3 indicates data are from NFS (2000 to 2017)

4 indicates data are from U.S. Coast Guard NRC (1990-Dec 2018)

5 indicates data are from Stanford NPDP (1911-2016)

6 indicates data are from PHMSA (1980-2017)

7 indicates data are from USGS (1872-2017)

8 indicates data are from HPRCC (1893-2011)

9 indicates data are from United States Drought Monitor (1895-2018)

10 Indicates data are from the Midwest Regional Climate Center (MRCC) (1893-2018)

11 indicates data are from the Nebraska Reportable Livestock Disease Database (2014-2018)

in. = inches; EG = Estimated Gust

## County Hazard Prioritization

For more information regarding these area wide hazards, please see *Section Four: Risk Assessment*. The following discussion provides county-specific information, reported in Cass County Risk Assessment Summary, relevant to each hazard. Only hazards identified either as a concern to the County by the local planning team or based on the occurrence and risk of the hazard to the county are discussed in detail below.

### Chemical Spills (Fixed)

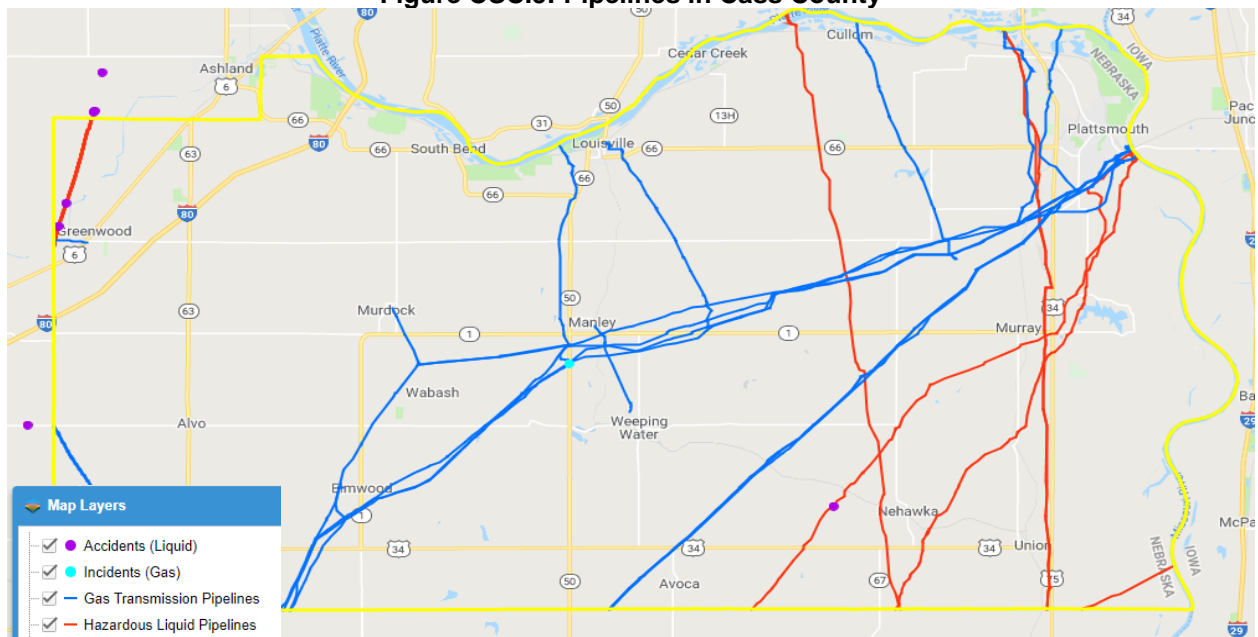
Many of the chemical fixed sites located throughout the county are near or within communities, heightening risk of spills impacting residents and property. Some notable events that have occurred in the county include a blown natural gas tank valve in 2018 which shut down Highway 50 and a second blown valve on an anhydrous bulk storage container which also shut down the highway for several hours. A new large-scale anhydrous ammonia plant is currently being built at Highway 1 and McKelvie and should be completed by spring 2020. This plant will be a large storage site and surrounding fixed sites currently housing anhydrous ammonia will move their product to the new facility.

Thus far past events have caused over \$200,000 in damages and one injury in Murdock in 1999. The County has several hazmat trained personnel on staff to assist in chemical spill events. The County is also expanding their current training program to increase available response capabilities. Overall the County experiences at least one fixed site spill per year.

### Chemical Spills (Transportation)

Cass County has the greatest volume of hazardous chemical transportation via rail and highway in the state of Nebraska. This primarily stems from its primary location between the Cities of Lincoln and Omaha. The local planning team identified an event in 2016 near Greenwood in which a propane tanker truck crossed the railroad tracks and was struck by the approaching train. The driver was killed, the tanker was knocked over, and the transportation corridor was closed for approximately three days in order to clear the area. Other significant events have required hazmat trained personnel to assist local volunteer fire departments, most of whom do not have the necessary response equipment to handle these types of incidents.

**Figure CSC.5: Pipelines in Cass County**



Source: Pipeline and Hazardous Materials Safety Administration, 2019<sup>16</sup>

<sup>16</sup> Pipeline and Hazardous Materials Safety Administration. "National Pipeline Mapping System." Accessed September 2019. <https://www.npms.phmsa.dot.gov/>.

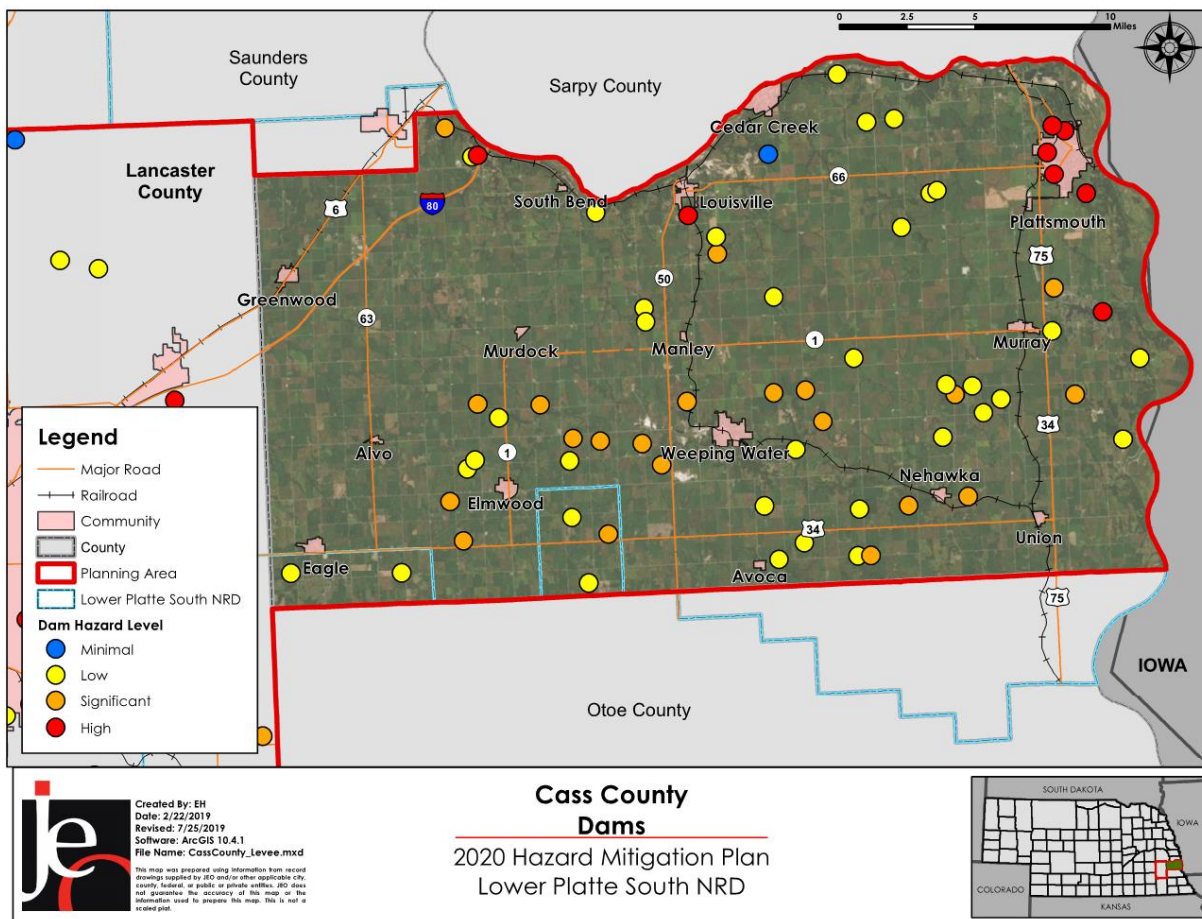
### Dam Failure

There are a total of 65 dams located within Cass County, eight of which are classified as High Hazard Dams. Dams classified with high hazard potential require the creation of an Emergency Action Plan (EAP). Dam failure is a concern due to the associated safety risks for residents and property damages if a dam were to fail. The Cass County Local Emergency Operations Plan (LEOP) describes several dams which, if they were to fail, could impact the county:

- *Beaver Lake Dam – owned by the Beaver Lake Association. Would affect the Rock Creek from Dam to the mouth. In Cass County, the area affected would be slightly greater than the 100-year floodplain with the greatest affect on Rock Bluff and Bottoms which would approach 100 percent inundation.*
- *Multiple Purpose Structures 1989-1 – owned by Nebraska Game and Parks Commission. Inundation area downstream from the dam to the Platte River.*
- *Mill Creek #7 Road Structure – owned by the Lower Platte South NRD.*

All together approximately two percent of the population of Cass County could be affected by the failure of one or more of these dams.

Figure CSC.6: Dams in Cass County



### Flooding

Both riverine and flash flooding events are major concerns in Cass County. During the March 2019 flood event many communities throughout the county were inundated and suffered significant damages. While no County-owned properties were damaged, County Emergency Management assisted broadly with evacuations, road closures, and other emergency response. Many communities were instructed to evacuate including Lake Waconda and Horseshoe Lake. The majority of residents who were evacuated stayed with family members in the surrounding areas while a few were sheltered with Emergency

Management. There are no public or community sheltering locations in Cass County. Additionally, several roads and bridges throughout the county were washed out or damaged. Estimated damages to roads and bridges for the county exceed \$1.5 million. When Interstate 29 closed due to the flooding, traffic was diverted through Cass County on Highways 75 and 50, prompting concerns for traffic accidents, accelerated wear and tear on the roads, and chemical transportation.

Primary concerns for the County for flooding pertain to uncertainty in how the rivers will respond to heavy rains and high-water flows. The March 2019 event changed the course of the river in several places and breached numerous levees. With these changes it is unknown exactly how much water the rivers can now safely hold or where and how extensive flooding can be.

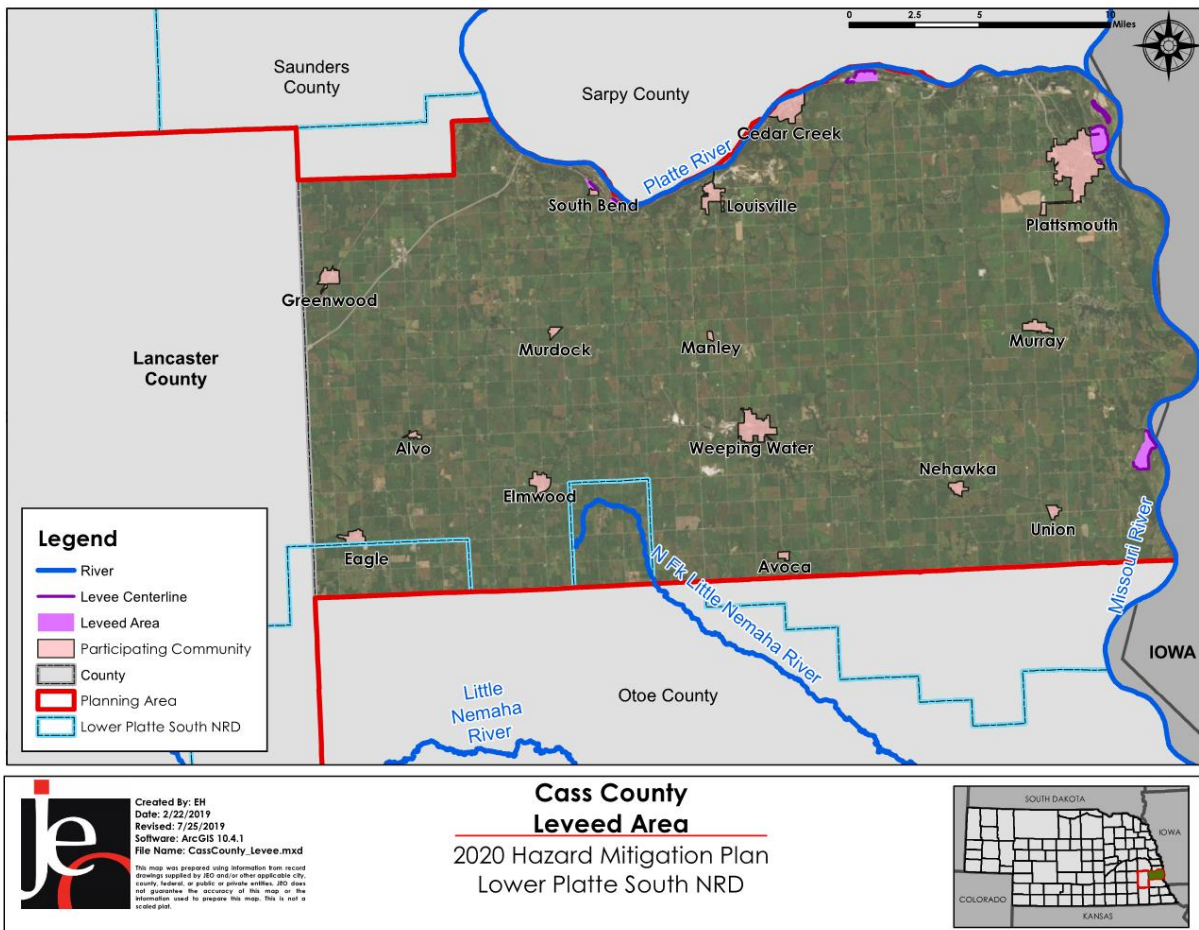
### **High Winds**

Straight-line winds are a common occurrence across the county. Past events have caused significant damage to buildings, roofs, and trees in communities such as Plattsmouth. Downed trees and power poles have caused power outages lasting several days across the County. The majority of powerlines in rural and unincorporated areas of the county are above ground. Some municipalities and new subdivisions do have buried power lines to help reduce power outage concerns. During past events which downed trees, it was discussed to open a tree disposal service which would grind trees into mulch available for consumers. However, with the presence of Eastern Ash Borer in Cass County, the program was non-viable. Other alternatives to removing downed trees are needed.

### **Levee Failure**

Levee failures and breaches along both the Platte River and Missouri River caused significant damage to homes, businesses, and roads during the March 2019 flood event. Levee failures are a primary concern for the county due to their potential impacts on resident safety. During the March 2019 flood, the YMCA levee overtopped but did not breach while several levees in Plattsmouth and Cedar Creek did breach. A breached levee in Plattsmouth is located on private property and has not yet been repaired due to cost. Subsequent heavy rains in the area continues to degrade the levee system. Due to the levee failures and flooding, Interstate 29 was closed and traffic was diverted through the County via Highways 75 and 50. The County is prioritizing education efforts to help educate residents of their elevated flood risk in 2020 and onward as the levee systems have not been fully repaired or reinforced since being damaged.

Figure CSC.7: Levees in Cass County



### Severe Thunderstorms

Severe thunderstorms are common throughout the planning area and occur in the County several times annually. Associated impacts of severe thunderstorms include heavy rain, lightning strikes, and strong winds. The local planning team identified power outages, blocked transportation routes, and fires caused by lightning as top concerns for severe thunderstorms. Records are backed up on an external server and there are no lightning rods on the Cass County Emergency Management office. However, the facility is located near two towers which direct lightning away from the building itself. Past events have had the county’s generator struck by lightning at the EOC. A portable generator was delivered from Omaha to assist until a replacement could be purchased. During periods of heavy rain areas along Weeping Water Creek, Salt Creek, and Dewey Drive all experience poor stormwater drainage. The Weeping Water Campground in particular is prone to flooding; however, the local volunteer fire department is good at warning, evacuating, and closing the area. There are no public or community storm shelter locations identified in the county.

### Severe Winter Storms

Severe winter storms include heavy snow, blowing and drifting snow, extreme cold, and ice accumulation which can close major transportation routes and prevent emergency services from accessing those in need. Cass County Emergency Management has a bobcat used to remove snow from the EOC facility and the County has equipment to remove snow from County Roads. The 2018-2019 winter produced significant precipitation which led to dangerous conditions along many primary transportation routes. Few power lines



are buried throughout the county, prompting concerns for extended power outages. Additional education efforts need to be conducted for resident safety and evacuation protocols during hazard events.

**Tornadoes**

Tornadoes are a hazard of top concern due to their potential to cause catastrophic damage to communities and critical facilities. Several tornadoes have occurred in the county which have caused damages including an EF2 near Nehawka in 2016 which destroyed a home, an EF1 near Eagle in 2009 which led to five injuries, and an EF1 near Alvo in 2009 that caused \$1 million in damages. There are no community shelter or FEMA certified safe rooms identified for county use. The local planning team also indicated that only about 50 percent of residents in the county have a basement. There are warning and alert sirens located throughout the county which have a backup source of power.

**Governance**

A community’s governance structure impacts its capability to implement mitigation actions. Cass County is governed by a five member board of County Commissioners. The county also has the following offices and departments which may help with mitigation planning and actions:

- County Clerk
- County Assessor
- County Treasurer
- Emergency Management
- Highway Superintendent
- Planning and Zoning
- Floodplain Administrator
- Sheriff’s Department
- Surveyor

**Capability Assessment**

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table CSC.11: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes

Section Seven: Cass County Community Profile

Survey Components/Subcomponents		Yes/No
	Building Codes	Yes, 2006 IBC
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<i>Education &amp; Outreach Capability</i>	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

## Plan Integration

Cass County’s Comprehensive Plan was last updated in 2014. Floodplain hazard layers are included in the Comprehensive Plan. The plan also describes appropriate development in the floodplain and Hazard Mitigation Planning efforts which overlap the county.

The County’s zoning and floodplain regulations were last updated in June 2016. Regulations currently discourages development in the floodplain, requires elevation of structures to one foot or more above base flood elevation, contains natural hazard layers, and limits development in the extra-territorial jurisdictional area. Development in the floodways are also limited.

The Cass County LEOP, last updated in July 2019, incorporates mitigation by identifying: hazards of greatest concern; specific responsibilities of individual communities; scenarios that would require evacuation; routes vulnerable to flooding; and sheltering locations. The plan clearly assigns responsibility during an emergency.

There are currently no plans to further integrate hazard mitigation into Cass County planning mechanisms.

## Mitigation Strategy

### Completed Mitigation Actions

Mitigation Action	Backup Power Systems for County Facilities
Description	Provide a portable or stationary source of backup power to CFs.
Hazard(s)	All hazards
Status	New generators were purchased for the Cass County EMA from grant funding in July 2019.

Mitigation Action	Shelter-In-Place Training
Description	Ensure that all CFs, businesses, and residents located near major transportation corridors are aware of how to safely shelter in place in the event of a chemical incident.
Hazard(s)	Chemical Spills (Transportation)
Status	Training programs have been established and are held at the Sheriff’s Office and County Courthouse.

### Ongoing and New Mitigation Actions

Mitigation Action	Continuity Planning
Description	Continuity planning helps to ensure that services can be maintained during and after a disaster. Develop continuity plans for critical community services.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0, Staff Time
Potential Funding	General Fund, HMGP, PDM
Timeline	5+ years
Priority	High
Lead Agency	Cass County Emergency Management
Status	This project has not yet been started.

Mitigation Action	Investigate New Sources of Water
Description	Investigate new water sources for periods of shortage
Hazard(s) Addressed	Drought
Estimated Cost	\$0
Potential Funding	Unknown
Timeline	5+ years
Priority	Medium
Lead Agency	Rural Water Districts, Cass County Emergency Management
Status	This project has not yet been started.

Mitigation Action	Participate in the Community Rating System
Description	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums.
Hazard(s) Addressed	Flooding
Estimated Cost	\$0, Staff Time
Potential Funding	General Fund
Timeline	5+ years
Priority	Medium
Lead Agency	Local Fire Departments, Cass County Emergency Management Agency
Status	This project has not yet been started.

Mitigation Action	Prepare Sample Water Conservation Ordinances
Description	Prepare sample water conservation ordinances
Hazard(s) Addressed	Drought
Estimated Cost	\$0, Staff Time
Potential Funding	General Fund
Timeline	5+ years
Priority	Low
Lead Agency	Rural Water Districts, Local governing bodies, Cass County Emergency Management
Status	This project has not yet been started.

Mitigation Action	Preserve Natural and Beneficial Functions
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.
Hazard(s) Addressed	Flooding
Estimated Cost	\$5,000+
Potential Funding	General Fund
Timeline	5+ years
Priority	Low
Lead Agency	County Administration, Local governing bodies
Status	This action has not yet been started.

Mitigation Action	Promote the Use of Higher Codes and Standards
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	5+ years
Priority	Medium
Lead Agency	Zoning Administrator
Status	This project has not yet been started.

Mitigation Action	Public Education
Description	Increase public awareness of vulnerability and risk reduction measures through hazard mitigation
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,000+
Potential Funding	General Fund, HMGP, PDM
Timeline	5+ years
Priority	Medium
Lead Agency	Cass County Emergency Management, local Fire Departments
Status	This project has not yet been started.

Mitigation Action	Storm Shelters
Description	Identify, design, and develop storm shelters to protect community and local critical facilities.
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Tornadoes
Estimated Cost	\$200-250 per sf stand alone; \$150-200 per sf addition/retrofit
Potential Funding	General Fund, HMGP, PDM
Timeline	5+ years
Priority	Medium
Lead Agency	Cass County Emergency Management
Status	This project has not yet been started.

Section Seven: Cass County Community Profile

Mitigation Action	Stormwater System and Drainage Improvements
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$100,000+
Potential Funding	State Roads Grants, General Budget, PDM, HMGP
Timeline	5+ years
Priority	High
Lead Agency	Cass County Roads Department
Status	Several roads and bridges have been repaired since the March 2019 flood event; however additional stormwater management projects need to be completed.

Mitigation Action	Utilize Low-Impact Development and Green Infrastructure
Description	Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by need
Potential Funding	Local governments, General Budget, PDM, HMGP
Timeline	5+ years
Priority	Medium
Lead Agency	Local governing bodies, Cass County Emergency Management
Status	This project has not yet been started.

Mitigation Action	Vehicular Barriers
Description	Install vehicular barriers to protect critical facilities and key infrastructure where possible.
Hazard(s) Addressed	Terrorism
Estimated Cost	\$5,000+
Potential Funding	General Fund
Timeline	5+ years
Priority	Medium
Lead Agency	Cass County Emergency Management, Cass County Sheriff, Department of Roads
Status	This project has not yet been started.

Mitigation Action	Water Conservation Awareness
Description	Improve and/or develop a program to conserve water use by the citizens during elongated periods of drought. Potential restrictions on water could include limitations on lawn watering, car washing, or water sold to outside sources. Work with DNR on farm irrigation restrictions.
Hazard(s) Addressed	Drought
Estimated Cost	\$1,000+
Potential Funding	General Fund, HMGP, PDM
Timeline	5+ years
Priority	Low
Lead Agency	Local governing bodies, Rural Water Districts
Status	This project has not yet been started.

**Removed Mitigation Actions**

Mitigation Action	Educate the public and business owners on minor flood mitigation projects
Description	Educate the public and business owners regarding rain gardens, green roofs, and other minor mitigation measures.
Hazard(s) Addressed	Flooding
Reason for Removal	Emphasizing these types of flood mitigation projects are not a current priority for the County and should be a jurisdictionally specific responsibility.

Mitigation Action	Encourage the use of hail resistant roofing
Description	Educate the public and business owners regarding hail resistant roofing.
Hazard(s) Addressed	Hail, Severe Thunderstorms, Severe Winter Storms
Reason for Removal	This action is no longer a priority for Cass County.

Mitigation Action	Protect New Facilities which house vulnerable populations
Description	Ensure that all facilities which will house vulnerable populations are placed in the least vulnerable areas of the community.
Hazard(s) Addressed	All hazards
Reason for Removal	Current facilities can not be easily relocated and current building and zoning regulations prevent new facilities from building in hazardous areas.

Mitigation Action	Maintain Good Standing in the NFIP
Description	Maintain good standing with the National Flood Insurance Program
Hazard(s) Addressed	Flooding
Reason for Removal	While the County will continue to participate in the NFIP, continued participation is no longer considered a mitigation action.

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# COMMUNITY PROFILE

## VILLAGE OF ALVO

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

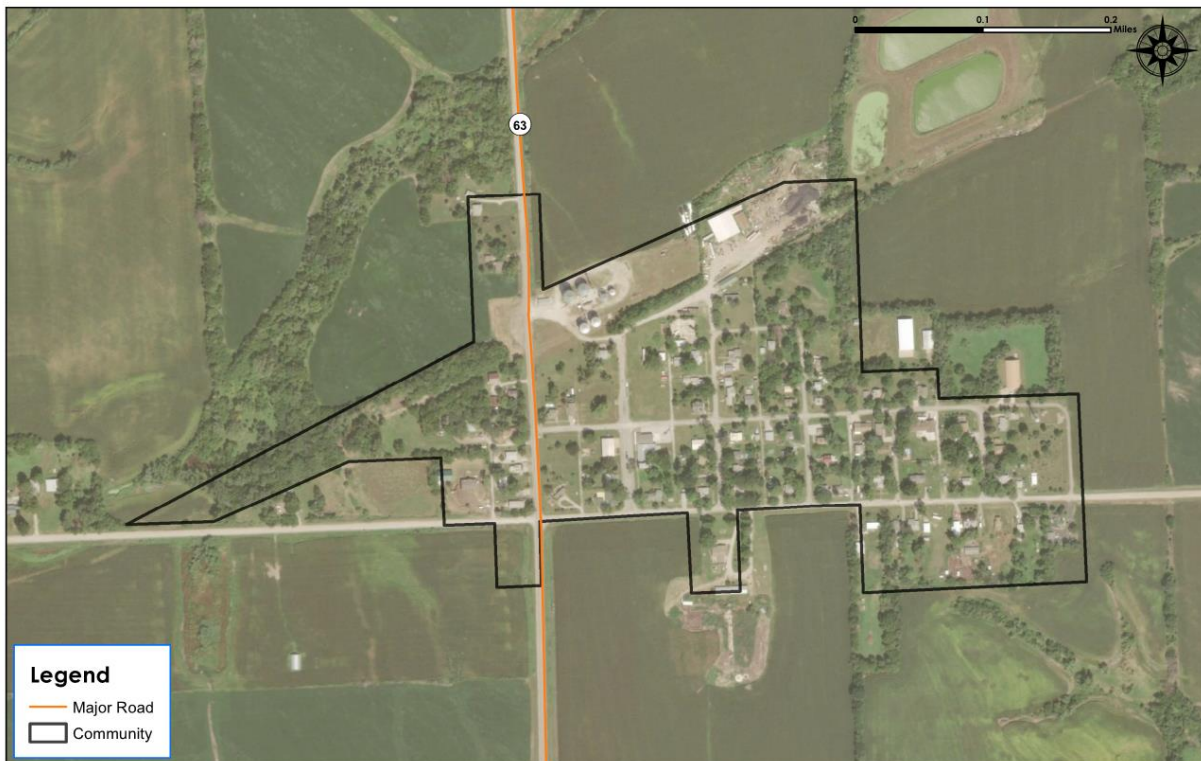
**Table ALV.1: Alvo Local Planning Team**

NAME	TITLE	JURISDICTION
MELISSA HANES	Village Clerk	Village of Alvo
BOBBY HANES	Board President	Village of Alvo
BETH ROSE	Board Member	Village of Alvo

## Location and Geography

The Village of Alvo is in the southwest-central portion of Cass County, approximately 20 miles east of Lincoln, Nebraska and seven miles south of Interstate 80 (I-80). The Village covers an area of 0.10 square miles. There are no major waterways near the town due to its higher elevation, relative to the rest of the county.

**Figure ALV.1: Village of Alvo**





Created By: EH  
Date: 2/25/2019  
Revised: 2/25/2019  
Software: ArcGIS 10.4.1  
File Name: LPSCommunity\_PlanningArea.mxd

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

### Village of Alvo

2020 Hazard Mitigation Plan  
Lower Platte South NRD



## Transportation

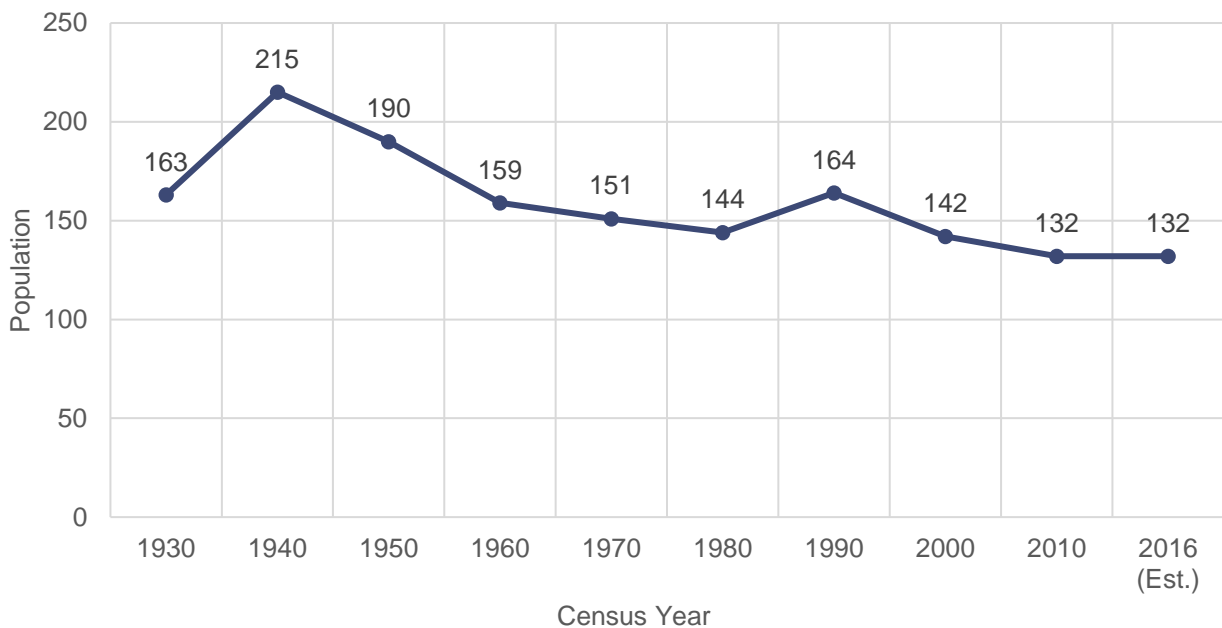
The Village of Alvo has two major transportation corridors directly located in village limits. The first is Nebraska Highway 63 which connects Alvo to I-80 to the north and US Highway 34 to the south. This corridor averages 1,345 vehicles per day.<sup>17</sup> The second corridor is Fletcher Avenue, which runs east-to-west and connects directly to Lincoln. Fletcher Avenue is of particular concern for the local planning team due to the high volume of traffic using the road while Highway 63 undergoes construction. Significant wear and tear has occurred on the roadway.

Additionally, hazardous chemicals are commonly transported through Alvo including fertilizer and anhydrous ammonia. During harvest times there is a significant increase in truck and farm equipment traffic in town with the grain elevator located on the edge of Alvo. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Alvo's population declined from about 142 people in 2000 to 132 people in 2017, a decrease of ten people and total loss of seven percent. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Alvo's population accounted for 0.51% of Cass County's population of 25,513 in 2017.<sup>18</sup>

Figure ALV.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Alvo's population was:

- **Younger.** The median age of Alvo was 32.1 years old in 2017, compared with the County average of 41.9 years. Alvo's population grew younger since 2009, when the median age

<sup>17</sup> Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.  
<sup>18</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Alvo Community Profile

was 46.3 years old. Alvo had a larger proportion of people under 20 years old (44.2%) than Cass County (26.6%).<sup>19</sup>

- **More ethnically diverse.** Since 2010, Alvo grew more ethnically diverse. In 2010, Alvo's population was 0% Hispanic or Latino. By 2017, Alvo's population was 2.8% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>20</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Alvo (20% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>21</sup>

## Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Alvo economy had:

- **Diverse mix of industries.** Alvo major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (24.2%), wholesale trade (18.2%), construction (15.2%), and transportation/warehouse/utilities (10.6%).<sup>22</sup>
- **Lower household income.** Alvo's median household income in 2017 (\$40,714) was \$27,570 lower than the County (\$68,284).<sup>23</sup>
- **More long-distance commuters.** A total of 16.4% percent of workers in Alvo commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 60.6% of workers in Alvo commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>24</sup>

## Major Employers

Major employers within Alvo include Nebraska Digging Services and Rose Transportation. The majority of residents commute to Omaha and Lincoln for work.

## Housing

In comparison to Cass County, Alvo's housing stock was:

- **More renter-occupied.** Of occupied housing units in Alvo, 36.2% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>25</sup>
- **Similar age.** Alvo had a similar share of housing built prior to 1970 than Cass County (39.3% compared to 41.4%).<sup>26</sup>
- **More multifamily dwellings.** The predominant housing type in Alvo is single family detached (61.7%), with less stock than Cass County (87.7%). Alvo contains more multifamily housing with five or more units per structure compared to Cass County (18.1% compared to 3.6%). Alvo has a larger share of mobile housing (6.3%) compared to the County (3.6%).<sup>27</sup> Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied

19 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

20 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

21 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

22 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

23 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

24 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

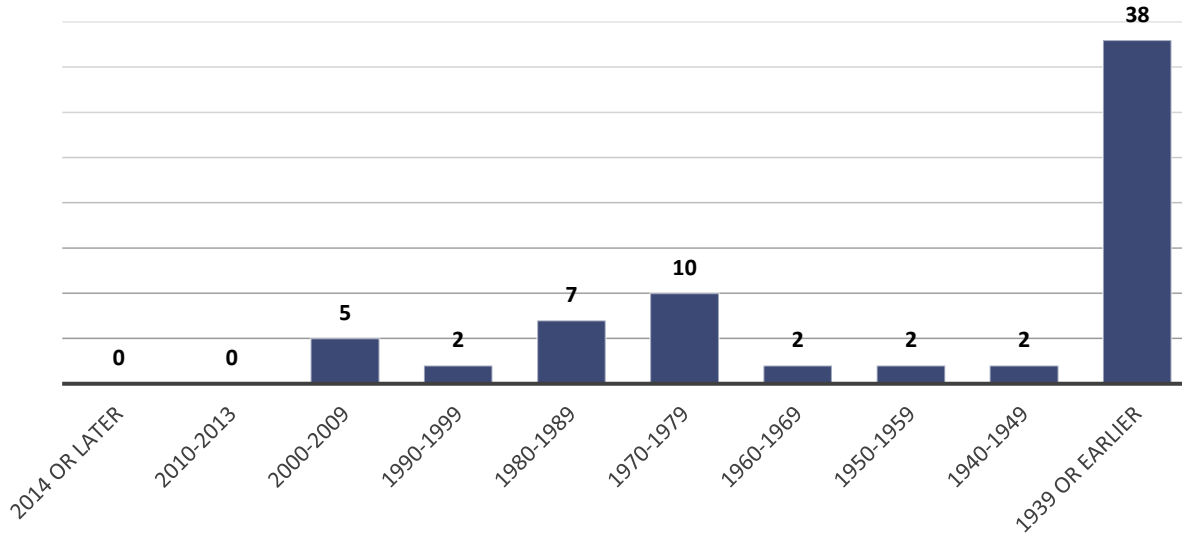
25 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

26 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

27 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure ALV.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>28</sup>

### Future Development Trends

In the past five years one housing unit was destroyed in a house fire and since replaced. A new business, Nebraska Digging Services, built a facility in town on Main Street. The local planning team indicated the number of rental housing properties in town is continuing to increase. The close proximity to the interstate for access to Omaha and Lincoln makes Alvo attractive to residents and renters. At this time there are no future housing or commercial developments planned.

### Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table ALV.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
80	\$4,563,748	\$57,047	0	\$0

Source: Nebraska Department of Revenue, Property Assessment Division<sup>29</sup>

### Critical Infrastructure/Key Resources

#### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Alvo.<sup>30</sup>

<sup>28</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

<sup>29</sup> County Assessor. Personal correspondence. [2019].

<sup>30</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

## Section Seven: Village of Alvo Community Profile

### Critical Facilities

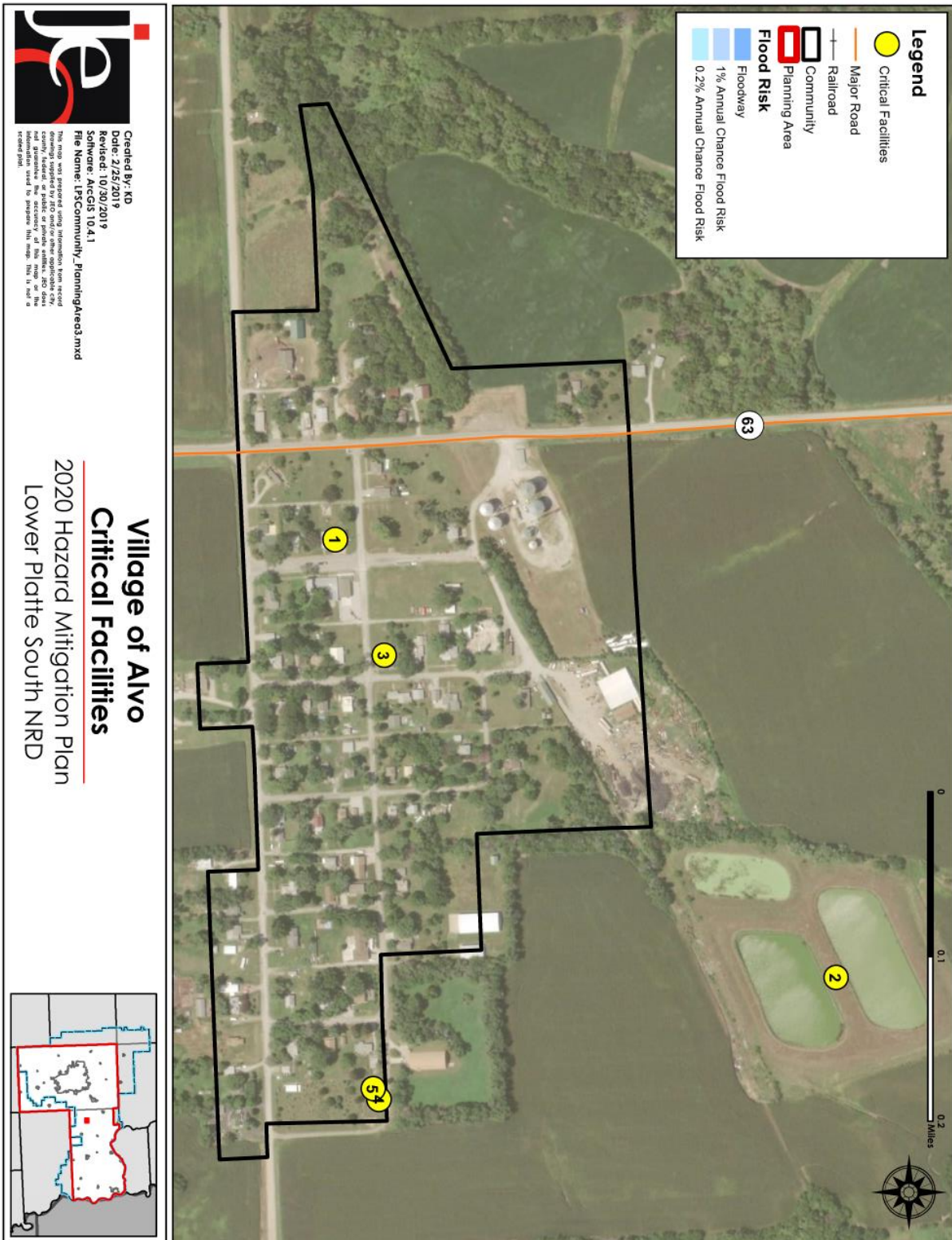
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

In case of emergencies the Village Hall and the Methodist Church are used as sheltering and distribution centers.

**Table ALV.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Alvo Volunteer Fire & Rescue/Village Hall	Y	Y	N
2	Lagoon	N	N	N
3	Methodist Church	N	N	N
4	Pumphouse	N	Y	N
5	Water Tower	N	Y	N

Figure ALV.4: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction’s capabilities.

### Agricultural Animal and Plant Disease

Agricultural animal and plant disease is a concern for the local community due to the presence of the grain elevator on the northern side of town. The local economy is heavily tied to agriculture and disease outbreaks would likely take a heavy toll on financial resources for both the Village and residents. Additionally, a large volume of trucks hauling agricultural products come into town and increase the potential for disease to occur and spread. Historically, a concrete silo collapsed in the Village, but no other impacts have occurred.

### Chemical Spills (Transportation)

Chemical transportation spills are a concern from the large volume of hazardous chemicals transported through town via semi-trucks. Additionally, there is a new anhydrous ammonia facility located six miles east of town which has greatly increased the amount of trucks hauling chemicals that pass through Alvo. Highway 63 is a major transportation corridor which bisects some homes. Chemical spills would likely inhibit emergency response access to each side of town.

## Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Alvo has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Alvo has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Street Commissioner
- Sewer Commissioner
- Water Commissioner
- Volunteer Fire & Rescue Department
- Engineer

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table ALV.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
Planning &	Comprehensive Plan	Yes
	Capital Improvements Plan	No



Section Seven: Village of Alvo Community Profile

Survey Components/Subcomponents		Yes/No
<i>Regulatory Capability</i>	Economic Development Plan	No
	Emergency Operational Plan	Yes - County
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	Yes
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	Yes
	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)	
<i>Fiscal Capability</i>	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)		
<i>Education &amp; Outreach Capability</i>	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	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No

## Section Seven: Village of Alvo Community Profile

Survey Components/Subcomponents	Yes/No
Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

Alvo's Comprehensive Plan was last updated in 2010 alongside the zoning ordinance and building code. The goals and objectives of the Comprehensive Plan are consistent with this Hazard Mitigation Plan as it includes things such as directing development away from the floodplain or hazardous areas, encourages open space in hazard-prone areas, and identifies areas in need of emergency shelters.

Alvo uses the Cass County Building Codes and has an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Village's annual municipal budget is limited to maintaining current facilities and municipal systems. Currently a large portion of available funds are earmarked for a water tower improvements project.

### Mitigation Strategy

#### Ongoing and New Mitigation Actions

Mitigation Action	Backup Municipal Records
Description	Develop protocol for backing up critical municipal records onto a portable storage device or service.
Hazard(s) Addressed	All hazards
Estimated Cost	\$100 for external hard drive
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	Currently have a backup hard drive on main computer. Additional storage is needed.

Section Seven: Village of Alvo Community Profile

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment.
Hazard(s) Addressed	All hazards
Estimated Cost	Varies by need
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action. Currently working on getting ALS service.

Mitigation Action	Comprehensive City Disaster/Emergency Response Plan
Description	Develop a Comprehensive Village Disaster and Emergency Response Plan
Hazard(s) Addressed	All hazards
Estimated Cost	\$5,000, Staff Time
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Mitigation Action	Continuity Planning
Description	Develop continuity plans for critical community services.
Hazard(s) Addressed	All hazards
Estimated Cost	\$5,000+, Staff Time
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Mitigation Action	Emergency Fuel Supply Plan
Description	Plan to ensure adequate fuel supply is available during an emergency. Prioritize and ration plans for gasoline and diesel uses in extended loss of fuel supply or electric power supply.
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,000+
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Mitigation Action	Emergency Operations Center
Description	Identify and establish an Emergency Operations Center
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Section Seven: Village of Alvo Community Profile

Mitigation Action	Improve/Provide Facilities for Vulnerable Populations
Description	Evaluate vulnerable population or placement of vulnerable populations throughout community. Ensure facilities which house vulnerable populations are placed in the least vulnerable areas of the community.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0, Adopt Regulations
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Mitigation Action	Intergovernmental Support
Description	Support other local governmental entities, such as fire departments, schools, and townships
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

Mitigation Action	Provide Short Term Residency Shelters
Description	Identify and designate short term shelters for rural residents
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Clerk
Status	This is a new mitigation action.

# COMMUNITY PROFILE

## VILLAGE OF AVOCA

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

**Table AVC.1: Avoca Local Planning Team**

NAME	TITLE	JURISDICTION
MARILYN KIRCHHOFF	Village Clerk	Village of Avoca

## Location and Geography

The Village of Avoca is near Cass County’s southern line, approximately 40 miles east of Lincoln and 15 miles west of the Missouri River. The Village covers an area of 0.13 square miles. There are two major waterways in or near the town. The first is a creek running directly through the middle of town. This unnamed creek flows south until it forms a confluence with the Southern Branch Weeping Water Creek, less than a mile south of town.

**Figure AVC.1: Village of Avoca**



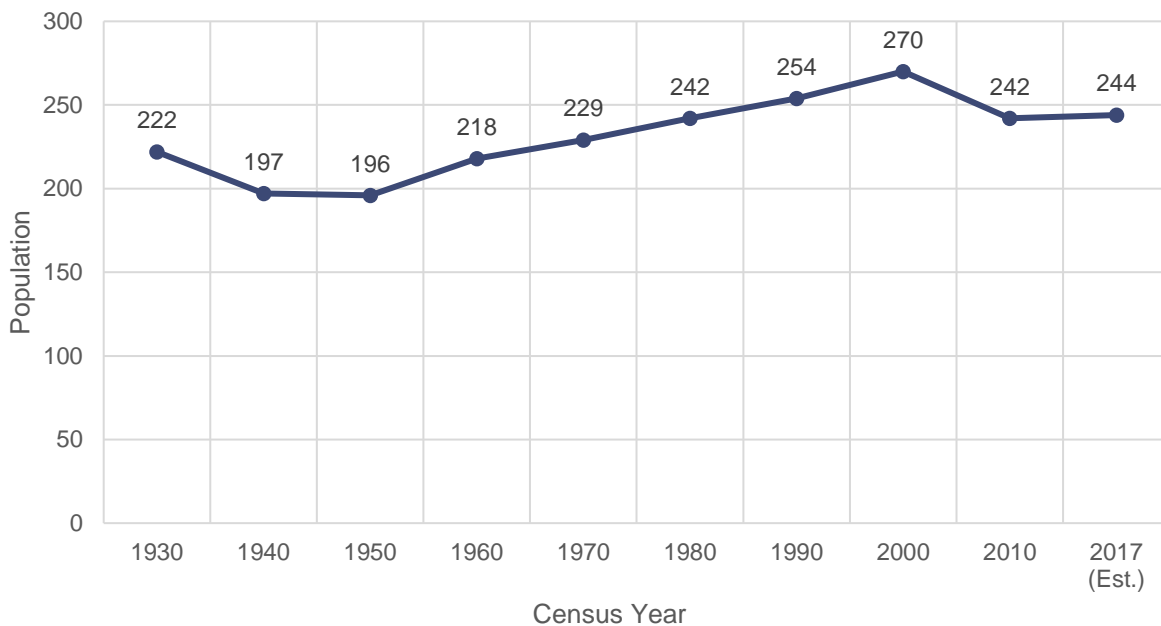
## Transportation

The Village of Avoca has one major transportation corridors directly located in the village limits. Nebraska Highway 13C is a spur road which connects Avoca to US Highway 34 and averages 490 vehicles per day.<sup>31</sup> The local planning team indicated Highway 34 sees a large volume of semi-truck traffic and, during harvest time in particular, the Village’s Co-Op facility also sees a large volume of traffic. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Avoca’s population decreased from about 270 people in 2000 to 244 people in 2017, a decrease of 26 people and total loss of 9.6%. This is important because declining populations are associated with decreasing tax revenues and unoccupied structures. Avoca’s population accounted for 0.94% of Cass County’s population of 25,513 in 2017.<sup>32</sup>

Figure AVC.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Avoca’s population was:

- **Younger.** The median age of Avoca was 34.3 years old in 2017, compared with the County average of 41.9 years. Avoca’s population grew younger since 2009, when the median age was 45.4 years old. Avoca had a smaller proportion of people under 20 years old (21.7%) than Cass County (26.6%).<sup>33</sup>
- **More ethnically diverse.** Since 2010, Avoca grew more ethnically diverse. In 2010, Avoca’s population was 0% Hispanic or Latino. By 2017, Avoca’s population was 3.3%

31 Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.  
 32 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.  
 33 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Avoca Community Profile

Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>34</sup>

- **More likely to be below the federal poverty line.** The poverty rate in Avoca (12.7% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>35</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Avoca economy had:

- **Similar mix of industries with some diversity.** Avoca major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (19.7%), agriculture (18.8%), retail (14.5%), and arts/entertainment/recreation/accommodation/food services (14.5%).<sup>36</sup>
- **Lower household income.** Avoca's median household income in 2017 (\$54,375) was \$13,909 lower than the County (\$68,284).<sup>37</sup>
- **More long-distance commuters.** A total of 22.2% of workers in Avoca commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 54.7% of workers in Avoca commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>38</sup>

### Major Employers

The major employer within Avoca is the Farmer's Co-Op, but the majority of residents commute to Lincoln or Omaha for employment.

### Housing

In comparison to Cass County, Avoca's housing stock was:

- **More renter-occupied.** Of occupied housing units in Avoca, 22.2% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>39</sup>
- **Older.** Avoca had a similar share of housing built prior to 1970 than Cass County (78.8% compared to 41.4%).<sup>40</sup>
- **No multifamily dwellings.** The predominant housing type in Avoca is single family detached (84.7%), with less stock than Cass County (87.7%). Avoca contains no multifamily housing with five or more units per structure. Avoca has a larger share of mobile housing (12.7%) compared to the County (3.6%).<sup>41</sup> Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

34 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

35 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

36 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

37 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

38 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

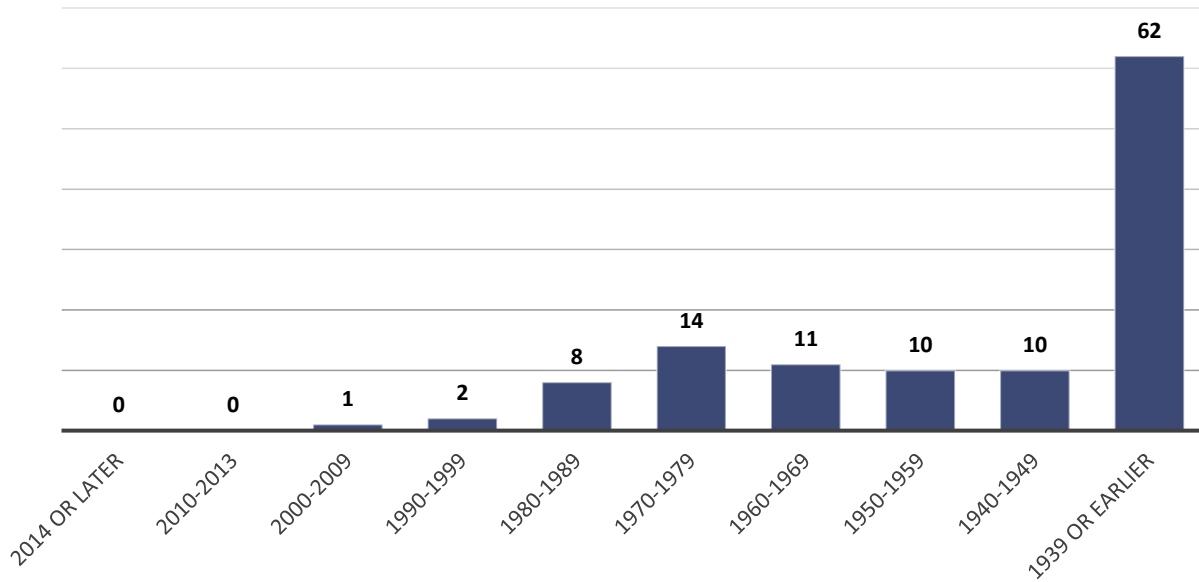
39 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

40 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

41 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.



Figure AVC.3: Housing Units by Year Built



Source: Source: U.S. Census Bureau<sup>42</sup>

### Future Development Trends

Over the past five years the Village has seen very little change. One business has closed in town and a few homes have been remodeled. At this time there are no plans for any future housing or commercial development.

### Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table AVC.2: Structural Inventory/Parcel Improvements

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
124	\$5,555,396	\$44,802	10	\$169,873

Source: Nebraska Department of Revenue, Property Assessment Division<sup>43</sup>

### Critical Infrastructure/Key Resources

#### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites in Avoca.<sup>44</sup>

<sup>42</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

<sup>43</sup> County Assessor. Personal correspondence. [2019].

<sup>44</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

## Section Seven: Village of Avoca Community Profile

### Critical Facilities

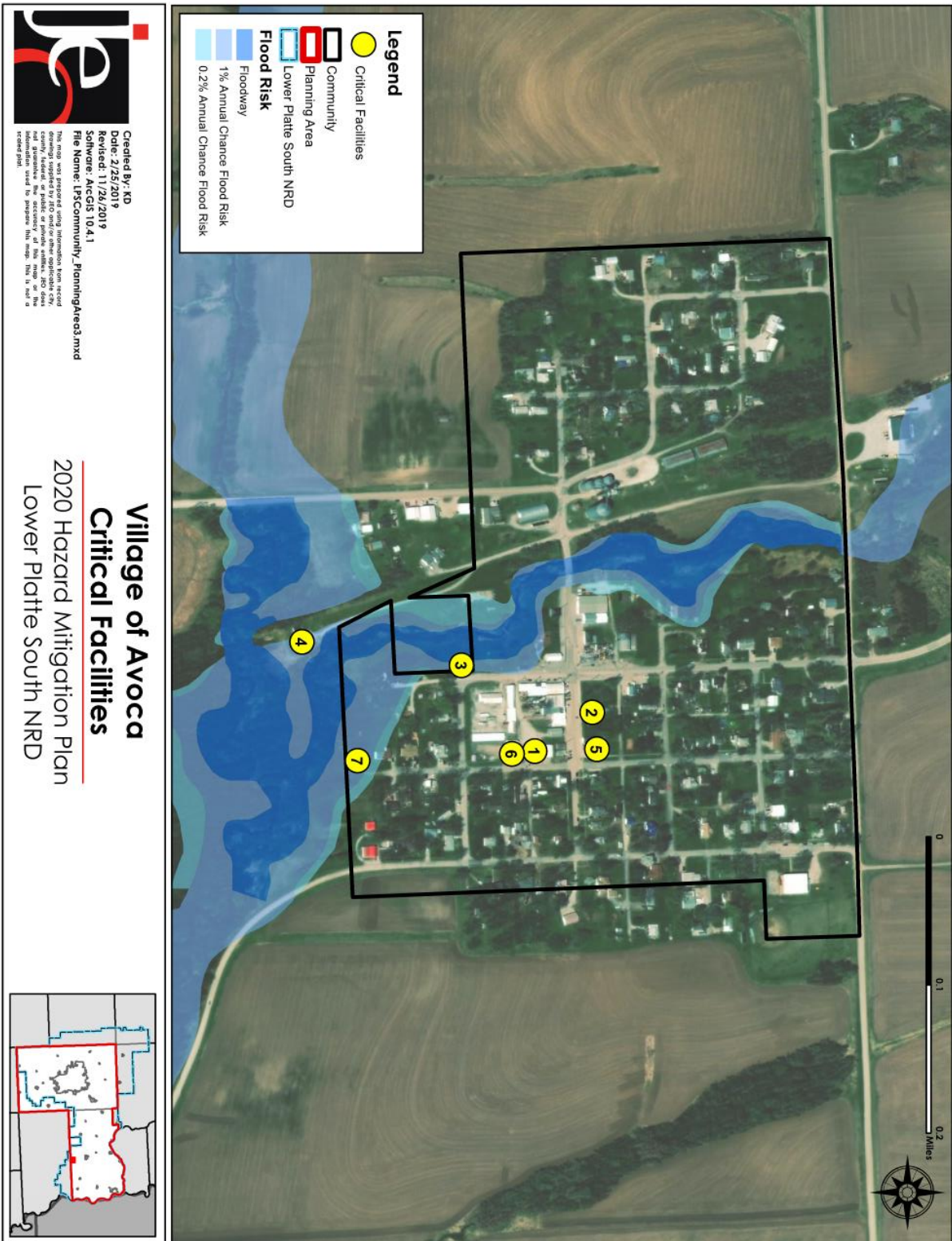
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

The local planning team identified the Town Hall Community Center as the primary sheltering location. It has handicap accessible restrooms and is wired to be able to hook up to a generator as needed.

**Table AVC.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Avoca Rural Fire Department	N	N	N
2	Community Building/ Village Office	N	N	N
3	Lift Station	N	N	Y
4	Sanitary Sewer Plant	N	N	Y
5	Town Hall Community Center	N	N	N
6	Tractor Shed/ Generator Shed	N	N	N
7	Well for Fire Reservoir	N	Y – 2 portable	Y

Figure AVC.4: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

### Flooding

The Village has a tributary of the Weeping Water Creek which bisects town and several homes and properties in town are located within the floodplain. The local planning team indicated the creek has experienced significant flooding in 2015 which has contributed to streambank erosion in the park and caused significant damage to the sewer plant and lift station. The Village is a participant in the National Flood Insurance Program.

### Severe Thunderstorms

Severe thunderstorms occur annually across the state and in the planning area. Associated impacts from severe thunderstorms include heavy rain, lightning strikes, strong winds, and hail. Numerous trees in town have dropped limbs and residential roofs have experienced hail damage. Additionally, loss of power is a concern for the local planning team. The Village is served by NPPD for electricity and the majority of lines are above ground.

### Severe Winter Storms

Severe winter storms are a hazard of top concern due to the risk for power loss and heavy snow blocking transportation routes. The Village is responsible for snow removal which, during particularly heavy events, can strain local resources. Past severe storms have caused short term power loss and tree damage.

### Tornadoes

The local planning team identified one tornado event in 2005 which caused damage to the park, baseball field, and light poles. There are no FEMA certified safe rooms in the village, however the local planning team indicated the Town Hall Community Center would be used as a shelter, as it has a basement and is handicap accessible. The facility may potentially be retrofitted for tornadoes. Most residents have basements except for those alongside the creek and a siren is located on the fire barn.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Avoca has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The Avoca has five village board members and the following offices that may help implement mitigation actions.

- Clerk
- Street Commissioner
- Sewer Commissioner
- Water Commissioner
- Parks Department
- Finance Director
- Water/Wastewater Operator
- Volunteer Fire Department
- Engineer

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table AVC.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes - County
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	Yes – County
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
<i>Administrative &amp; Technical Capability</i>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No (Fire)
	Other (if any)	
<i>Fiscal Capability</i>	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	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	No
	Other (if any)	
<i>Education &amp;</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency	No

## Section Seven: Village of Avoca Community Profile

Survey Components/Subcomponents		Yes/No
<i>Outreach Capability</i>	preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	Moderate
Does your jurisdiction staff have the time to devote to hazard mitigation?	Moderate

### Plan Integration

The Village does not have any major plans which integrate hazard mitigation goals and objectives. The Village does have an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Village's annual municipal budget is limited to maintaining current facilities. The planning team indicated a portion of the budget will be focused on street repair and maintenance in the coming years.

### Mitigation Strategy

#### Completed Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other CFs and shelters.
Hazard(s) Addressed	All hazards
Status	The Village has purchased two portable generators which can be used to provide power to the lift station and the Community Center in case of power outages.

**Ongoing and New Mitigation Actions**

Mitigation Action	Storm Shelters/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	All Hazards
Estimated Cost	\$200-\$300/sf stand alone, \$150-\$200/sf addition/retrofit
Potential Funding	General Fund, HMGP, PDM, WSF
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board, Town Hall Community Center
Status	The Community Center is used as a shelter but does not have a tornado safe room. Restrooms in the facility could be retrofitted for additional protection.

Mitigation Action	Stream Stabilization
Description	Evaluate current stream bed and bank stabilization needs Implement stream bed and bank stabilization improvements including grade control structures, rock rip rap, vegetative cover, etc.
Hazard(s) Addressed	Flooding
Estimated Cost	Unknown
Potential Funding	General Fund, HMGP, PDM, WSF
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Past flooding in 2015 severely eroded the streambank in the Village Park.

**Removed Mitigation Actions**

Mitigation Action	Maintain Good Standing with the NFIP
Description	Maintain good standing with the NFIP
Hazard(s) Addressed	Flooding
Status	While the Village will continue to participate in the NFIP, this is no longer considered a mitigation action.

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# COMMUNITY PROFILE

## VILLAGE OF CEDAR CREEK

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

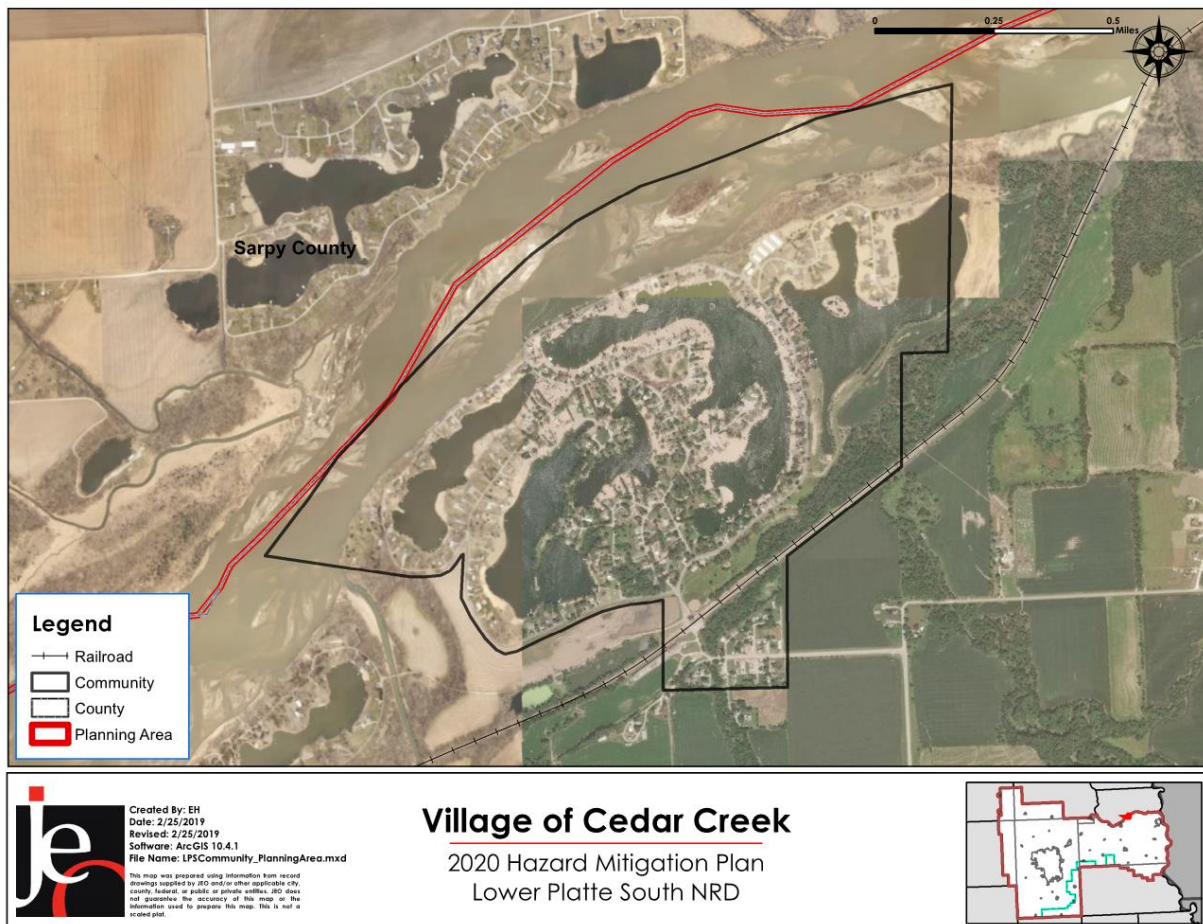
Table CDC.1: Cedar Creek Local Planning Team

NAME	TITLE	JURISDICTION
CHUCK PAUKERT	Floodplain Manager	Village of Cedar Creek
WANDA PRESCOTT	Village Board Member	Village of Cedar Creek
STEVE SHARP	Village Board Member	Village of Cedar Creek
RANDY MOSES	Fire Chief and Village Board Member	Village of Cedar Creek
ROXANNE MRASEK	Village Clerk	Village of Cedar Creek

## Location and Geography

The Village of Cedar Creek is in the northern portion of Cass County directly on the Platte River as well as the County line. The Village covers an area of 1.09 square miles. The Platte River flows directly adjacent to the town and the village consists mainly of a housing development built around five artificial lakes.

Figure CDC.1: Village of Cedar Creek



## Transportation

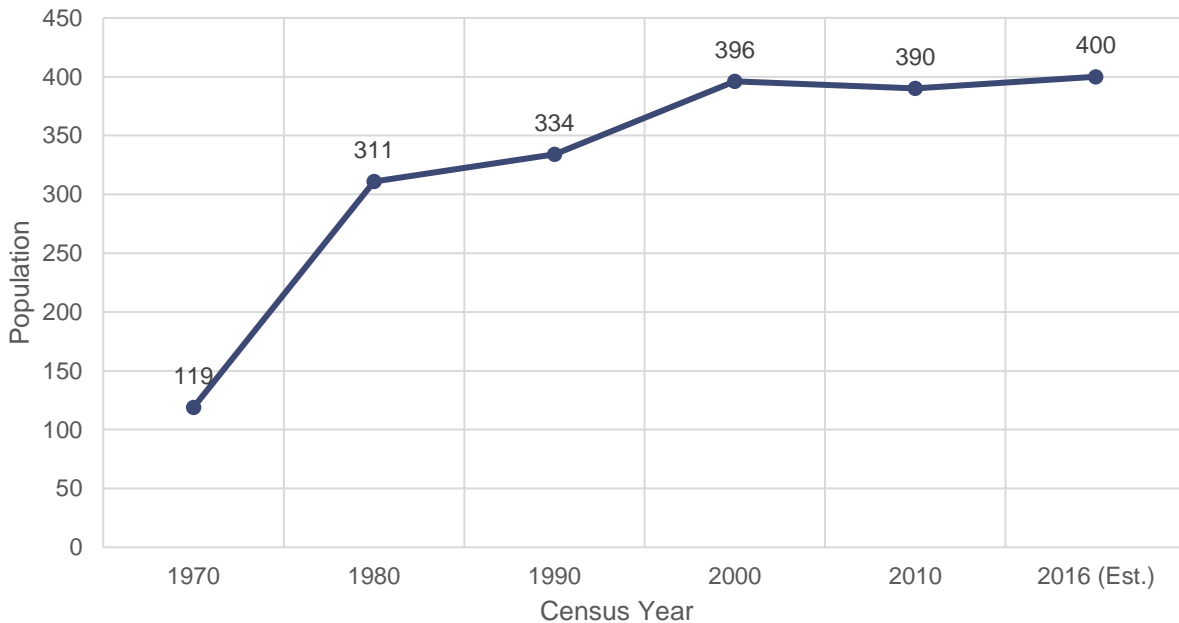
Nebraska Highway 13H is a spur road that serves as the main transportation corridor and connects with Nebraska Highway 66 three miles south of the village. This corridor averages 895 vehicles per day.<sup>45</sup> Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

The Village of Cedar Creek is divided into two sections, a town site with about five percent of the population and a lake area holding the remaining 95%. The two areas are divided by a BNSF rail line. There is only one road to access the town area. If the road becomes blocked there is no means for emergency services to access civilians and no way to exit. There is no natural gas distribution and many homes rely on propane for heating fuel. Each home has a tank attached to it and bulk truck service to fill the tanks. The BNSF line routinely carries chemicals that could impact the local population. There have been two events recorded in the past two years. In summer 2017 a disabled train blocked the only access road for eight hours. In 2018 a train collided with a stalled vehicle on the railroad track and took several hours to clear the crossing.

## Demographics

Cedar Creek’s population increased from about 396 people in 2000 to 431 people in 2017, an increase of 35 people and total gain of ten percent. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Cedar Creek’s population accounted for 1.6% of Cass County’s population of 25,513 in 2017.<sup>46</sup> Population data was unavailable prior to the 1970 Census.

Figure CDC.2: Population 1930 - 2017



Source: U.S. Census Bureau

<sup>45</sup> Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.  
<sup>46</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Cedar Creek Community Profile

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Cedar Creek's population was:

- **Older.** The median age of Cedar Creek was 49.4 years old in 2017, compared with the County average of 41.9 years. Cedar Creek's population grew younger since 2009, when the median age was 49.4 years old. Cedar Creek had a smaller proportion of people under 20 years old (20.2%) than Cass County (26.6%).<sup>47</sup>
- **Not ethnically diverse.** Since 2010, Cedar Creek's population was 0% Hispanic or Latino and remained that way through 2017. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>48</sup>
- **Less likely to be below the federal poverty line.** The poverty rate in Cedar Creek (2.8% of families living below the federal poverty line) was lower than Cass County's poverty rate (4.5%) in 2017.<sup>49</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Cedar Creek economy had:

- **Diverse mix of industries.** Cedar Creek major employment sectors, accounting for 10% or more of employment each, were: professional/scientific/management/administrative/waste management services (14.4%), education/healthcare/social services (11.9%), and manufacturing (10.9%).<sup>50</sup>
- **Higher household income.** Cedar Creek's median household income in 2017 (\$72,813) was \$4,529 higher than the County (\$68,284).<sup>51</sup>
- **More long-distance commuters.** A total of 5% percent of workers in Cedar Creek commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 68% of workers in Cedar Creek commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>52</sup>

### Major Employers

Major employers within Cedar Creek include the Cedar Creek Inn, two contractors, and a part-time post office. A large percentage of residents commute to Plattsmouth and Omaha for employment.

### Housing

In comparison to Cass County, Cedar Creek's housing stock was:

- **Less renter-occupied.** Of occupied housing units in Cedar Creek, 9.8% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>53</sup>
- **Younger.** Cedar Creek had a similar share of housing built prior to 1970 than Cass County (22.9% compared to 44%).<sup>54</sup>
- **Fewer multifamily dwellings.** The predominant housing type in Cedar Creek is single family detached (98.2%), with less stock than Cass County (87.7%). Cedar Creek contains no multifamily housing with five or more units per structure compared to Cass County (0%

47 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

48 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

49 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

50 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

51 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

52 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

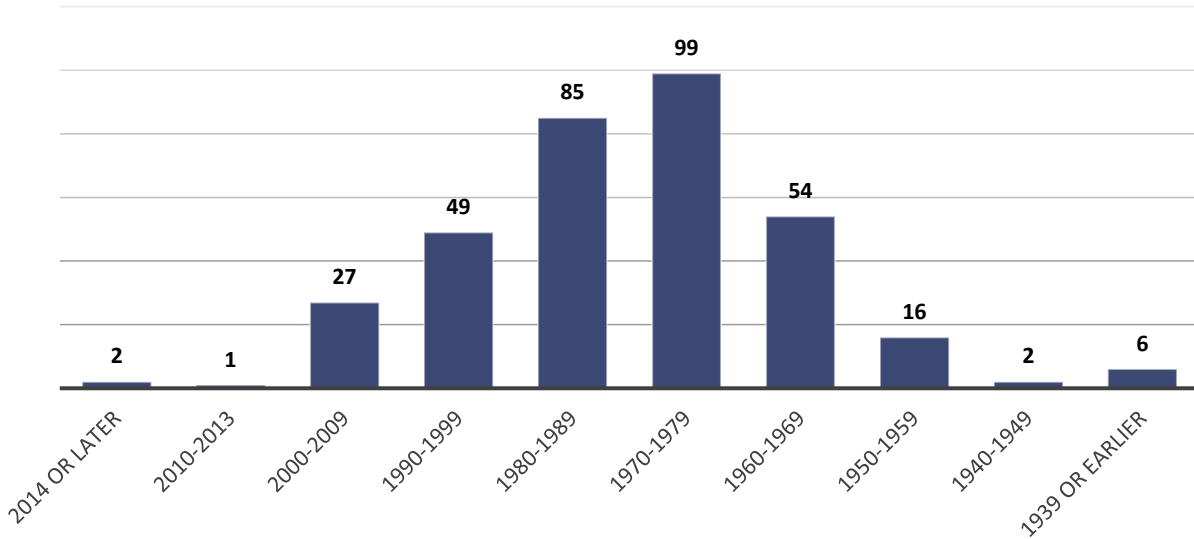
53 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

54 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

compared to 3.6%). Cedar Creek has a smaller share of mobile housing (1.5%) compared to the County (3.6%).<sup>55</sup> Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure CDC.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>56</sup>

### Future Development Trends

There have been no significant changes in the area over the past five years. There have been minor population increases. There are no new industry or business factors in the area. The increases can be attributed to changes in the residences being slowly converted from season homes into primary residences. Lake 5 is under development and all these homes are intended as primary residences.

### Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

<sup>55</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.  
<sup>56</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

**Table CDC.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
395	\$49,225,898	\$124,623	359	\$46,523,459

Source: Nebraska Department of Revenue, Property Assessment Division<sup>57</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Cedar Creek.<sup>58</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

The local planning team is also concerned with critical infrastructure which allows community members access to major transportation routes and emergency services. There is only one railroad crossing which allows access into Cedar Creek. Blockages or damage to this entry point would cause significant disruption of services and heightened risk for the Village of Cedar Creek.

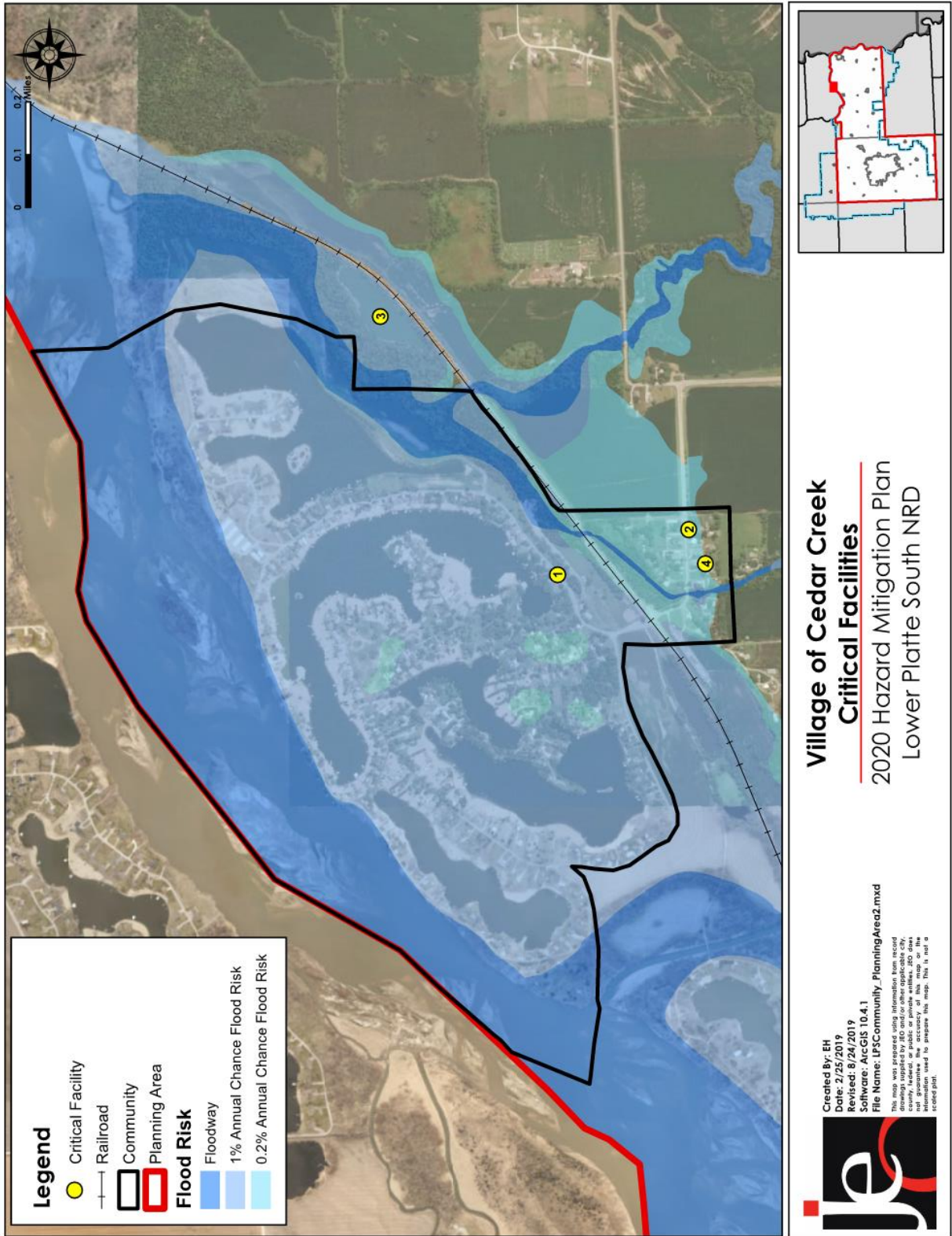
**Table CDC.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Fire Department Water Supply	N	N	Y
2	Fire Department/Village Hall	N	N	Y
3	Lagoon	N	N	Y
4	Wind Stream Communications Bldg.	N	N	Y

<sup>57</sup> County Assessor. Personal correspondence, [2019].

<sup>58</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure CDC.4: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Flooding

Cedar Creek is located on the bank of the Platte River with four miles of river surrounding the Village. The entire community is located within a Special Flood Hazard Area (SFHA). The majority of the property along the river is owned by the Village and has a berm which provides some flood risk reduction to the community. There have been four major flood events which have impacted the Village: March 2019, Summer 2011, April 2009, and April 2008. Both riverine and flash flooding are concerns due to the proximity of the Platte River. Additionally, Turkey Creek passes through the Village. There is no conduit stormwater drainage system in the village; thus, stormwater drainage is a constant concern in the village. There have been flood damaged properties in the community, but no reported substantial damage. During the 2019 flood event, heavy rains and high water in the Platte River caused it to reach the top of the berm and damaged the road on top. Without the additional protection of sand bags the village roads, rural water systems, and homes would have been impacted. The local planning team indicated if the berm were severely damaged or impacted, over 90% of residents would be significantly impacted.

### Hail

Hail damage can impact a variety of structures across the village and include damage to siding, roofing, windows, and vehicles. This is an annual threat to the village. In June 2017 hail damages to the Fire Hall required repairs and a replacement of the roof. The town/fire hall are critically important for the Village and are insured via the League Association of Risk Management. There is a partially-active, volunteer tree board.

### High Winds

Damage to electrical lines from high winds is the main concern of local emergency planners. The area has experienced power outages lasting from a few minutes to several days. A severe storm in June 2017 caused power loss for five days and resulted in structural and electrical damage. There are no community safe rooms in Cedar Creek. Paper archives are not backed up, but electronic municipal records are backed up monthly. Safe rooms have been retrofitted to existing residential structures or in new constructions in the last five years.

### Tornadoes

In June 2010 an EF1 tornado occurred in Cedar Creek. It destroyed several homes and garages, damaged roofs and siding, and broke windows throughout the Village. Additionally, several mature cottonwoods were uprooted, and power was lost. Due to the location of the community within a SFHA, residential homes are not permitted to have basements. In the last several years new homes have installed safe rooms and others have retrofitted their homes. There are no community shelters located within the Village. There are warning sirens which cover the whole area operated by the Volunteer Fire Department and Cass County Emergency Management.



## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Cedar Creek has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Cedar Creek has five Village board members.

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table CDC.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes, 1999
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	County
	Floodplain Management Plan	Under Development
	Storm Water Management Plan	No
	Zoning Ordinance	Yes, 1999
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes, 5 staff. Tenure 1-3 years
	Floodplain Administration	Yes, 1 staff 4 years tenure
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes, 1 staff 4 years tenure
	Grant Manager	No
	Mutual Aid Agreement	Yes
Other (if any)		
<i>Fiscal Capability</i>	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	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No

## Section Seven: Village of Cedar Creek Community Profile

Survey Components/Subcomponents		Yes/No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<i>Education &amp; Outreach Capability</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Moderate
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

Cedar Creek's Comprehensive Plan was last updated in 1999 and does not discuss natural hazards. While the plan encourages the elevation of structures located in the floodplain, the entire community is located within a flood risk hazard area. The Village Board is currently evaluating a plan update which will likely take place in 2020. Additional actions will be included in the plan, such as evaluating need for community safety shelters and investigating alternate transportation routes in and out of the area.

The Village has its own Emergency Operations plan which was last updated in 2019. This plan addresses hazards of top concern, specifically flooding. Copies of the plan are located in the Village Office and with the Fire Department. Cedar Creek also has an annex as part of the Cass County Local Emergency Operations Plan which was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Zoning Ordinance was last updated in 1999 and an update is currently being discussed by the Village Board. The Ordinance requires structures to be elevated in the floodplain. However, the Village does not have its own set of building codes and instead relies on Cass County and State building code requirements. The County uses the 2012 International Building Codes.

The Village’s annual municipal budget is primarily limited to maintaining current facilities and municipal systems. Currently there are no large capital improvements anticipated or planned for; however additional funding would be needed to implement hazard mitigation actions.

## Mitigation Strategy

### Completed Mitigation Actions

Mitigation Action	Floodplain Preservation
Description	Preserve natural and beneficial functions of floodplain lands through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.
Hazard(s) Addressed	Flooding
Status	Majority of buildings in the floodplain are built for recreation and the floodplain ordinance requires homes and substantially improved homes to be at least one foot above BFE or higher if appropriate.

Mitigation Action	Platte River Bank Stabilization
Description	Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Channel stabilization can protect structures, increase conveyance and provide flooding benefits.
Hazard(s) Addressed	Flooding
Status	Project completed spring of 2016.

### Ongoing and New Mitigation Actions

Mitigation Action	Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in a tornado or high wind event.
Hazard(s) Addressed	Tornadoes and High Winds, Flooding
Estimated Cost	\$1,000
Potential Funding	PDM, HMGP, LPSNRD, Village Budget
Timeline	1 year
Priority	Medium
Lead Agency	Village Board and Floodplain Manager
Status	Community notices of requirements are being sent out late fall to winter 2019. The Village will continue to monitor to ensure compliance.

Section Seven: Village of Cedar Creek Community Profile

Mitigation Action	Backup Municipal Records
Description	Develop protocol for backing up critical municipal records onto a portable storage device or service. Maintain routine backup of records
Hazard(s) Addressed	All Hazards
Estimated Cost	\$100 for external hard drive
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Village Secretary and Board of Trustees
Status	This is a new mitigation action. Electronic municipal records are backed up by hand every month, additional backup methods should be explored for automatic backup.

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing emergency response equipment
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50,000
Potential Funding	General Fund, donations, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	Volunteer Fire Department
Status	This is a new mitigation action. The Village is currently in discussions to replace the fire truck.

Mitigation Action	Complete Citywide Flood Project Master Plan
Description	Developing a citywide flood project master plan will help prioritize necessary projects and chart the approach to reduce flood impact throughout the community.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000
Potential Funding	General Funds
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board
Status	The Village is in the process of developing notification system to alert all residents of a hazard with an expected implementation early 2020. The Village is working with Cass County Emergency Management Agency to develop the Master Plan.

Section Seven: Village of Cedar Creek Community Profile

Mitigation Action	First Aid Training
Description	Promote first aid training for all residents and staff
Hazard(s) Addressed	All Hazards
Estimated Cost	\$100 per person
Potential Funding	General Fund, individuals
Timeline	1 year
Priority	High
Lead Agency	Volunteer Fire Department
Status	This is a new mitigation action. The VFD is investigating offering training for local residents.

Mitigation Action	Improve Emergency Communication
Description	Develop/improve/implement Emergency Communication Action Plan. Establish inner-operable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$1,000+, Staff Time
Potential Funding	General Fund
Timeline	1 year
Priority	High
Lead Agency	Volunteer Fire Department
Status	This is a new mitigation action. The Village is currently in the process of enacting electronic community notification system.

Mitigation Action	Infrastructure Assessment Study
Description	Conduct an assessment of bridges in the county and assess other potential areas of concern.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$2,500+ per bridge estimate
Potential Funding	General Fund
Timeline	1 year
Priority	High
Lead Agency	Village Board of Trustees
Status	This is a new mitigation action. There is only one bridge connecting the village to main transportation corridors. The Village is currently investigating options to improve accessibility.

Section Seven: Village of Cedar Creek Community Profile

Mitigation Action	Levee/ Floodwall Construction and/or Improvements
Description	Levees and floodwalls serve to provide flood protection to businesses and residents during large storm events. Improvements to existing levees and floodwalls will increase flood protection. If possible, the structure may be designed to FEMA standards to provide 100-year flood protection providing additional flood insurance benefits.
Hazard(s) Addressed	Flooding
Estimated Cost	\$500,000
Potential Funding	USACE, HMGP, PDM, LPSNRD, Cass County & Cedar Creek Board
Timeline	2 to 5 years
Priority	High
Lead Agency	Village Board
Status	The Village Engineer has visited the site and prepared preliminary report on possible actions based on technical feasibility, cost, and USACE acceptability. Potential decisions will be made in 2020 by Village Board.

Mitigation Action	New Fire Station
Description	Design and construct a new fire station to provide continuity of service to Cedar Creek and surrounding area.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$1,000,000+
Potential Funding	General Fund
Timeline	2-5 years
Priority	High
Lead Agency	Volunteer Fire Department
Status	Early planning stage and identifying potential funding avenues. A safe room may be included in the construction of the new fire station.

Mitigation Action	Obtain Tree City Designation
Description	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Agricultural Plant and Animal Disease, Severe Thunderstorms, Tornadoes and High Winds, Severe Winter Storms
Estimated Cost	\$0 to \$1,000
Potential Funding	General Funds and Grants
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board
Status	This is an ongoing effort to replace or add trees that are/were damaged. The Village is working to vary tree diversity to avert particular tree pests/diseases (Emerald Ash Borer).

Mitigation Action	Participate in the Community Rating System
Description	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums.
Hazard(s) Addressed	Flooding
Estimated Cost	NA
Potential Funding	NA
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board and Floodplain Manager
Status	The Floodplain Manager has completed training. The Village is now evaluating potential to participate.

Mitigation Action	Power and Service Lines
Description	Communities can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorm, Severe Winter Storms
Estimated Cost	\$70,000
Potential Funding	PDM, HMGP, LPSNRD, OPPD, Cass County, Cedar Creek Budget
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board
Status	This project has not yet been started

Mitigation Action	Safe Rooms
Description	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, and other areas.
Hazard(s) Addressed	Severe Thunderstorms, High Winds, Tornadoes
Estimated Cost	\$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit
Potential Funding	General Fund, BRIC, HMGP
Timeline	2-5 years
Priority	High
Lead Agency	Village Board, Volunteer Fire Department
Status	Early discussions and planning stage to determine next steps and potential funding avenues. Safe room may be constructed as part of a new fire station.

Section Seven: Village of Cedar Creek Community Profile

Mitigation Action	Transportation Route
Description	Evaluate, design, and construct a secondary transportation route to improve access to the community. Currently only access road into the Village crosses the BNSF railroad which can severely restrict emergency access if crossing is blocked by a train.
Hazard(s) Addressed	All hazards
Estimated Cost	Unknown
Potential Funding	General Funds, BNSF, NDOT
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Project has been discussed at the local level, however no actions have yet been taken.

Mitigation Action	Update Comprehensive Plan
Description	Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components
Hazard(s) Addressed	All Hazards
Estimated Cost	\$10,000+
Potential Funding	General Fund
Timeline	1 year
Priority	High
Lead Agency	Village Board of Trustees
Status	This is a new mitigation action. Updating the 1999 Comprehensive Plan is currently being discussed.

**Removed Mitigation Action**

Mitigation Action	Maintain Good Standing with the NFIP
Description	Maintain good standing with National Flood Insurance Program (NFIP).
Hazard(s) Addressed	Flooding
Reason for Removal	This action is no longer considered a mitigation action by FEMA



# COMMUNITY PROFILE

## VILLAGE OF EAGLE

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

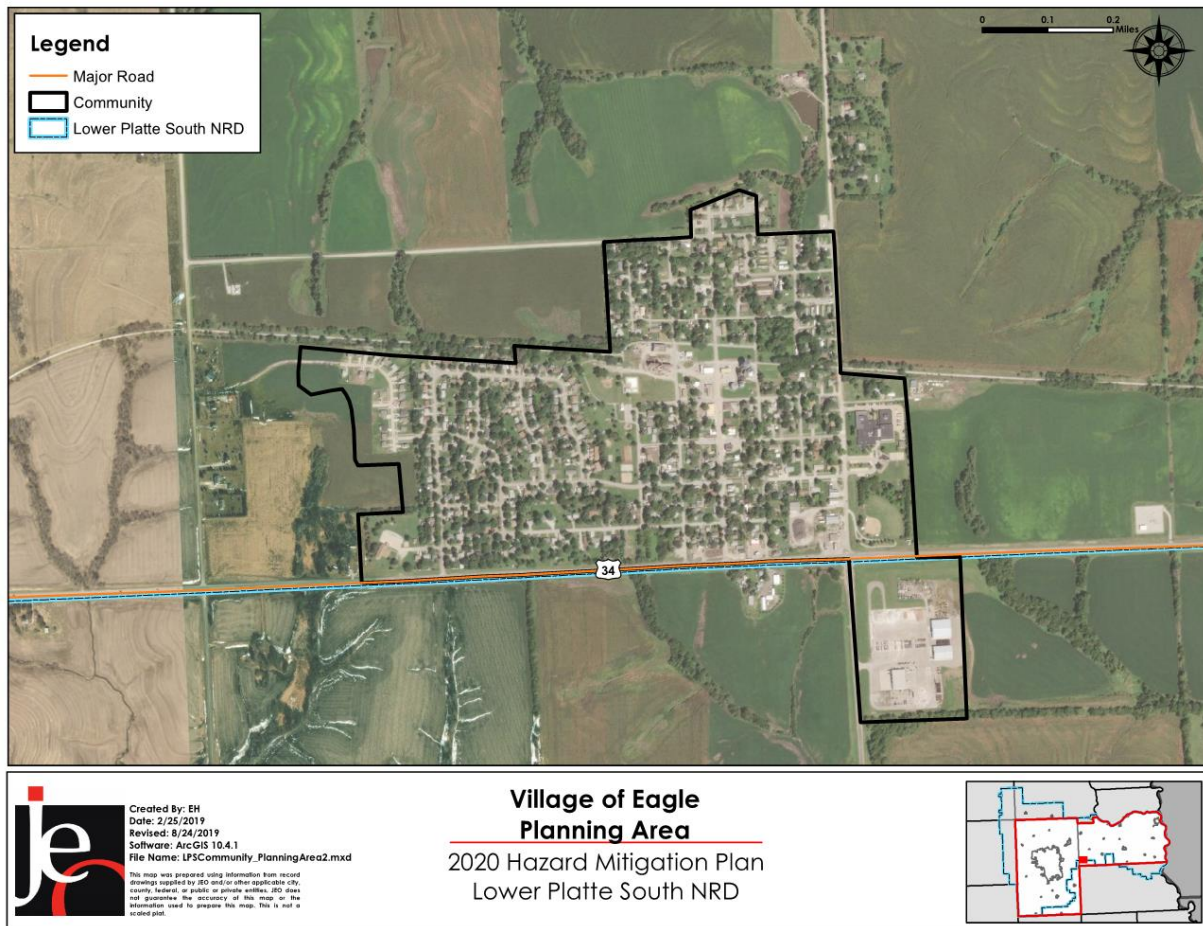
**Table EAG.1: Eagle Local Planning Team**

NAME	TITLE	JURISDICTION
JOHN SURMAN	Village Board	Village of Eagle
TRAVIS MOORE	Village Board Chairperson	Village of Eagle
TERRY CADDY	Planning Commission Chairperson	Village of Eagle

## Location and Geography

The Village of Eagle is in the southwest corner of Cass County, approximately 16 miles east of Lincoln and two miles west of Eagle Raceway, a local motorsports facility. The Village covers an area of 0.35 square miles. There is one major waterway near the town, the source of the Camp Creek, is located 1.2 miles north of town.

**Figure EAG.1: Village of Eagle**



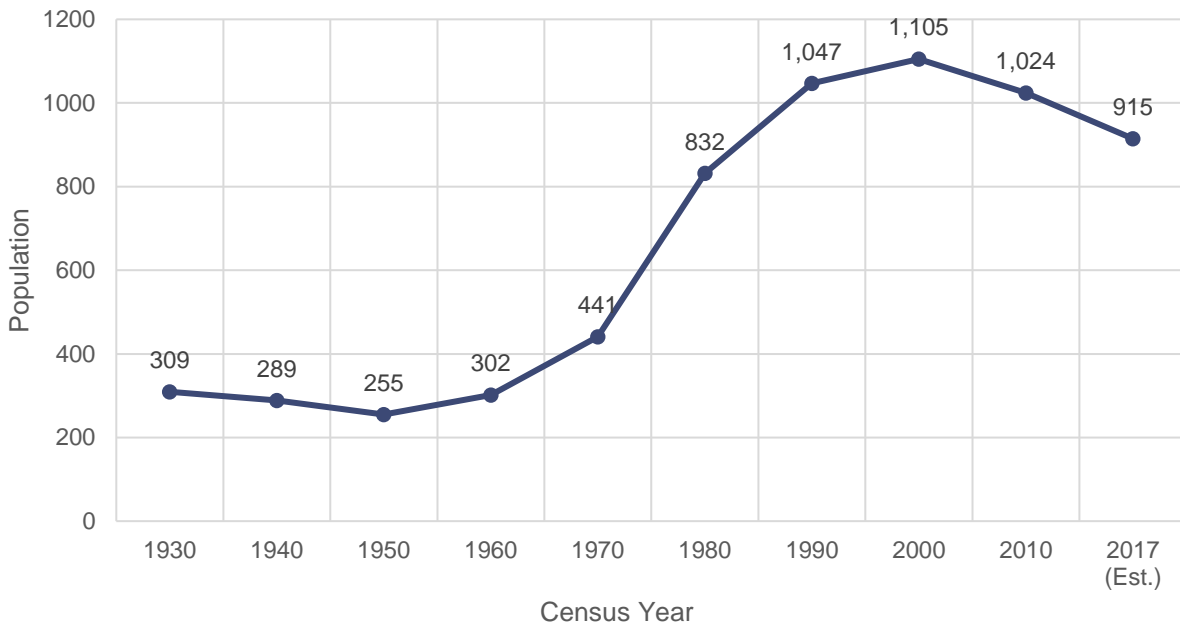
## Transportation

The Village of Eagle has two major transportation corridors directly located in the Village limits. The first and largest is US Highway 34 which runs east-and-west on the south end of town. This Highway runs into Lincoln and becomes “O” Street. This corridor averages 5,520 vehicles per day. The second corridor is Nebraska Highway 43 which forms a T-intersection with US Highway 34 on the southeast corner of town. This corridor averages 1,295 vehicles per day. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Eagle’s population declined from about 1,105 people in 2000 to 915 people in 2017, a decrease of 190 people and total loss of 17%. This is important because declining populations are associated with decreasing tax revenues and unoccupied structures. Eagle’s population accounted for 3.6% of Cass County’s population of 25,767 in 2017.<sup>59</sup>

Figure EAG.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Eagle’s population was:

- **Younger.** The median age of Eagle was 34.8 years old in 2017, compared with the County average of 41.9 years. Eagle’s population grew older since 2009, when the median age was 30.5 years old. Eagle had a similar proportion of people under 20 years old (27.2%) than Cass County (26.6%).<sup>60</sup>
- **Similar ethnic diversity.** Since 2010, Eagle grew more ethnically diverse. In 2010, Eagle’s population was 0.4% Hispanic or Latino. By 2017, Eagle’s population was 1.5%

<sup>59</sup> United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.  
<sup>60</sup> United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Eagle Community Profile

Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>61</sup>

- **More likely to be below the federal poverty line.** The poverty rate in Eagle (5.3% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>62</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, the Village of Eagle economy had:

- **Diverse mix of industries.** Eagle major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (18.7%), finance/insurance/real estate/rental/leasing (12.1%), Professional/scientific/management/administrative/waste management services (11.2%), manufacturing (10.9%), construction (10.7%) and transportation/warehousing/utilities (10.1%).<sup>63</sup>
- **Similar household income.** Eagle's median household income in 2017 (\$68,092) was \$192 lower than the County (\$68,284).<sup>64</sup>
- **Similar long-distance commuters.** A total of 10.7% percent of workers in Eagle commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 41.2% of workers in Eagle commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>65</sup>

### Major Employers

Major employers within Eagle include Dollar General, the Co-Op, Casey's Gas Station, and Gordon's Electric. A large percentage of residents commute to Lincoln and Omaha for employment.

### Housing

In comparison to Cass County, Eagle's housing stock was:

- **Fewer renter-occupied.** Of occupied housing units in Eagle, 7.4% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>66</sup>
- **Similar Aged.** Eagle had a similar share of housing built prior to 1970 than Cass County (38.7% compared to 41.4%).<sup>67</sup>
- **No multifamily dwellings.** The predominant housing type in Eagle is single family detached (93.7%), with more stock than Cass County (87.7%). Eagle contains no multifamily housing with five or more units per structure compared to Cass County (0% compared to 3.6%). Eagle has a larger share of mobile housing (6.3%) compared to the County (3.6%).<sup>68</sup> Mobile homes are in the northeast corner of the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied

61 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

62 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

63 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

64 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

65 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

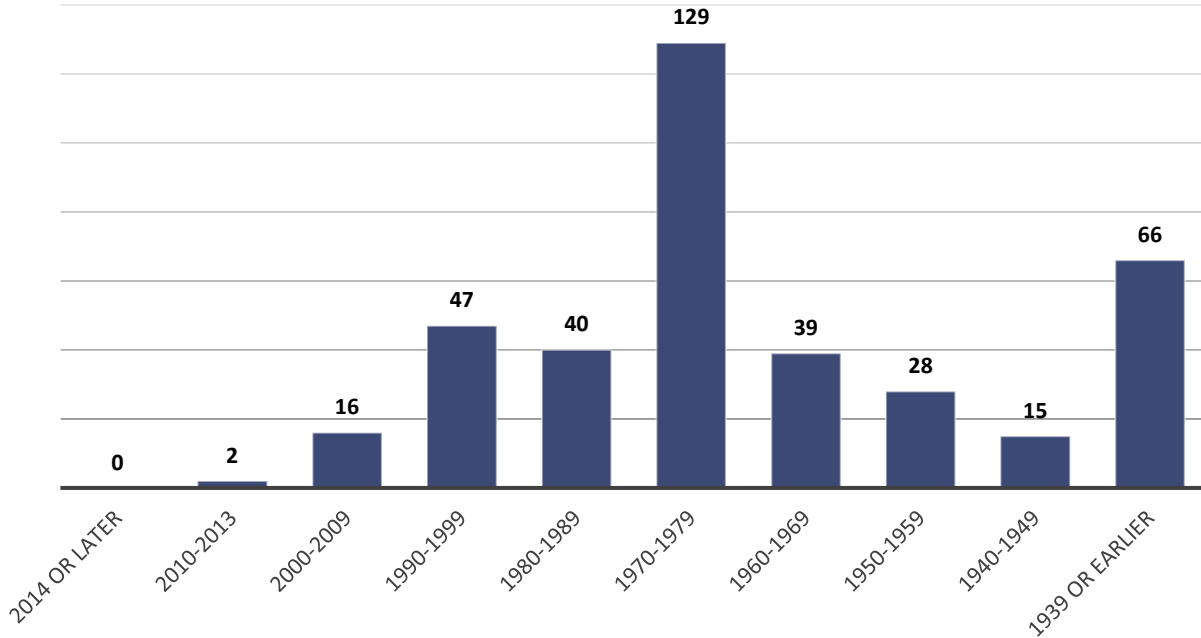
66 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

67 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

68 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure EAG.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>69</sup>

### Future Development Trends

In the past five years, a new housing sub-division was developed on the west end of town, Dollar General opened on the south side of town, and Gordon’s Electric remodeled and expanded. Dollar General and Gordon’s Electric are two of the largest employers in the Village. The local planning team attributed population decline to a lack of a middle school with parents of middle age kids moving to surrounding communities, and competition with Lincoln for residential housing. In the next five years, an additional housing development is anticipated on the west side of Eagle and Casey’s Gas Station is expecting to remodel.

The future land use map was updated in March 2019.

<sup>69</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Section Seven: Village of Eagle Community Profile

Figure EAG.4: Existing Land Use Map

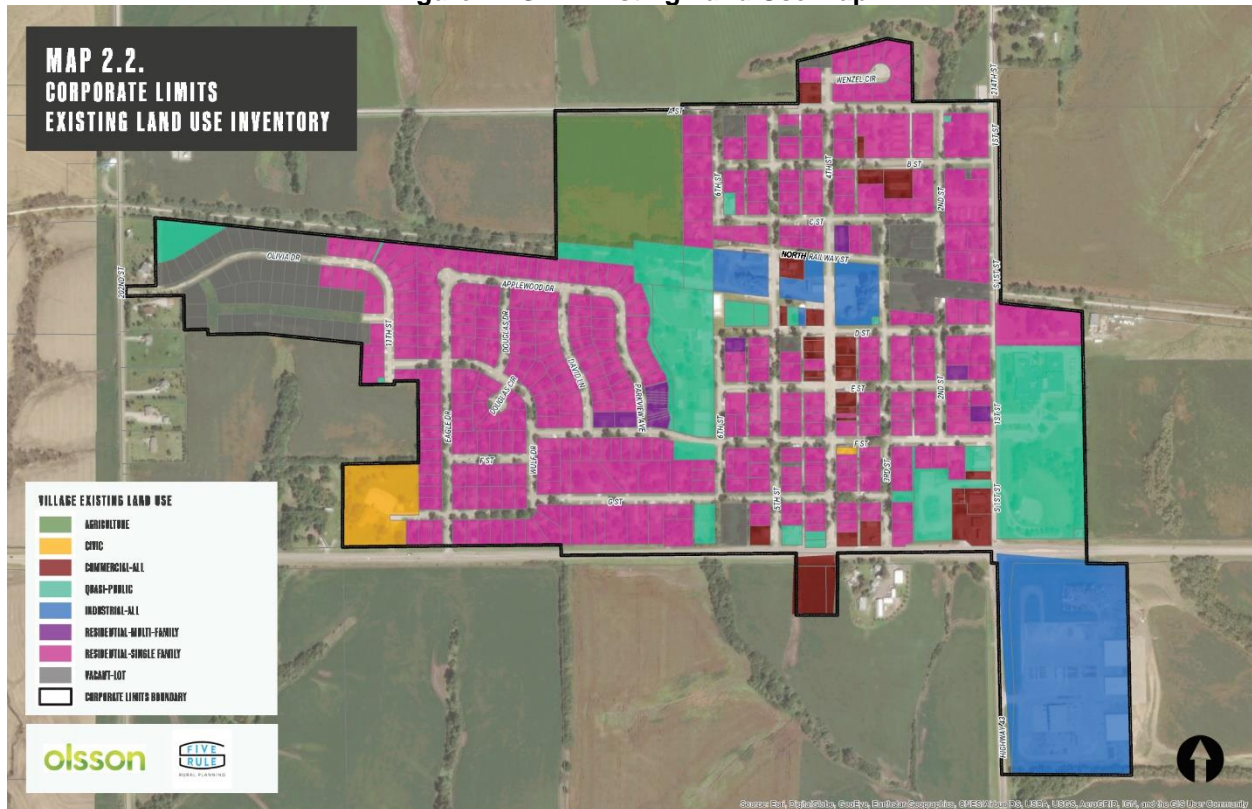
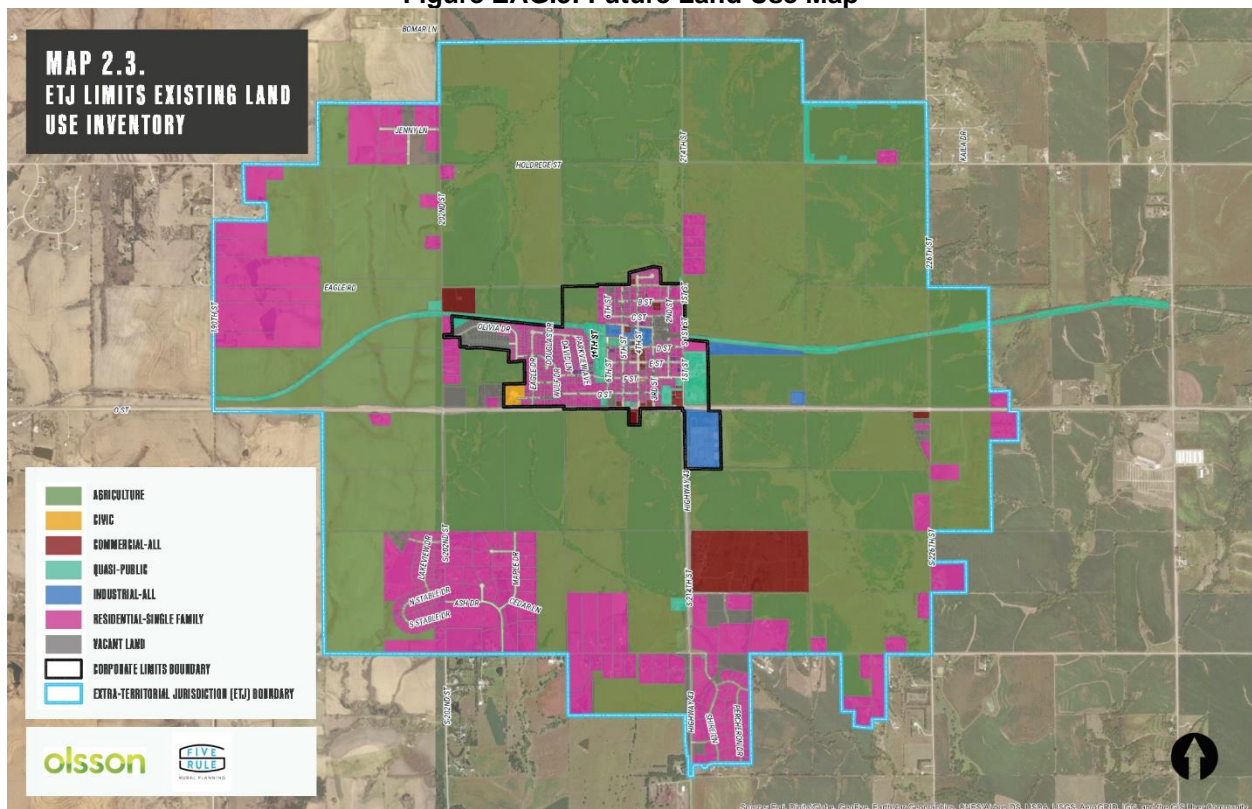


Figure EAG.5: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table EAG.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
425	\$41,767,877	\$98,277	0	\$0

Source: Nebraska Department of Revenue, Property Assessment Division<sup>70</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are two chemical storage sites in Eagle.

**Table EAG.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
MIDWEST FARMERS COOPERATIVE	400 Railway St	N
KECKLER OIL COMPANY INC	310 W Eldora Ave	N

Source: Nebraska Department of Environmental Quality 2017<sup>71</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table EAG.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Baileys (Storm Shelter)	Y	N	N
2	Eagle Elementary School	N	N	N
3	Eagle Fire & Rescue	N	Y	N
4	Eagle United Methodist Church	N	N	N
5	Heartland Estates Lift Station	N	Y	N
6	Highway Maintenance Shop	N	N	N
7	Lagoon	N	N	N
8	Lutheran Church	N	N	N
9	South Meadows Lift Station	N	Y	N
10	Trailer Park Lift Station	N	N	N
11	Village Office	N	N	N
12	Wastewater Treatment Plant	N	Y	N

<sup>70</sup> County Assessor. Personal correspondence, [2019].

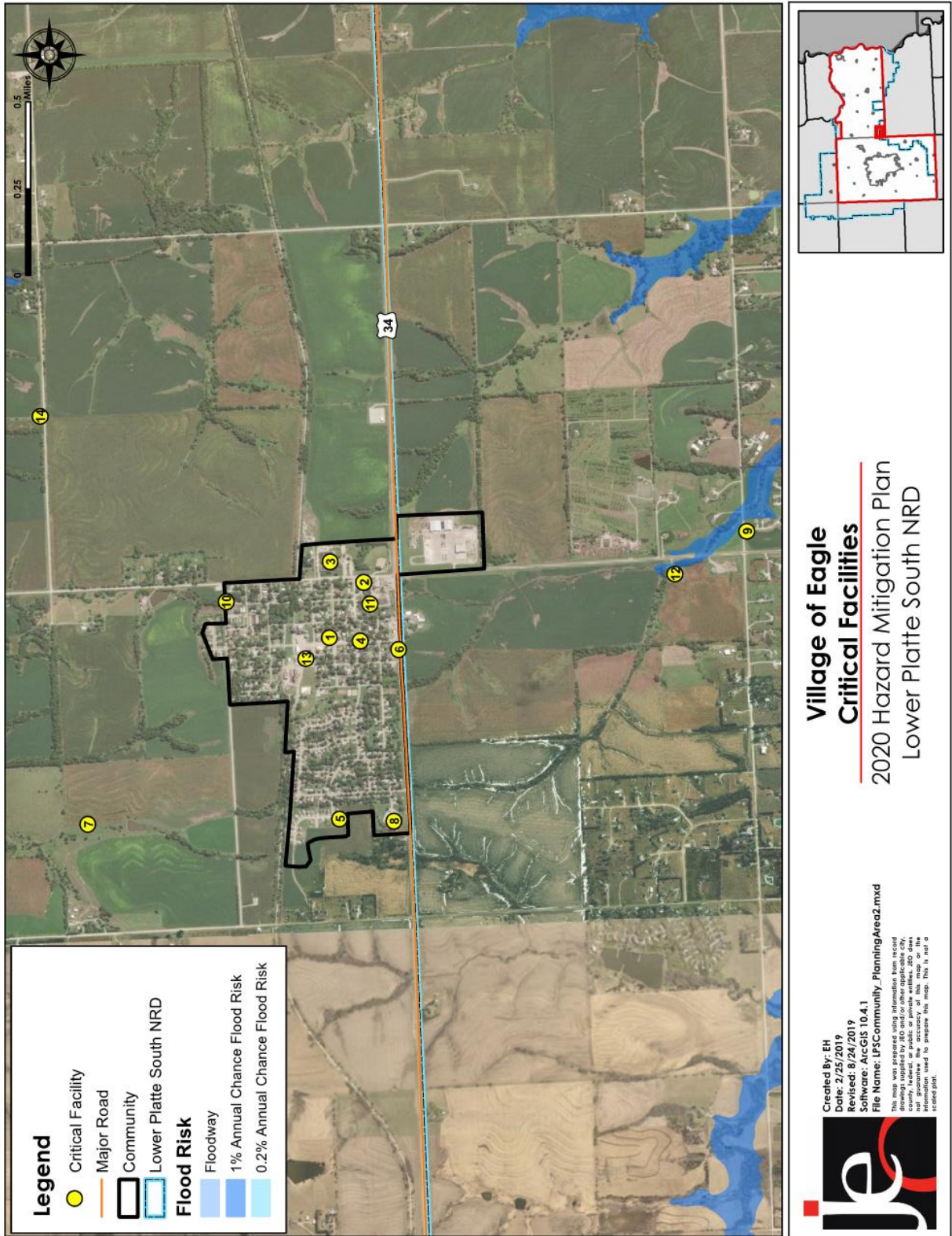
<sup>71</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces..>

Section Seven: Village of Eagle Community Profile

<i>CF Number</i>	<i>Name</i>	<i>Red Cross Shelter (Y/N)</i>	<i>Generator (Y/N)</i>	<i>Located in Floodplain (Y/N)</i>
13	Water Tower	N	N	N
14	Wellfield Pumphouse	N	Y	N



Figure EAG.6: Critical Facilities



## Historical Occurrence

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemical spills are of concern due to the high volume of hazardous chemicals transported by the Village along Highways 34 and 43. While no chemical transportation events have occurred locally, hazardous chemicals are commonly transported back and forth to neighboring communities, including Lincoln. The Village plans to develop Comprehensive Disaster and Emergency Response and Continuity Plans to assist in responding to potential chemical transportation spill events.

### Flooding

In 2016 flooding eroded the drainage ditch that flows by the sewer plant and exposed sewer lines, which had to be relocated. The local planning team indicated areas between B St and Hwy 34, bounded by 1<sup>st</sup> and 2<sup>nd</sup> St, are most prone to flooding. Some additional flooding occurs between F and G St and the sewer plant has been flooded several times. Most flooding issues are attributed to poor interior drainage and flash flooding. The Village plans to evaluate and upgrade the stormwater system to mitigate flooding associated with poor interior drainage.

### Hail

Hail is often associated with severe thunderstorms and can cause significant damages to property and agricultural land. The local planning team indicated hail events in 2016-2017 significantly damaged residential roofs and required many residents to replace their roof. Damage to roofs, trees, siding, and gutters is common in town. While several critical facilities are reinforced against hail, other community facilities and most homes are not. The Village would like to reinforce additional critical facilities to prevent future damages from hail events.

### Severe Thunderstorms

Severe thunderstorms are a common occurrence in the region and have caused damage to homes, critical facilities, and agriculture. Lowland flooding, power failure, lightning strikes, and damages to property, trees, power lines, communication towers are identified concerns regarding severe thunderstorms for the Village. In the past lightning strikes have severely damaged the sewer plant causing the pumps to be replaced. Lift stations, generators in town, and the sewer plant are all vulnerable to power failure from lightning; however, the local planning team indicated about 70% of power lines in town are buried. While there are no FEMA certified safe rooms in town, Bailey's and the Methodist church are used as shelter locations. Trees between the sidewalk and street curbs between 1<sup>st</sup> and 6<sup>th</sup> streets have the potential to be felled during storms and block access to the fire department by emergency responders.

### Terrorism

Terrorism is a hazard of concern as the Village is on the far edge of the county with delayed law enforcement response times. While no terrorism events have occurred in the Village as of yet, primary terrorism concerns pertain to actions against the local school system and the water and wastewater systems. The Village's wells and wastewater plant are in low-traffic areas.

**Tornadoes**

A tornado in March 2009 damaged three residential roofs in the northeastern part of town. Municipal records are backed up locally on an external hard drive. Eagle has three warning sirens which cover the community and some surrounding areas. Sirens are activated in Plattsmouth, which causes delays in proper notification. Sirens for the 2009 tornado did not go off until after the tornado had already hit the community. There are no FEMA certified safe rooms in Eagle, but Bailey’s and the local Methodist Church are used as shelter locations. Weather radios should be bought and kept at critical facilities and shelter locations.

**Governance**

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Eagle has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Eagle has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Planning
- Volunteer Fire Department
- Engineer
- Sewer Operator

**Capability Assessment**

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table EAG.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes, 2018
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	No
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes, 2007
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes, IBC 2012
	National Flood Insurance Program	Yes
Community Rating System	No	
Other (if any)		
<i>Administrative &amp;</i>	Planning Commission	Yes
	Floodplain Administration	Yes

Section Seven: Village of Eagle Community Profile

Survey Components/Subcomponents		Yes/No
<i>Technical Capability</i>	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	
<i>Fiscal Capability</i>	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	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	No
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

## Plan Integration

The Village of Eagle last updated their Comprehensive Plan in 2019. The plan addresses development in the floodplain as annexation occurs, includes future land use maps, directs development away from chemical storage facilities and major transportation routes, and encourages preservation of open space in hazardous areas. The plan is updated every ten years by the community. The Village includes the hazards addressed in the Hazard Mitigation Plan in each update of the Comprehensive Plan.

The Village of Eagle has an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Village's Zoning Ordinance was last updated in 2007 and is currently undergoing revision with an expected completion date of spring 2020. Currently the ordinance prohibits wetland filling, discourages development near chemical storage sites, discourages development along major transportation routes, and limits developing in the ETJ. The Village's Building Code was last updated in 2016 to follow the 2012 International Building Codes. These codes require elevation of structure and utilities in the floodplain, outlines proper sump pump installation, and encourage/requires the use of fire-resistant building materials. The Village of Eagle will evaluate incorporating hazard mitigation principles during the next update to the building code during the next fiscal year.

The Village's annual municipal budget is limited to maintaining current facilities and municipal systems, with only a slight increased emphasis on infrastructure. The largest portion of the budget is currently dedicated to improving community streets.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Backup Generators
Description	Identify and evaluate current backup and emergency generators to 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	\$15,000+
Potential Funding	Taxes, HMGP, PDM
Timeline	5+ years
Priority	Low
Lead Agency	Village Board
Status	This is a new mitigation action. A portable generator is needed at the maintenance shop.

Section Seven: Village of Eagle Community Profile

Mitigation Action	Backup Municipal Records
Description	Develop protocol for backing up critical municipal records onto a portable storage device or service. Maintain routine backup of records.
Hazard(s) Addressed	All hazards
Estimated Cost	\$100 for external hard drive
Potential Funding	Property Taxes
Timeline	1 year
Priority	High
Lead Agency	Village Clerk, Village Board
Status	This is a new mitigation action.

Mitigation Action	Civil Service Improvements
Description	Improve Fire Department and Rescue squad equipment and facilities. Providing additional, or updating existing emergency response equipment; this could include fire trucks, ATV's, motor boats, etc. This would also include developing backup systems for emergency vehicles and identifying and training additional personnel for emergency response.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000-\$40,000 per vehicle, varies depending on what equipment is needed
Potential Funding	General Budget, Assistance to Firefighters Grants
Timeline	5+ years
Priority	Low
Lead Agency	Village Board, Eagle Fire Department
Status	This project has not yet been started.

Mitigation Action	Comprehensive City Disaster/ Emergency Response Plan
Description	Develop Comprehensive Village Disaster and Emergency Response Plan.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$6,000+
Potential Funding	Taxes, General Budget
Timeline	2-5 years
Priority	High
Lead Agency	Village Board, Eagle Fire Department
Status	This project has not yet been started.

Mitigation Action	Continuity Planning
Description	Continuity planning helps to ensure that services can be maintained during and after a disaster.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$1,000
Potential Funding	Taxes, General Budget
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Vulnerable Population Assistance Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
Hazard(s) Addressed	All hazards
Estimated Cost	\$2,000, Staff Time
Potential Funding	Property Taxes
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board, Village Clerk
Status	This is a new mitigation action.

Mitigation Action	Emergency Operations Center
Description	Identify and establish an Emergency Operations Center
Hazard(s) Addressed	All hazards
Estimated Cost	\$0, Staff Time
Potential Funding	General Funds
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board, Village Clerk
Status	This is a new mitigation action. EOC will likely be established in the Fire Hall or at the Village Office Building.

Mitigation Action	Facility Monitoring
Description	Install security cameras in/around critical facilities and key infrastructure
Hazard(s) Addressed	Terrorism
Estimated Cost	\$100 per unit
Potential Funding	Property Taxes
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Needed at the wastewater treatment facility and the well field.

Mitigation Action	Floodplain Management
Description	Develop floodplain ordinances that prevent the storage of hazardous chemicals in the floodplain.
Hazard(s) Addressed	Chemical Transportation, Flooding
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action.

Section Seven: Village of Eagle Community Profile

Mitigation Action	Hail Insurance
Description	Ensure all critical facilities have insurance for hail damage
Hazard(s) Addressed	Severe Thunderstorms, Hail
Estimated Cost	Varies
Potential Funding	Property Taxes
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Needed for all Village owned properties.

Mitigation Action	Infrastructure Hardening
Description	Install vehicle barriers and fencing around CFs.
Hazard(s) Addressed	Chemical Transportation, Terrorism
Estimated Cost	\$5,000 +
Potential Funding	Taxes, General Budget, PDM, HMGP
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Storm Shelter Identification
Description	Identify any existing private or public storm shelters
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	Staff Time
Potential Funding	General Fund
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Signs should be placed in highly visible locations such as at the park bathroom and pool house structure.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000-\$50,000 for smaller communities; \$100,000 + for larger
Potential Funding	HMGP, PDM, General Budget
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board, Planning Commission
Status	This project has not yet been started.



Mitigation Action	Surge Protectors
Description	Purchase and install surge protectors on sensitive equipment in critical facilities.
Hazard(s) Addressed	Severe Thunderstorms
Estimated Cost	\$25 per unit
Potential Funding	Property Taxes
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Needed at the village office, sewer plant, and the well field.

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50 per radio
Potential Funding	Local taxes, General Budget
Timeline	2-5 years
Priority	High
Lead Agency	Village Board, Eagle Fire Department
Status	This project has not yet been started. Weather radios are needed at critical facilities and shelter locations.

**Section Seven: Village of Eagle Community Profile**

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# COMMUNITY PROFILE

## VILLAGE OF ELMWOOD

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

Table ELM.1: Elmwood Local Planning Team

NAME	TITLE	JURISDICTION
MIKI BRUNS	Board Chairperson	Village of Elmwood
PAT WRAY	Board Member	Village of Elmwood
DAVE ERNST	Board Vice-Chair	Village of Elmwood
BEKKY KICAK	Board Member	Village of Elmwood

## Location and Geography

The Village of Elmwood is in the southwest-central portion of Cass County. The Village covers an area of 0.38 square miles. There are two major waterways near the town which form a confluence to the northeast of town. The smaller, tributary waterway is the Stove Creek which flows northerly on the east side of town. The larger, main stem is the Weeping Water Creek which flows east until the confluence where it turns north.

Figure ELM.1: Village of Elmwood



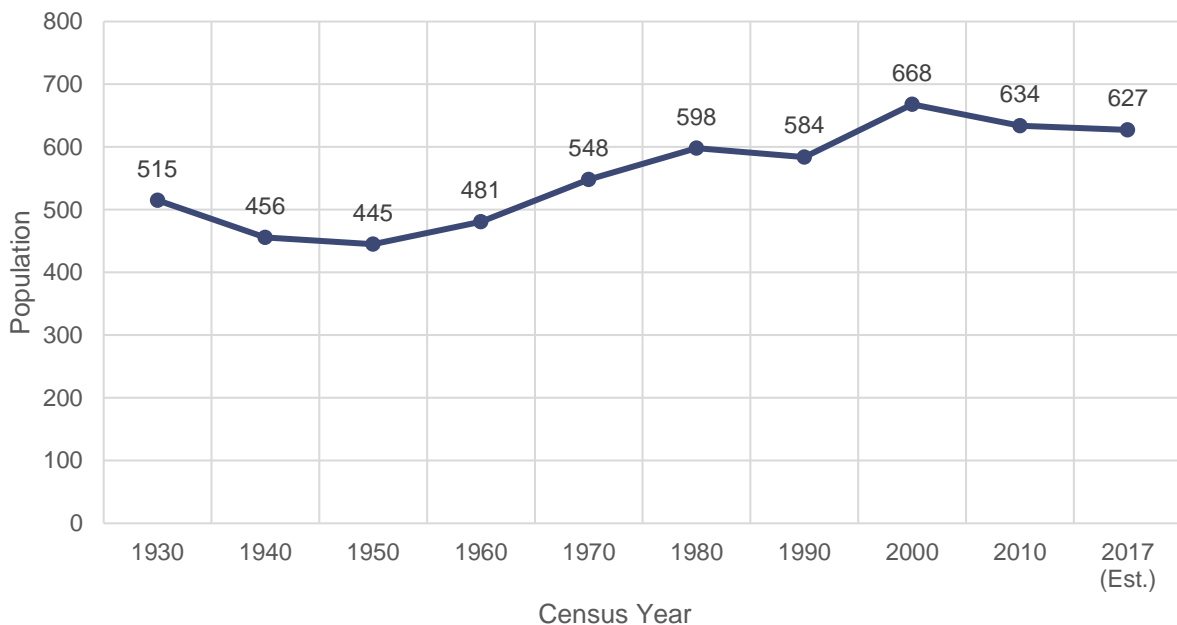
## Transportation

The Village of Elmwood has two major transportation corridors directly located around the Village limits. The first is US Highway 34 which runs east-and-west two miles south of town and becomes “O Street” when entering the Lincoln city limits 16 miles to the west. This corridor averages 3,020 vehicles per day. The second corridor is Nebraska Highway 1 which runs north-and-south directly through the center of town. This corridor averages 1,290 vehicles per day.<sup>72</sup> Highways 1 and 34 are of top concern for the local planning team due to the high volume of vehicles which travel through town every day. In particular hazardous chemicals including Anhydrous Ammonia and propane are transported along these 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 to transportation incidents.

## Demographics

Elmwood’s population declined from about 668 people in 2000 to 627 people in 2017, a decrease of 41 people and total loss of 6.1%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Elmwood’s population accounted for 2.4% of Cass County’s population of 25,767 in 2017.<sup>73</sup>

**Figure ELM.2: Population 1930 - 2017**



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Elmwood’s population was:

- Younger.** The median age of Elmwood was 38.3 years old in 2017, compared with the County average of 41.9 years. Elmwood’s population grew older since 2009, when the median age was 32.2 years old. Elmwood had a similar proportion of people under 20 years old (24.7%) to Cass County (26.6%).<sup>74</sup>

72 Nebraska Department of Transportation. “Statewide Traffic Flow Map.” Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>  
 73 United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.  
 74 United States Census Bureau. “American Fact Finder: S0101: Age and Sex.” [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Elmwood Community Profile

- **Less ethnically diverse.** Since 2010, Elmwood grew more ethnically diverse. In 2010, Elmwood's population was 6.5% Hispanic or Latino. By 2017, Elmwood's population was 5.4% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>75</sup>
- **Less likely to be below the federal poverty line.** The poverty rate in Elmwood (4.2% of families living below the federal poverty line) was lower than Cass County's poverty rate (4.5%) in 2017.<sup>76</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing(9.4%) and construction (9%). In comparison to the County, The Village of Elmwood economy had:

- **Similar mix of industries.** Elmwood major employment sectors, accounting for about 10% or more of employment each, were: education/healthcare/social services (21.3%), finance/insurance/real estate/rental/leasing (11.4%), construction (11.1%), and manufacturing (9.3%).<sup>77</sup>
- **Lower household income.** Elmwood's median household income in 2017 (\$62,019) was \$6,265 lower than the County (\$68,284).<sup>78</sup>
- **Similar long-distance commuters.** A total of 24.8% percent of workers in Elmwood commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 53% of workers in Elmwood commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>79</sup>

### Major Employers

Major employers within Elmwood include the Frontier Co-Op, the local school, and numerous local daycares. A large percentage of residents commute to Lincoln, Omaha, Gretna, or Syracuse for employment.

### Housing

In comparison to Cass County, Elmwood's housing stock was:

- **Similar renter-occupation.** Of occupied housing units in Elmwood, 18.1% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>80</sup>
- **Older.** Elmwood had a larger share of housing built prior to 1970 than Cass County (55.4% compared to 41.4%).<sup>81</sup>
- **More multifamily dwellings.** The predominant housing type in Elmwood is single family detached (85.8%), with similar stock to Cass County (87.7%). Elmwood contains more multifamily housing with five or more units per structure than Cass County (6.6% compared to 3.6%). Elmwood has a smaller share of mobile housing (0.7%) compared to the County (3.6%).<sup>82</sup> Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

75 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

76 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

77 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

78 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

79 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

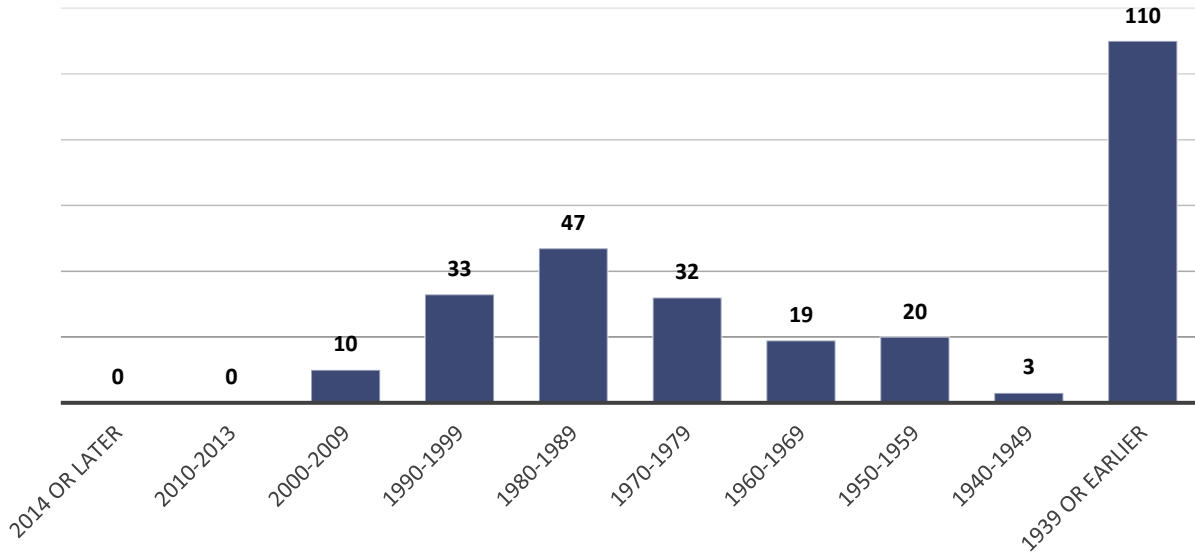
80 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

81 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

82 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure ELM.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>83</sup>

### Future Development Trends

Over the past five years there have been several new housing developments in the Village which have added 12 new complete homes. An additional 12 homes will be added during the second phase of the project in the next year. The Village’s population is relatively stable with a slight increasing trend, which the local planning team attributes to the school system being located within town and attracting families to the new housing developments. In the next five years the second phase of the housing development will be completed on the west side of town. The Village is also working on implementing Main Street improvements to draw additional commercial businesses into town.

<sup>83</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.





## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table ELM.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
317	\$29,295,757	\$92,416	2	\$355,569

Source: Nebraska Department of Revenue, Property Assessment Division<sup>84</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are two chemical storage sites in Elmwood.

**Table ELM.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
CASS COUNTY HIGHWAY DEPT	220 W B St	N
MIDWEST FARMERS COOPERATIVE	304 S 3rd St	N

Source: Nebraska Department of Environmental Quality 2017<sup>85</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

While there are no certified Red Cross Shelters located in Elmwood, the local churches, school, and community center are used as community shelters.

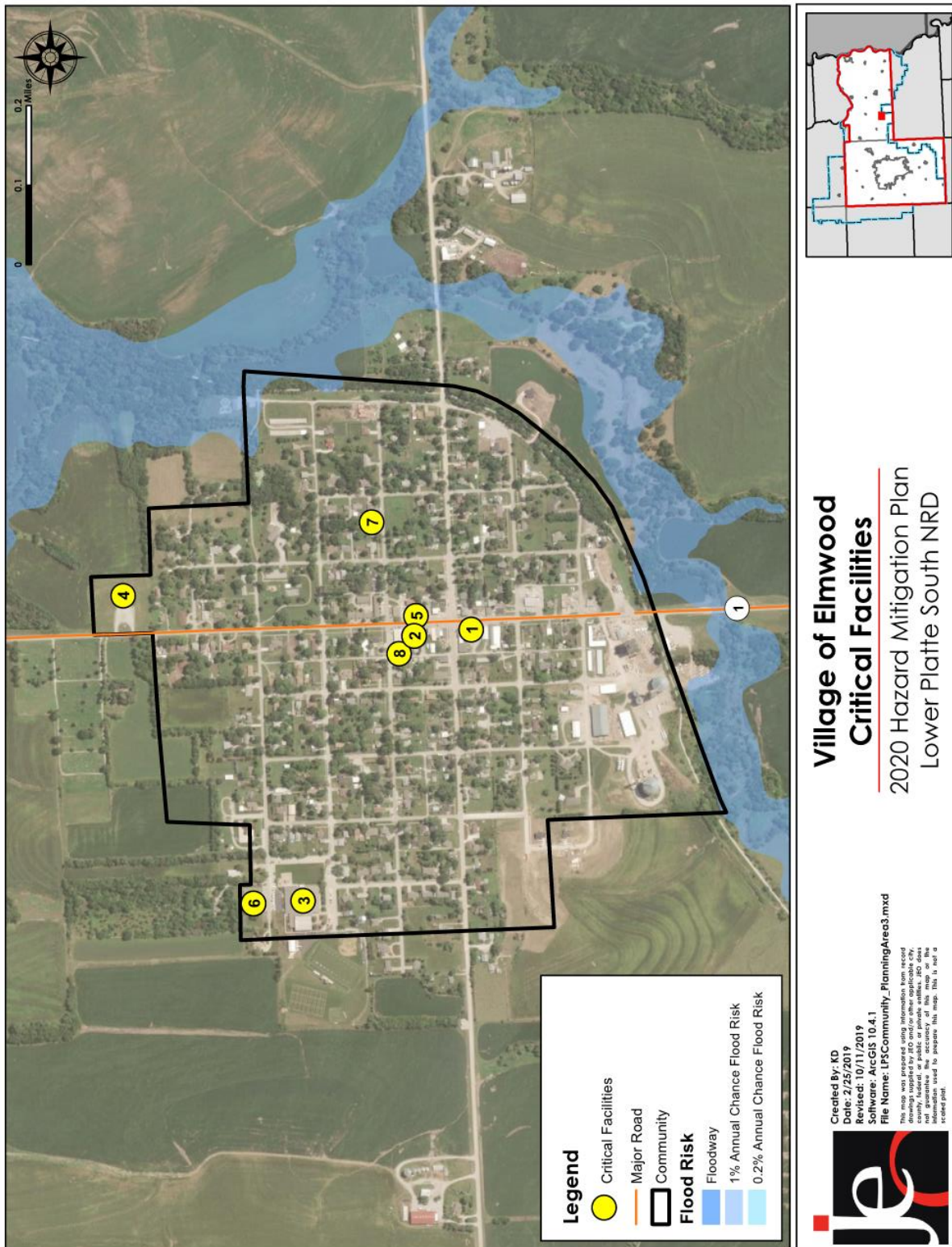
**Table ELM.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Cass County Rural Water #2	N	N	N
2	Elmwood Community Center	N	N	N
3	Elmwood Murdock Elementary School	N	Y	N
4	Fire Station	N	Y	N
5	Siren	N	N	N
6	St. Mary's Catholic Church	N	N	N
7	St. Paul United Methodist Church	N	N	N
8	Village Hall	N	N	N

<sup>84</sup> County Assessor. Personal correspondence, [2019].

<sup>85</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure ELM.5: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemical spills are of concern due to the high volume of hazardous chemicals transported through the community. Highway 1 is the main transportation route through the Village and sees a large volume of semi-trucks traffic carrying various materials. Additionally, a new anhydrous ammonia plant is being built approximately two miles north of town which will significantly increase the volume and presence of hazardous chemicals in the area. The local fire department and rescue teams have done some training with local Co-Op on how to respond to chemical spills/leaks/accidents, but additional training and education efforts are needed.

### High Winds

High wind events are common across the State of Nebraska and the planning area. Past events which have impacted the Village of Elmwood have knocked power lines out and removed electrical service for three days. OPPD is the local electrical supplier and has improved pole quality along the highways in recent years. Additionally, there is a need to remove hazardous trees throughout the community which could cause significant damage to property and are a risk to resident safety during high wind events.

### Severe Thunderstorms

Severe thunderstorms occur regularly throughout the spring and summer months in the planning area. These storms are commonly accompanied by heavy rain, strong winds, lightning, and hail. There is an OPPD station located outside the community which supplies power. Past hazard events have caused power outages lasting up to three days. Top concerns in regards to severe thunderstorms are power loss, damage to property, and resident safety. The Village also has an alert siren owned and maintained by the County with backup power. Municipal records are backed up on an external hard drive.

### Severe Winter Storms

Severe winter storms include heavy snow, blowing and drifting snow, extreme cold, and ice accumulation which can close transportation routes, knock out power, damage property, and pose a risk to resident safety. Past ice storms in the Village have caused hazardous trees to drop limbs and damage properties.

### Tornadoes

Tornadoes are a significant hazard of concern due to their potential to cause large-scale damage and injury or death to residents. While the school, local churches, and fire department are used as local shelters, there are no FEMA certified storm shelters located in the Village. The Village also has an alert siren located near the center of town which does have a backup power source.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Elmwood has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The Elmwood has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Utility Superintendent
- Utilities Commissioner
- Street Commissioner
- Volunteer Fire Department
- Volunteer Rescue Department
- Rural Fire Board

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table ELM.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes, adopted in 2002
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Emergency Operational Plan	No
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	Zoning Ordinance	Yes, adopted in 2012
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	No
	Building Codes	Yes
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	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)	
<i>Fiscal Capability</i>	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	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<i>Education &amp; Outreach Capability</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Moderate
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	High
Does your jurisdiction staff have the time to devote to hazard mitigation?	Moderate

### Plan Integration

Elmwood’s Comprehensive Plan was last updated in 2002 and does not discuss natural hazards. While the plan encourages emergency access to all parts of town, the Village Board is currently evaluating a plan update which will likely take place in 2020.

Elmwood has an annex as part of the Cass County Local Emergency Operations Plan which was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top

## Section Seven: Village of Elmwood Community Profile

concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Zoning Ordinance was last updated in 2002 and an update is currently being discussed by the Village Board for the end of 2019. The Village will also be updating to the 2012 International Building Codes in fall 2019.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Acquire Identification Resources
Description	Provide the opportunity to purchase and have available the most current Emergency Response Guidebook. This guidebook outlines emergency protocol and visually identifies hazardous materials labels. This would aid in the identification of which chemicals were being transported, to further informed action on the part of the observer and responders.
Hazard(s) Addressed	Chemical Transportation
Estimated Cost	\$9 per book
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Village Office
Status	This is a new mitigation action. Three books are needed to be dispersed to emergency personnel.

Mitigation Action	Backup Generators
Description	Provide backup power systems to provide redundant power supply to critical facilities and key infrastructure.
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$25,000
Potential Funding	General Fund
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	There are backup generators currently located at storm and wastewater treatment plants. A generator is needed at the Village Office.

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$200+ per tree
Potential Funding	General Fund
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. This would likely require procuring an outside contractor to complete.

Section Seven: Village of Elmwood Community Profile

Mitigation Action	Tree Planting
Description	Develop city tree planting and maintenance guidelines.
Hazard(s) Addressed	High Winds
Estimated Cost	\$500, Staff Time
Potential Funding	General Fund, Arbor Day Foundation, PDM, HMGP
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board
Status	This is a new mitigation action.

Mitigation Action	Comprehensive Village Disaster/Emergency Response Plan
Description	Develop Comprehensive Village Disaster and Emergency Response Plan
Hazard(s) Addressed	All Hazards
Estimated Cost	\$6,000+, Staff Time
Potential Funding	General Fund, PDM, HMGP
Timeline	1 year
Priority	Medium
Lead Agency	Village Board
Status	The Cass County Emergency Management Agency recently updated their LEOP which will be used to assist the community in updating a local emergency response plan.

Mitigation Action	Chemical Incident Sheltering
Description	Ensure that all critical facilities, businesses, and residents located near major transportation corridors and near fixed site chemical facilities are aware of how to safely shelter in place in the event of a chemical incident Hazard(s) Addressed: Transportation or fixed site chemical incident
Hazard(s) Addressed	Chemical Spills (Transportation)
Estimated Cost	\$1,000+
Potential Funding	General Fund, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	Volunteer Rescue Department, Village Board
Status	While the local rescue department has conducted chemical spill training, additional education and training is needed for local residents and businesses.

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50 per radio
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Village Board, School Board
Status	This action has not yet been started.

## Section Seven: Village of Elmwood Community Profile

### Removed Mitigation Action

Mitigation Action	Adopt a No Adverse Impact approach to floodplain management
Description	Adopt a No Adverse Impact approach to floodplain management.
Hazard(s) Addressed	Flooding
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Continuity Planning
Description	Develop a continuity plan for critical community services
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Evacuation Plan
Description	Provide backup power systems to provide redundant power supply to CFs and key infrastructure.
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Maintain Good Standing with the NFIP
Description	Maintain good standing with National Flood Insurance Program (NFIP).
Hazard(s) Addressed	Flooding
Reason for Removal	While the community will continue to participate in the NFIP, this action is no longer considered a mitigation action by FEMA

Mitigation Action	Obtain Tree City USA Designation
Description	Become a Tree City USA
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Preserve Floodplain
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds; and preserving open space in the floodplain
Hazard(s) Addressed	Flooding
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Promote First Aid Training
Description	Provide first aid training to all interest residents
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Protection of Vulnerable Populations
Description	Ensure that facilities which will house vulnerable population are placed in the least vulnerable areas of the community
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.



Section Seven: Village of Elmwood Community Profile

Mitigation Action	Safe Rooms
Description	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
Hazard(s) Addressed	All Hazards
Reason for Removal	The school, local churches, and fire department are currently sufficient to meet local sheltering needs.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Elmwood can utilize stormwater systems comprising of ditches and culverts to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. These improvements can serve to more effectively convey runoff within villages, preventing interior localized
Hazard(s) Addressed	Flooding
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Public Education
Description	Increase public awareness of vulnerability and risk reduction measures through hazard education
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Vehicular Barriers
Description	Vehicular barriers can be utilized to prevent accidental, or purposeful, vehicular impacts to CFs and key infrastructure.
Hazard(s) Addressed	Terrorism
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Vulnerable Population Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Higher Codes and Standards
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standards, in order to provide greater protection for any new construction or building retrofit
Hazard(s) Addressed	All Hazards
Reason for Removal	This project is not currently a priority for the Village.

Mitigation Action	Encourage Hail Resistant Roofing
Description	Require hail resistant roofing on new constructions
Hazard(s) Addressed	Hail
Reason for Removal	This project is not currently a priority for the Village.

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# COMMUNITY PROFILE

## VILLAGE OF GREENWOOD

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

Table GNW.1: Greenwood Local Planning Team

NAME	TITLE	JURISDICTION
CHERIS CADWELL	Village Clerk	Village of Greenwood
DON WILKEN	Village Board	Village of Greenwood
MARK SOBOTA	Fire Chief	Village of Greenwood
ZACK FERGUS	Utilities Superintendent	Village of Greenwood

## Location and Geography

The Village of Greenwood is in the northwest corner of Cass County, approximately between the state’s major population centers, Omaha and Lincoln. The Village covers an area of 0.41 square miles. There are three waterways near the town, the main stem is the Salt Creek which runs easterly on the west side of town. There are two tributary creeks located within one mile of the town. The Dee Creek is located southwest of town and the Greenwood Creek is located east of town. Both flow into the Salt Creek.

Figure GNW.1: Village of Greenwood



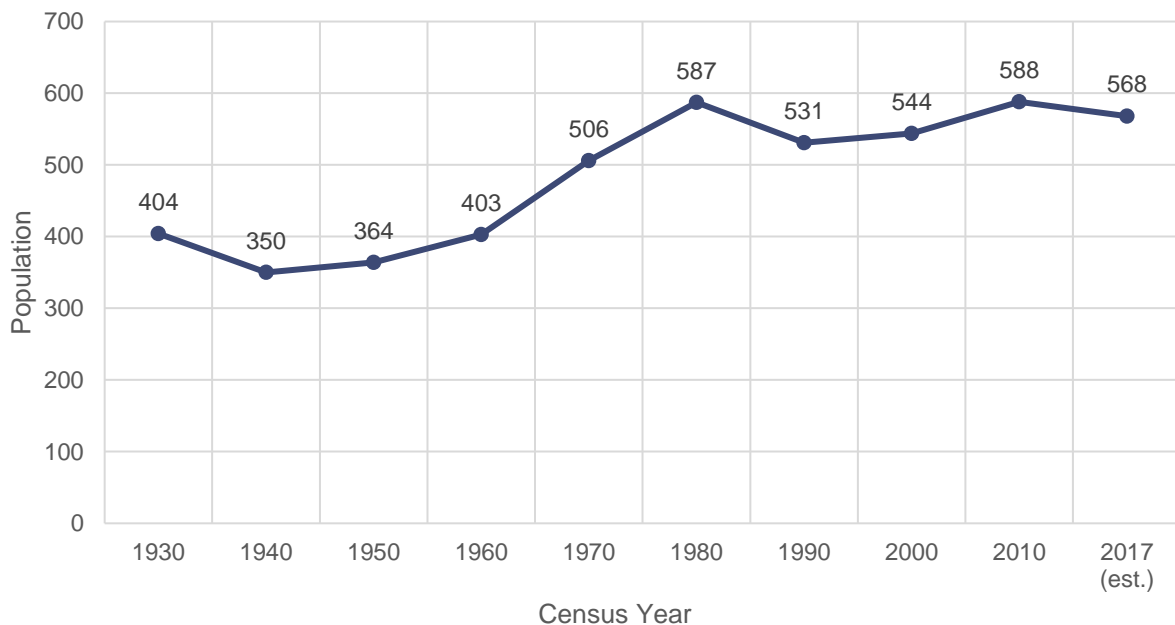
## Transportation

The Village of Greenwood has two major transportation corridors located in and around the Village limits. The first is US Highway 6 which runs east-west through the middle of town and averages 5,335 vehicles per day. The second corridor is Interstate 80 which runs east-west and is located a mile and a half south of town. This corridor averages 42,040 vehicles per day.<sup>86</sup> There is a Burlington-Northern-Santa Fe (BNSF) rail line running east-and-west through the village limits and hauls various agricultural and energy products.<sup>87</sup> The local planning team indicated Hwy 6 and the rail road are of top concern for evacuation purposes and hazardous chemical transportation. Hazardous chemicals are commonly transported through town. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Greenwood's population increased from about 544 people in 2000 to 568 people in 2016, an increase of 24 people and total gain of 4.4%. This is important because increasing populations are associated with changing demographics which may impact hazard mitigation priorities. Greenwood's population accounted for 2.25% of Cass County's population of 25,241 in 2016.<sup>88</sup>

Figure GNW.2: Population 1930 - 2016



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Greenwood's population was:

- Older.** The median age of Greenwood was 47.4 years old in 2017, compared with the County average of 41.9 years. Greenwood's population grew older since 2009, when the median age was 42.4 years old. Greenwood had a similar proportion of people under 20 years old (26.3%) than Cass County (26.6%).<sup>89</sup>

<sup>86</sup> Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.  
<sup>87</sup> Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>  
<sup>88</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.  
<sup>89</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Greenwood Community Profile

- **Less ethnically diverse.** Since 2010, Greenwood grew less ethnically diverse. In 2010, Greenwood's population was 0.3% Hispanic or Latino. By 2017, Greenwood's population was 0% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>90</sup>
- **Less likely to be below the federal poverty line.** The poverty rate in Greenwood (3.8% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>91</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Greenwood economy had:

- **Diverse mix of industries.** Greenwood major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (17.1%), manufacturing (14%), retail (12.7%), and transportation/warehousing/utilities (11.4%).<sup>92</sup>
- **Lower household income.** Greenwood's median household income in 2017 (\$61,875) was \$6,409 lower than the County (\$68,284).<sup>93</sup>
- **Similar commutes.** A total of 27.1% percent of workers in Greenwood commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 45.8% of workers in Greenwood commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>94</sup>

### Major Employers

The major employer within Greenwood is the Midwest Farmers Co-Op. Many residents commute to Lincoln or Omaha for work.

### Housing

In comparison to Cass County, Greenwood's housing stock was:

- **Less renter-occupied.** Of occupied housing units in Greenwood, 13.5% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>95</sup>
- **Older.** Greenwood had a similar share of housing built prior to 1970 than Cass County (47.8% compared to 41.4%).<sup>96</sup>
- **No multifamily dwellings.** The predominant housing type in Greenwood is single family detached (92.8%), with more stock than Cass County (87.7%). Greenwood contains no multifamily housing with five or more units per structure compared to Cass County (0% compared to 3.6%). Greenwood has a larger share of mobile housing (6.8%) compared to the County (3.6%).<sup>97</sup> Mobile homes are located on the east side of the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

90 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

91 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

92 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

93 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

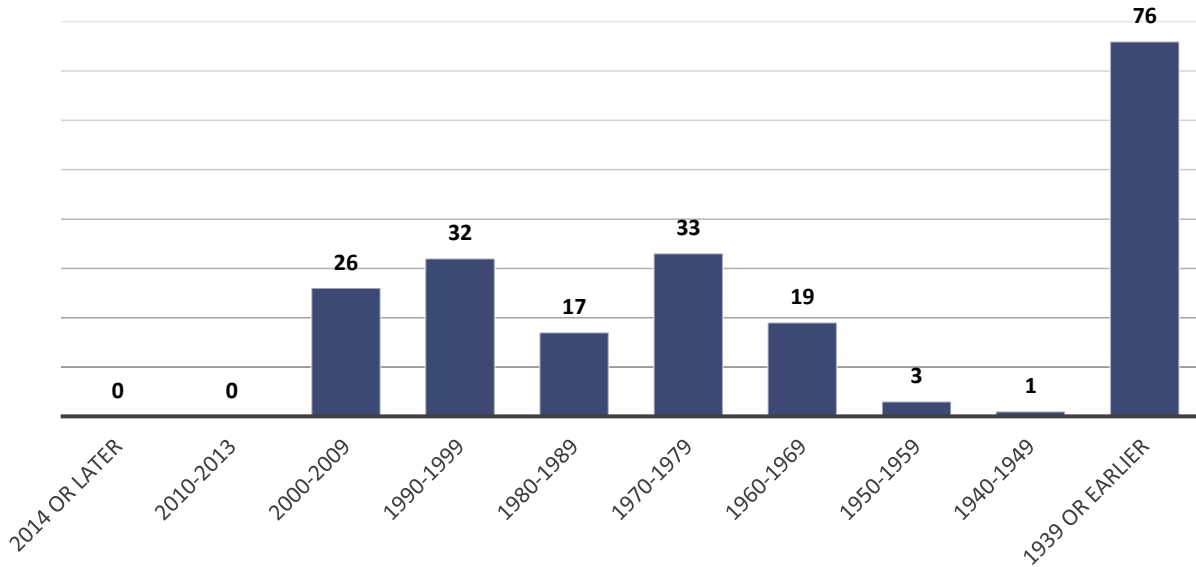
94 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

95 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

96 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

97 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure GNW.3: Housing Units by Year Built



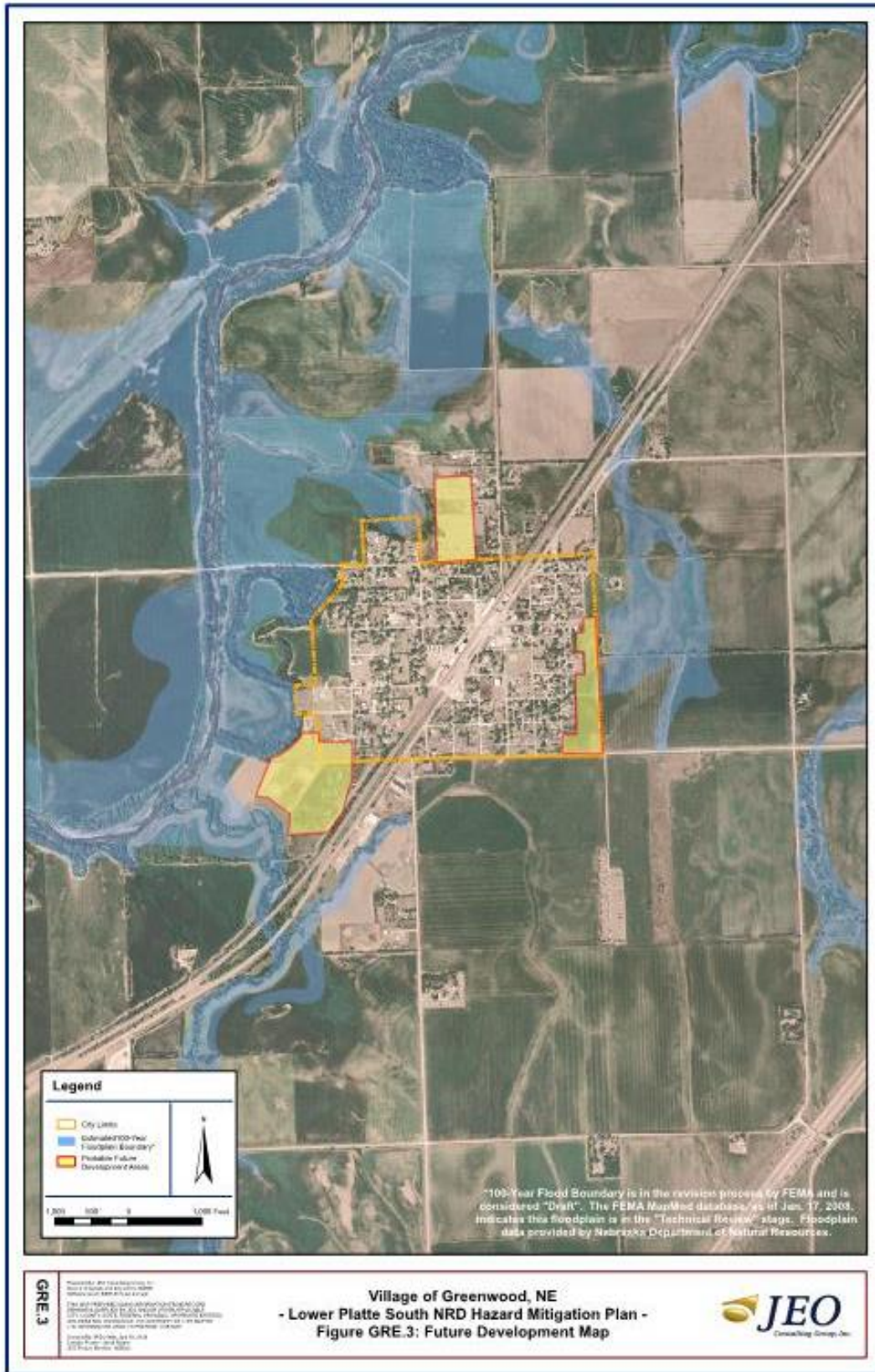
Source: U.S. Census Bureau<sup>98</sup>

### Future Development Trends

In the past five years the Village has worked to clean up the downtown area buildings and expand development in west Greenwood. There are no developments currently planned for the next five years. However, the Village’s population is increasing which the local planning team attributes to more affordable housing for residents who commute to surrounding cities for work.

<sup>98</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure GNW.4: Future Land Use Map





## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table GNW.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
284	\$25,408,471	\$89,466	9	\$1,624,384

Source: Nebraska Department of Revenue, Property Assessment Division<sup>99</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites within the Greenwood community boundary.<sup>100</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Currently the City Hall and local churches are used as sheltering locations in town.

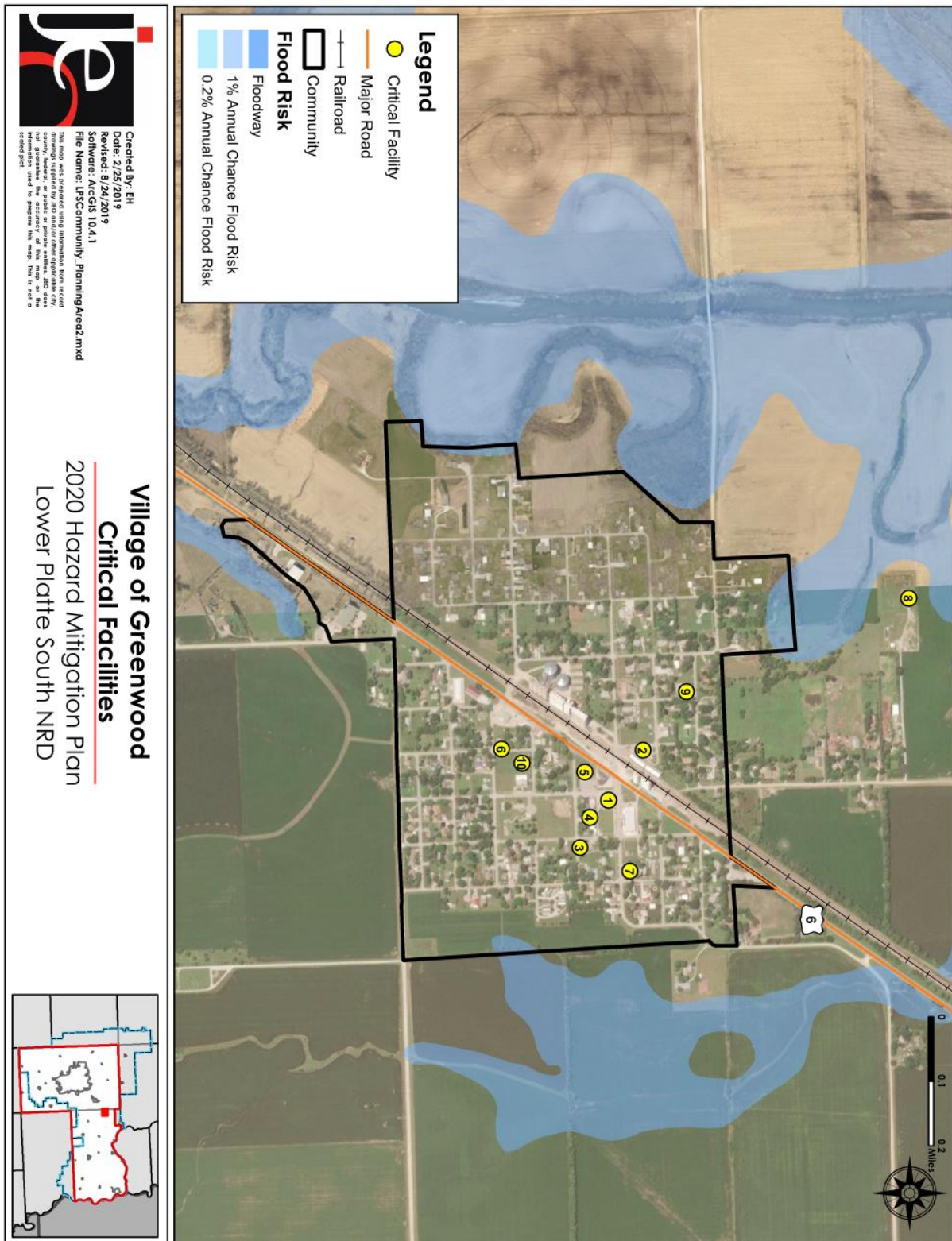
**Table GNW.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Village Hall	N	N	N
2	Village Shop and Wells	N	Y	N
3	County Shop	N	N	N
4	County Shop	N	N	N
5	Fire & Rescue	N	Y	N
6	Greenwood Christian Church	N	N	N
7	Greenwood United Methodist Church	N	N	N
8	Sewer Plant	N	N	N
9	St. Joseph's Catholic Church	N	N	N
10	Water Tower	N	Y	N

<sup>99</sup> County Assessor. Personal correspondence, [2019].

<sup>100</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure GNW.5: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemical transportation spills are a main concern for the local planning team as both the rail line and Highway 6 bisect the Village. If a chemical spill were to occur along either of these transportation routes the majority of the Village would likely be impacted. Other concerns exist about possible evacuation routes or blocked access for emergency services.

### Severe Thunderstorms

Severe thunderstorms are common across the planning area and for the Village of Greenwood. Severe thunderstorms can include impacts from heavy rain, strong winds, and lightning strikes. The local planning team indicated primary concerns include blocked transportation routes and power outages, especially for older or more vulnerable residents. The Village is working to update building codes and burying power lines to reduce power outages. Surge protectors are needed for municipal buildings to protect critical records.

### Tornadoes

Tornadoes are a top concern for the community due to their ability to cause potentially catastrophic damage to homes, businesses, infrastructure, or surrounding areas. Two tornado events have directly impacted the Village of Greenwood, an EF0 in 2008 and a F0 in 2000. Neither event produced significant damages. There are no FEMA certified safe rooms in the Village, but most residential homes have basements and the Village Office and local churches are all used as shelter locations. There are sirens located in town.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Greenwood has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Greenwood has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Maintenance
- Sewer/Water/Street Commissioner
- Planning Commissioner
- Zoning Administrator
- Volunteer Fire Department
- Engineer
- Parks and Recreation

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table GNW.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	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)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	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	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
<i>Education &amp;</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency	No

Survey Components/Subcomponents		Yes/No
<i>Outreach Capability</i>	preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Moderate
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Moderate
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

**Plan Integration**

The Village’s Comprehensive Plan was last updated in 2017. The plan emphasizes safe growth development by directing development away from the floodplain and major transportation routes. Future updates of the plan will include identifying current storm shelters and/or needs for new shelters. The Village also has a Zoning Ordinance, Building Code, and Subdivision Ordinances were are updated on an as needed basis.

The Village’s annual municipal budget is currently limited to maintaining current facilities and systems; however, the local planning team has indicated funds have increased over the past ten years due to the growing population.

The Village of Greenwood has an annex as part of the Cass County Local Emergency Operations Plan which was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Bury Main Power Lines
Description	Implement a plan for burying a percentage of overhead power lines each year to reduce the loss of power incurred from downed lines. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. This action will be concentrated in the village's residential areas.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms
Estimated Cost	Unknown
Potential Funding	Village Budget
Timeline	5+ years
Priority	Medium
Lead Agency	Utilities
Status	This project has not yet been started.

Mitigation Action	Continuity Planning
Description	Develop continuity plans for critical facilities and services.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0, Staff Time
Potential Funding	General Fund
Timeline	5+ years
Priority	Low
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Improve Construction Standards and Building Survivability
Description	Evaluate the existing construction standards and building codes to determine the degree of protection from natural disaster damage that is required of structures in the Village. Additional standards shall be considered for the construction of more weather resistant structures.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Funds
Timeline	2-5 years
Priority	Low
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Storm Shelters
Description	Identify, design, and develop storm shelters to protect community and critical facilities. Ensure village owned buildings have adequate shelter for maximum occupancy.
Hazard(s) Addressed	All
Estimated Cost	\$200-\$300/sf stand along; \$150-200/sf addition/retrofit
Potential Funding	Matching as needed
Timeline	2-5 years
Priority	Medium
Lead Agency	Fire Department & EMS
Status	Planning Stage. The Village is working to ensure all village owned buildings have adequate shelter for maximum occupancy.

Section Seven: Village of Greenwood Community Profile

Mitigation Action	Stormwater Management
Description	Deepen drainage ditches and clean-out culverts to maintain community storm water management system throughout the village.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms
Estimated Cost	\$0
Potential Funding	General Fund, PDM, HMGP
Timeline	5+ years
Priority	Low
Lead Agency	Public Works
Status	This is an ongoing project to clear out drainage structures.

Mitigation Action	Vehicular Barriers
Description	Install vehicular barriers to protect CFs and key infrastructure
Hazard(s) Addressed	Terrorism
Estimated Cost	\$5,000+
Potential Funding	General Fund, DHS, PDM, HMGP
Timeline	5+ years
Priority	Low
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Water Conservation Awareness
Description	Continue distributing information regarding water conservation efforts
Hazard(s) Addressed	Drought
Estimated Cost	\$0
Potential Funding	General Fund, Bonds
Timeline	5+ years
Priority	Low
Lead Agency	Public Works
Status	The Village is continually updating the village's water system.

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# COMMUNITY PROFILE

## CITY OF LOUISVILLE

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

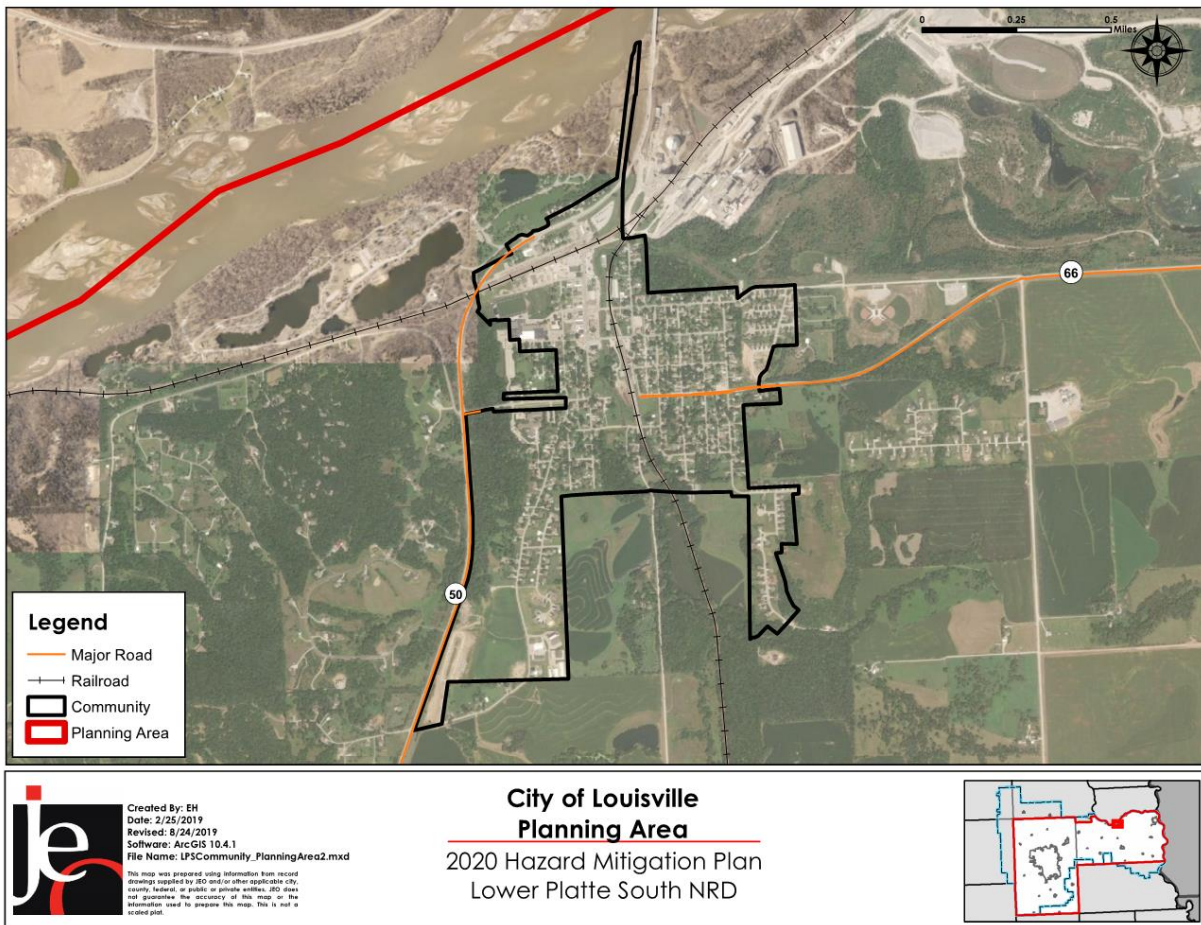
Table LSV.1: Louisville Local Planning Team

NAME	TITLE	JURISDICTION
DEE ARIAS	Clerk	Village of Louisville
ROGER BEHRNS	Mayor	Village of Louisville

## Location and Geography

The City of Louisville is on the central, northern border of Cass County, approximately adjacent to the Louisville State Recreation Area and two miles east of the Platte River State Park. The City covers an area of 0.57 square miles. There are two main waterways near the town. The Platte River flows easterly directly north of the city and provides a source of tourism from the recreation area located along its bank. Additionally, Mill Creek flows northerly in the center of town and forms a confluence with the Platte River.

Figure LSV.1: City of Louisville



## Transportation

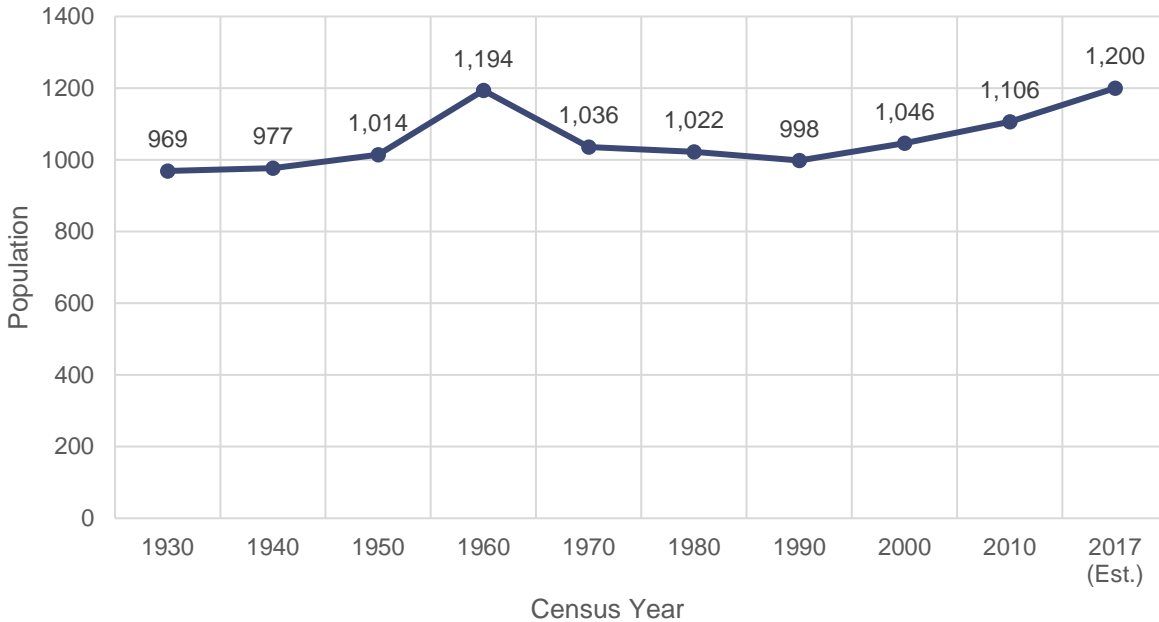
The City of Louisville has two major transportation corridors directly located in the City limits; Nebraska Highway 66 which runs east-west on the east end of town (average 2,355 vehicles per day) and Nebraska Highway 50 which runs north-south on the west side of town (average 5,110 vehicles per day).<sup>101</sup> There are two railroads operating lines in Louisville: Union Pacific (UP) and Burlington-Northern-Santa Fe (BNSF). The UP line runs north-south through the center of town. The BNSF line runs east-west on the north end of town. Both lines haul agricultural and energy commodities.<sup>102</sup>

The local planning team indicated concerns exist for the large amount of potentially hazardous chemicals transported via rail lines. The BNSF main line transports a variety of agricultural chemicals and crude oil, while the UP line primarily transports coal. A train derailment or chemical spill from either would have negative impacts on the City. Two such derailments have occurred in the last few years, one on the far western edge of town and one collision near Main 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 to transportation incidents.

## Demographics

Louisville’s population increased from about 1,046 people in 2000 to an estimated 1,200 people in 2017, an annual increase of approximately 1%. Louisville’s population accounted for 4.7% of Cass County’s population of 25,767 in 2017.<sup>103</sup>

Figure LSV.2: Population 1930 - 2017



Source: U.S. Census Bureau

101 Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

102 Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.

103 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: City of Louisville Community Profile

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Louisville's population was:

- **Younger.** The median age of Louisville was 38.3 years old in 2017, compared with the County average of 41.9 years. Louisville's population grew older since 2009, when the median age was 34.2 years old. Louisville had a larger proportion of people under 20 years old (31.2%) than Cass County (26.6%).<sup>104</sup>
- **Less ethnically diverse.** Since 2010, Louisville grew less ethnically diverse. In 2010, Louisville's population was 1% Hispanic or Latino. By 2017, Louisville's population was 0% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>105</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Louisville (5.8% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>106</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, the City of Louisville economy had:

- **Similar mix of industries.** Louisville major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (22.4%), construction (12.7%), retail (11.2%), and manufacturing (10.8%).<sup>107</sup>
- **Similar household income.** Louisville's median household income in 2017 (\$68,482) was \$198 higher than the County (\$68,284).<sup>108</sup>
- **Fewer long-distance commuters.** A total of 29.6% percent of workers in Louisville commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 37.7% of workers in Louisville commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>109</sup>

### Major Employers

Major employers within Louisville include the public-school district, OPPD, Louisville Care Center, and Ash Grove construction. A majority of the population commute to Omaha or Lincoln for employment.

### Housing

In comparison to Cass County, Louisville's housing stock was:

- **More renter-occupied.** Of occupied housing units in Louisville, 23.7% are renter-occupied compared to 18.2% of total renter housing in Cass County.<sup>110</sup>
- **Older.** Louisville had a larger share of housing built prior to 1970 than Cass County (49.5% compared to 41.4%).<sup>111</sup>
- **More multifamily dwellings.** The predominant housing type in Louisville is single family detached (79.1%) – (Cass County 87.7%). Louisville contains more multifamily housing with five or more units per structure than Cass County (12.7% compared to 3.6%).

104 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

105 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

106 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

107 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

108 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

109 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

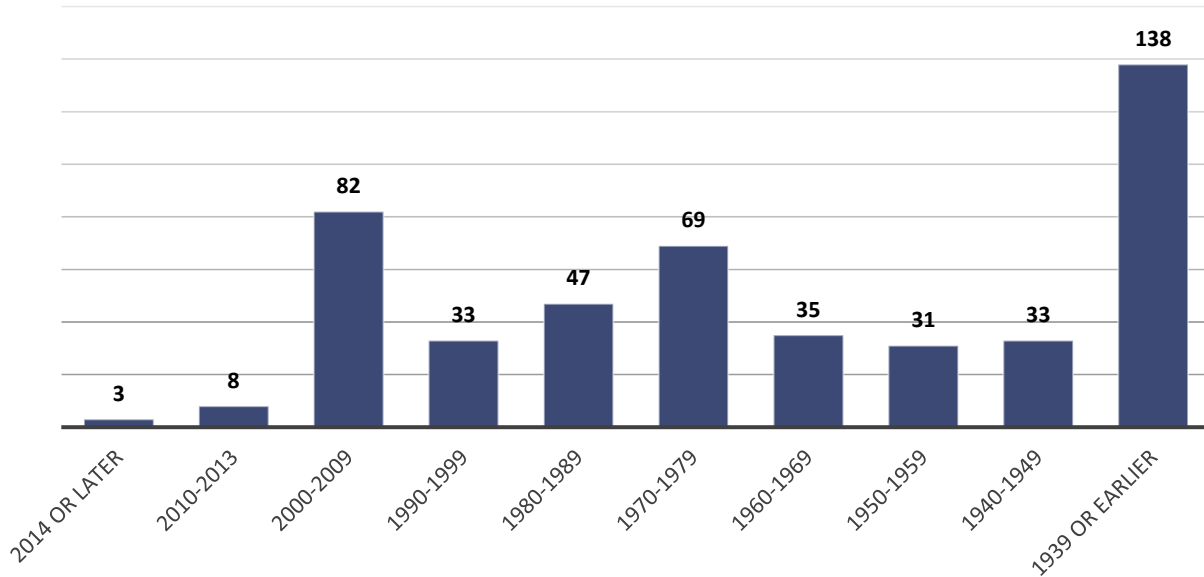
110 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

111 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Louisville has a similar share of mobile housing (4%) compared to the County (3.6%).<sup>112</sup> Mobile homes are located throughout the City.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure LSV.3: Housing Units by Year Built**



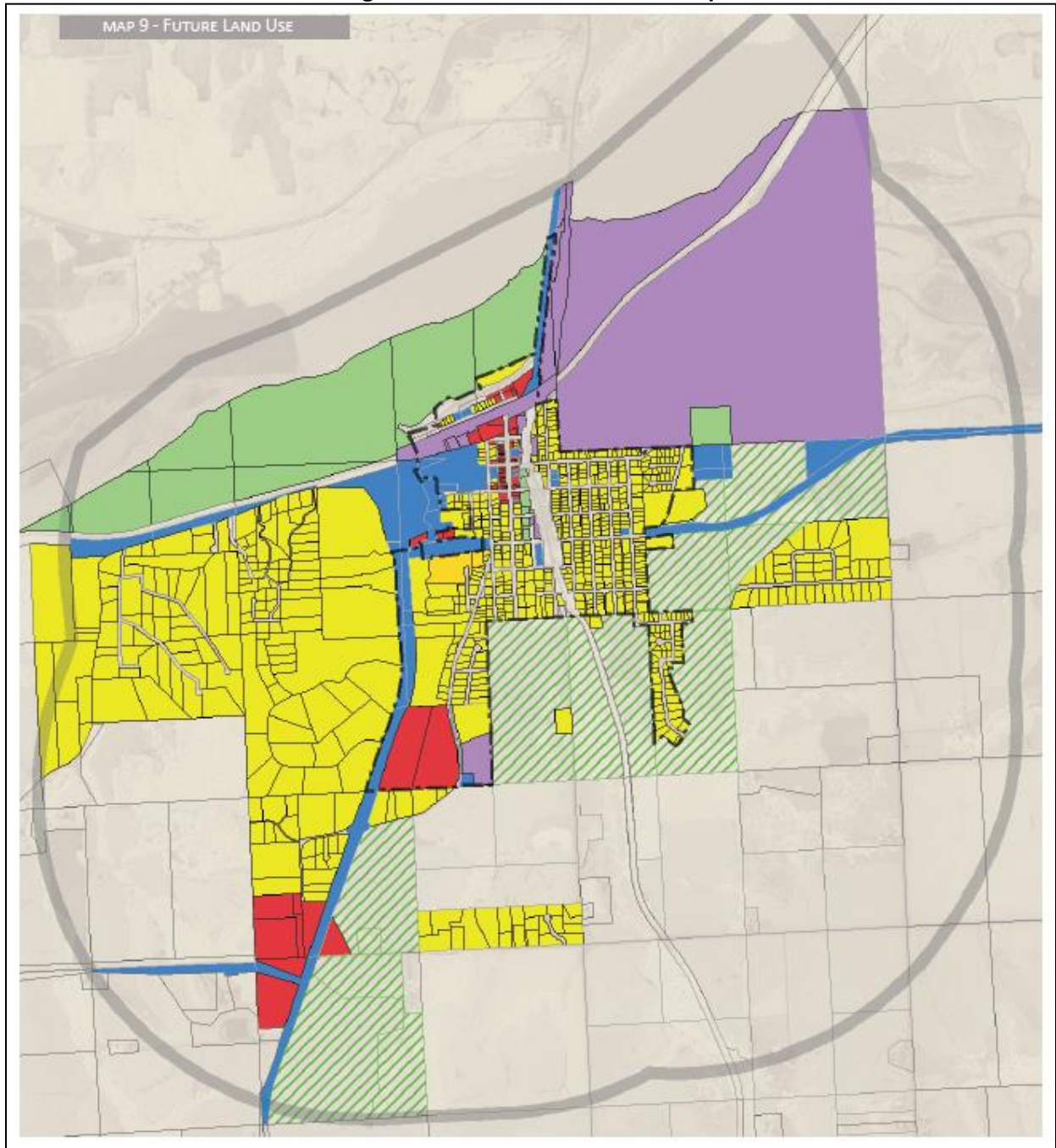
Source: U.S. Census Bureau<sup>113</sup>

### Future Development Trends

In the past five years the City has added several new homes throughout the community, demolished one dilapidated home, had a new chiropractor and physical therapist business open, and had the local restaurant close. The City has identified several homes severely damaged by flooding events which will need to be demolished in the coming years. The City of Louisville’s population is relatively stable, which the planning team attributes to housing availability close to Omaha and Lincoln for work. There are no new businesses or industry planning in the next five years.

<sup>112</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.  
<sup>113</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure LSV.4: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table LSV.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
547	\$61,014,771	\$111,544	100	\$12,741,562

Source: Nebraska Department of Revenue, Property Assessment Division<sup>114</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are five chemical storage sites in Louisville.

**Table LSV.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
ASH GROVE CEMENT CO	16215 HIGHWAY 50	N
OPPD LOUISVILLE SERVICE CENTER	85 MAIN ST	Y
LOUISVILLE POTABLE WATER	205 DEPOT ST	Y
TRANSWOOD INC	16201 HIGHWAY 50	N
OPPD SUBSTATION NO 900	JCT LOUISVILLE RD & S 144TH ST	N

Source: Nebraska Department of Environment and Energy, 2017<sup>115</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table LSV.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	City Hall	N	N	Y
2	City Maintenance Building	N	N	Y
3	City Park/Siren	N	Y	Y
4	City Well (00-1) & Water Treatment Plant	N	Y	Y
5	City Well Field (06-1 & 06-2)	N	Y	Y
6	Fire / Rescue Station	N	N	Y
7	First United Methodist Church	Y	N	N
8	Gas Station	N	N	Y
9	Grocery Store	N	N	Y

<sup>114</sup> County Assessor. Personal correspondence, [2019].

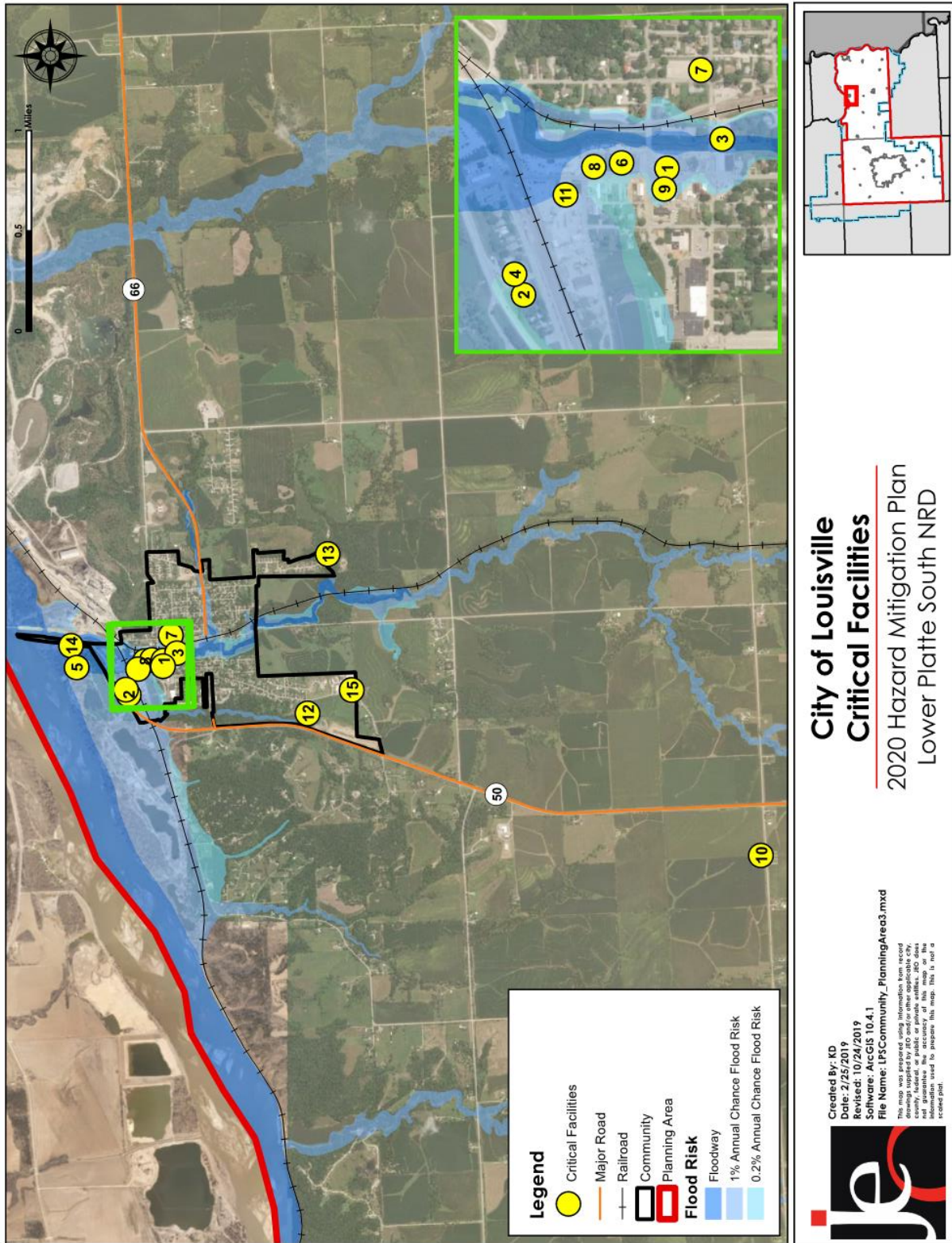
<sup>115</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Section Seven: City of Louisville Community Profile

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
10	Lutheran Church	Y	N	N
11	OPPD Office	N	Unknown	Y
12	Prairie Ridge Lift Station	N	N	N
13	South Ridge Lift Station	N	N	N
14	Wastewater Treatment Plant	N	Y	Y
15	Water Tower/County EMS Transmitter/Siren/Lift Station	N	Y	N



Figure LSV.5: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemicals are frequently transported through the City via rail lines and major transportation routes. The local planning team noted two train derailments that have occurred locally, although there are no reported damages from either. Damage to critical facilities, loss of life, potential injuries to residents, and blocked transportation routes for emergency access are all concerns in regard to chemical transportation spills. Louisville has a volunteer fire department with approximately 25 members who would respond during chemical spills. The City also has mutual aid agreements in place with neighboring communities for assistance and BNSF and UP will typically handle cleanup of train derailments. Both rail lines are located in the floodplain within the City.

### Flooding

The City of Louisville has a long history of flooding including a major flood in 1923 which caused significant damage to local businesses and caused loss of life. More recently significant floods have occurred in 1993, 2011, and March 2019. The Presidentially Declared Disaster (DR-4420) in March 2019 caused damage to the local sewer plant and homes in trailer parks along the river. High water reached city limits along Highway 50 and filled the Louisville State Recreation Area. Employees of the sewer plant were able to keep the plant running, however it was consistently monitored with a portable pump to keep water flows manageable. The City is part of the National Flood Insurance Program.

Additionally, several critical facilities, including City Hall, fire hall, and one siren are located within the 1% floodplain. There are also two single family properties on the NFIP Repetitive Loss list. Flooding from the Platte River is controlled, to some extent, by several upstream reservoirs in Colorado, Wyoming and Nebraska. The effect of these reservoirs is included in the discharge-frequency relationship derived for the Platte River. A small amount of flood protection from the Platte River is also provided by the railroad tracks and the highway, which act as non-regulated or certified levees protecting most of the developed areas in Louisville. Flood hazards from Mill Creek were reduced by straightening the channel through some of the developed areas during the 1940's. In 2014-2015, a stormwater pipe was repaired south of town near the OPPD station which improved localized flooding in the area. Other than this, there are no existing or proposed flood protection structures or floodplain management measures which reduce the hazard of flooding from Mill Creek or the tributary to Mill Creek. In the past, flooding from Mill Creek has inundated North Depot St. and led to floodwaters entering basements.

### Severe Thunderstorms

Severe thunderstorms are a common occurrence in the planning area and for the City of Louisville. Heavy rain, strong wind, lighting strikes, and/or hail associated with severe thunderstorms can cause damage to homes, businesses, utilities, or trees. The local planning team identified power outages from lighting and blocked transportation routes from downed trees as particular concerns for the City. In newly developed portions of the City, electric powerlines are

buried and are at lowered risk to losing service. One of the major employers in town, Ash Grove, uses a large amount of electricity and has reinforced lines. These lines also benefit other parts of the city as it makes power outages less frequent. Severe thunderstorms in the past have caused damages to roofs and vehicles. Louisville has two sirens which both have their own independent power supply. The Louisville Care Center, lift stations, wells, wastewater treatment plant, water treatment plant, and water tower all have backup power sources as well.

**Severe Winter Storms**

The local planning team identified severe winter storms as a significant concern for the community. Severe winter storms can include heavy snow, ice accumulation, and blizzards. Major concerns for the City include loss of power and damages to homes, businesses, or infrastructure. Village officials reported that in October 1997, a snow storm caused damages to many trees all over the city. There was also a blizzard in March 2007, where city staff worked long hours to remove the snow from the streets. Elderly residents are at higher risk to injury or loss of life during severe winter storms. The City has emergency snow routes identified and noted that they have sufficient snow removal equipment or the ability to pull in resources from surrounding areas. The City manages a Facebook page with severe weather notifications and updates for residents.

**Tornadoes**

Tornadoes are a top concern for the community due to their ability to cause potentially catastrophic damage to homes, businesses, infrastructure, or surrounding areas. Thus far no tornadic events have directly impacted the City of Louisville, although in summer 2018 tornadoes hit the surrounding area. There are no FEMA certified safe rooms in the City, but most residential homes have basements and the Methodist Church, Lutheran Church, and Louisville Public School are all used as shelter locations. There are two sirens located in town which each have their own independent power supply.

**Governance**

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Louisville has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The Louisville has a mayor and four city council members and the following offices that may help implement mitigation actions.

- Mayor
- Clerk
- City/Utility Supervisor
- Volunteer Fire Department

**Capability Assessment**

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table LSV.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
Planning &	Comprehensive Plan	Yes, 2013
	Capital Improvements Plan	No

Section Seven: City of Louisville Community Profile

Survey Components/Subcomponents		Yes/No
<i>Regulatory Capability</i>	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	Floodplain Management Plan	Yes
	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)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
Other (if any)		
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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

Survey Components/Subcomponents		Yes/No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Moderate
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	High
Does your jurisdiction staff have the time to devote to hazard mitigation?	Moderate

### Plan Integration

Louisville’s Comprehensive Plan was last updated in 2013 and discusses natural hazards, particularly in regards to flooding. The plan encourages emergency access to all parts of town and places restrictions on development in the floodplain. The plan also encourages infill development, prohibits filling of wetlands, and requires elevation of structures in the floodplain in collaboration with the Floodplain Ordinance.

The City has a 1 & 6 Year Road Plan which lays out several road improvement projects the City is looking to pursue or implement in the coming years. Included in this plan are bridge improvements, road repair, and regular road maintenance.

Louisville has an annex as part of the Cass County Local Emergency Operations Plan which was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Zoning Ordinance, Subdivision Ordinance, and Building Codes are all updated on an as-needed basis with the latest amendments made in 2019. Louisville follows Cass County’s building codes and are currently using the 2012 IBC. The City also has a Floodplain Ordinance which restricts development in the floodplain, requires elevation of structures above base-flood elevation, and identifies areas as parks or open space in the floodplain.

While the City’s overall budget has remained stable over the past decade, the local planning team indicated there are several large-scale projects or purchases expected in the next decade including a new ambulance and major bridge repairs. Currently the annual municipal budget provides some flexibility to pursue new mitigation projects with a community emphasis on stormwater management and road improvements.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Alternate Water Sources
Description	Develop alternate strategies to provide necessary services in the event of flooding. Study alternate water sources in the event that the water system fails.
Hazard(s) Addressed	Flooding, Drought
Estimated Cost	\$0, Staff Time
Potential Funding	Water Fund, PDM, HMGP
Timeline	2-5 years
Priority	Medium
Lead Agency	City Administration, Rural Water District #3
Status	City wells have been built/elevated to the 500-year flood event height and there is an additional backup well located by the water treatment plant. Formal agreements are needed between water suppliers.

Mitigation Action	Participate in the Community Rating System
Description	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums.
Hazard(s) Addressed	Flooding
Estimated Cost	\$0, Staff Time
Potential Funding	General Funds
Timeline	2-5 years
Priority	Low
Lead Agency	City Administration
Status	The City has begun the application process to join the CRS program.

Mitigation Action	Public Education
Description	Increase public awareness of vulnerability and risk reduction measures through hazard education.
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,000+
Potential Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	City Clerk, Cass County Emergency Management
Status	This is an ongoing effort to educate residents on natural hazards. There are informational pamphlets available in the City Clerk's office.

Mitigation Action	Storm Shelters
Description	Identify, design, and develop storm shelters to protect community and CFs.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Potential Funding	General Funds, PDM, HMGP
Timeline	5+ years
Priority	Low
Lead Agency	City Administration
Status	This project has not yet been started. Reinforced safe rooms are needed in campgrounds/trailer parks in town.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$100,000+
Potential Funding	General Funds, Sewer Fund
Timeline	5+ years
Priority	High
Lead Agency	City Office
Status	Some drainage improvements have been made throughout town, including by the OPPD station. After the March 2019 flood event manholes were raised and water release valves were replaced. Additional improvements are needed to continually improve interior drainage issues.

### Removed Mitigation Actions

Mitigation Action	Develop Continuity Plans for Critical Community Services
Description	Continuity planning helps to ensure that services can be maintained during and after a disaster
Hazard(s) Addressed	All hazards
Reason for Removal	The local planning team determined that local protocols are sufficient and additional continuity plans are not a need at this time.

Mitigation Action	Maintain Good Standing in the NFIP
Description	Maintain good standing with National Flood Insurance Program (NFIP).
Hazard(s) Addressed	Flooding
Reason for Removal	While the City will continue to participate in the NFIP, continued participation is no longer considered a mitigation action.

Mitigation Action	Tree City USA
Description	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Reason for Removal	The local planning team identified this project to no longer be a priority for the City.

Mitigation Action	Work with stakeholders to develop a database of vulnerable populations and organizations which support them
Description	Develop a database of vulnerable populations and supporting organizations.
Hazard(s) Addressed	All hazards
Reason for Removal	The local planning team determined this not to be a need as the local community is tight-knit and this project would likely not provide a benefit.

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# COMMUNITY PROFILE

## VILLAGE OF MANLEY

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

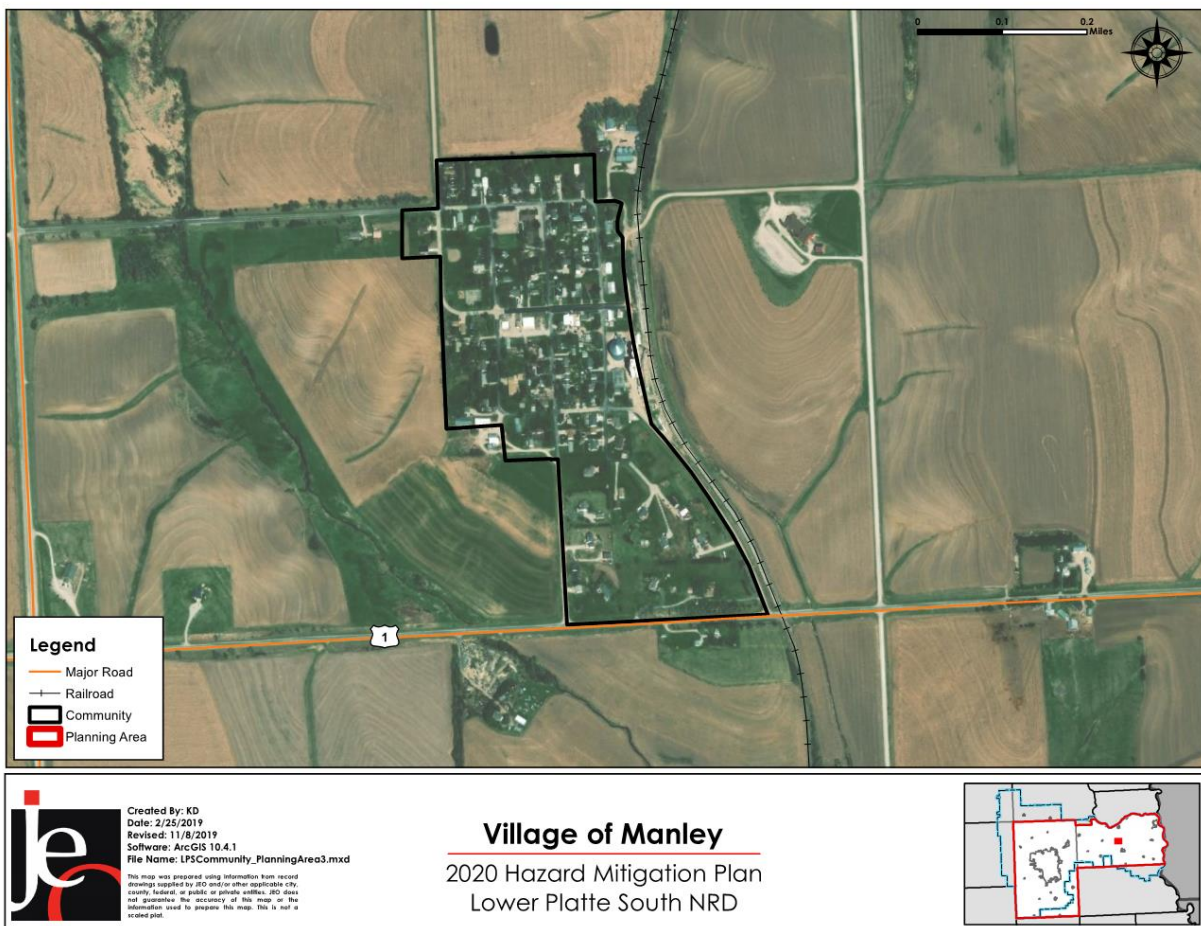
Table MAN.1: Manley Local Planning Team

NAME	TITLE	JURISDICTION
DENISE SWENSON	Village Board Chairperson	Village of Manley

## Location and Geography

The Village of Manley is in central Cass County, approximately six miles south of the Platte River. The Village covers an area of 0.09 square miles. There is one waterway near the town, the South Cedar Creek which flows northwest to southeast on the west side of town. This creek forms a confluence as a tributary of the Weeping Water Creek six miles to the southeast.

Figure MAN.1: Village of Manley



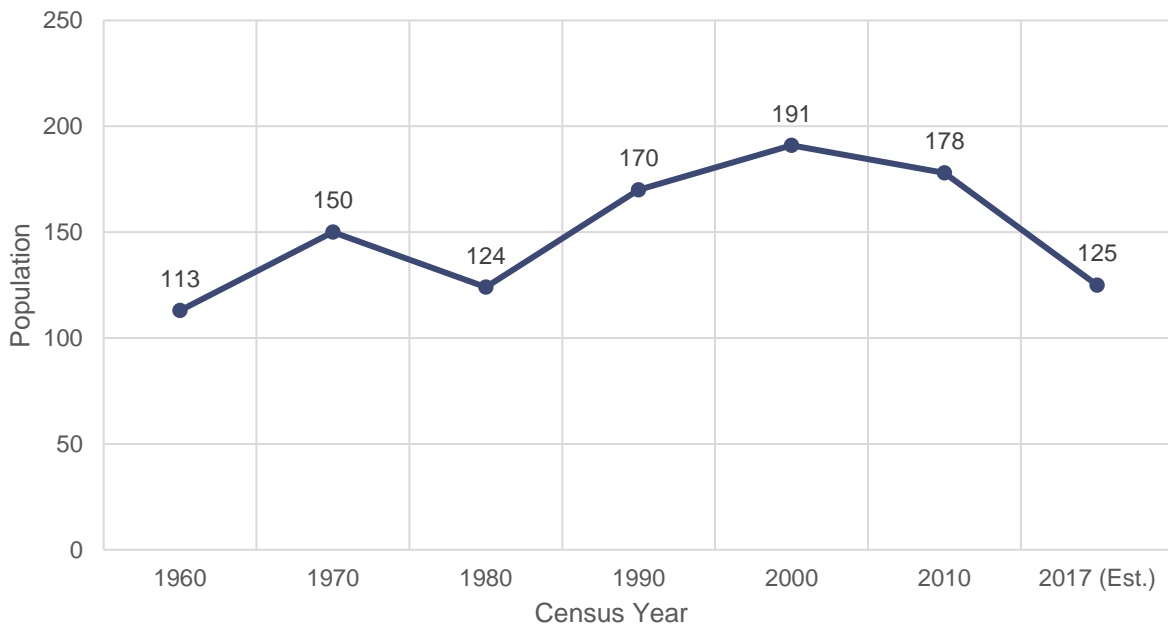
## Transportation

The Village of Manley has two major transportation corridors directly adjacent to the Village limits. The first is Nebraska Highway 50 which runs north-and-south half a mile west of town. It is connected to Manley by a spur road, Nebraska Highway 13F. This corridor averages 4,280 vehicles per day and the spur road averages 265 vehicles per day. The second is Nebraska Highway 1 which runs east-and-west to the south of town. This corridor averages 1,715 vehicles per day.<sup>116</sup> These two major corridors intersect less than a mile southwest of town. There is also a Union Pacific (UP) rail line running along the eastern edge of town which primarily hauls grain.<sup>117</sup> The local planning team indicated that there has been a reduced volume of chemical transportation directly through town with the relocation of anhydrous tanks east of Manley Lane. The greatest volume of heavy equipment and trucks through time occurs around harvest time. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Manley’s population declined from about 191 people in 2000 to 125 people in 2017, a decrease of 49 people and total loss of 34.6%. This is important because declining populations are associated with decreasing tax revenues and unoccupied structures. Census data prior to 1960 were unavailable. Manley’s population accounted for 0.5%% of Cass County’s population of 25,767 in 2017.<sup>118</sup>

**Figure MAN.2: Population 1960 - 2017**



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Manley’s population was:

<sup>116</sup> Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>  
<sup>117</sup> Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.  
<sup>118</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Manley Community Profile

- **Older.** The median age of Manley was 48.1 years old in 2017, compared with the County average of 41.9 years. Manley's population grew older since 2009, when the median age was 37.1 years old. Manley had a smaller proportion of people under 20 years old (13.6%) than Cass County (26.6%).<sup>119</sup>
- **Not ethnically diverse.** Since 2010, Manley's population was 0% Hispanic or Latino and remained so through 2017. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>120</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Manley (5.3% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>121</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education and healthcare services (22.2%), retail (13.5%), finance and real estate (9.4%) and construction (9%) In comparison to the County, the Village of Manley economy had:

- **Diverse mix of industries.** Manley major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (19.2%), manufacturing (19.2%), professional/scientific/management/administrative/waste management services (16.4%), and retail (16.4%).<sup>122</sup>
- **Lower household income.** Manley's median household income in 2017 (\$57,500) was \$10,784 lower than the County (\$68,284).<sup>123</sup>
- **More long-distance commuters.** A total of 24.6% percent of workers in Manley commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 52.1% of workers in Manley commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>124</sup>

### Major Employers

The major employers in the Village of Manley are the Frontier Co-Op and the Hide-a-Way Bar. The majority of residents either farm the surrounding area or commute to Omaha or Louisville for employment.

### Housing

In comparison to Cass County, Manley's housing stock was:

- **More renter-occupied.** Of occupied housing units in Manley, 22% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>125</sup>
- **Older.** Manley had a larger share of housing built prior to 1970 than Cass County (74.6% compared to 41.4%).<sup>126</sup>
- **No multifamily dwellings.** The predominant housing type in Manley is single family detached (96.8%), with more stock than Cass County (87.7%). Manley contains no multifamily housing with five or more units per structure. In contrast, Cass County has 3.6%. Manley has a smaller share of mobile housing (3.2%) compared to the County (3.6%).<sup>127</sup> Mobile homes are located throughout the Village.

119 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

120 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

121 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

122 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

123 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

124 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

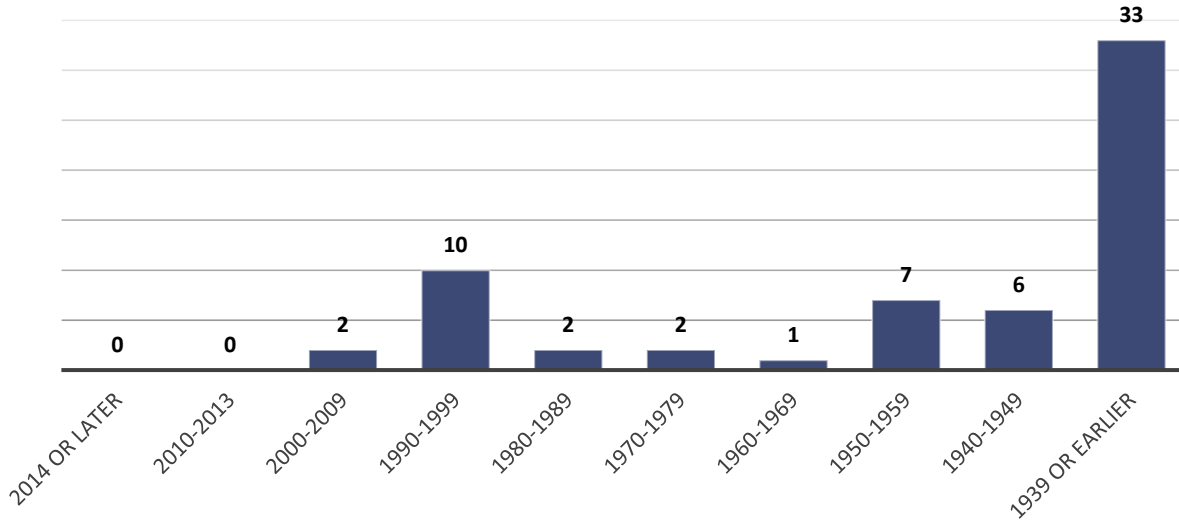
125 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

126 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

127 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure MAN.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>128</sup>

### Future Development Trends

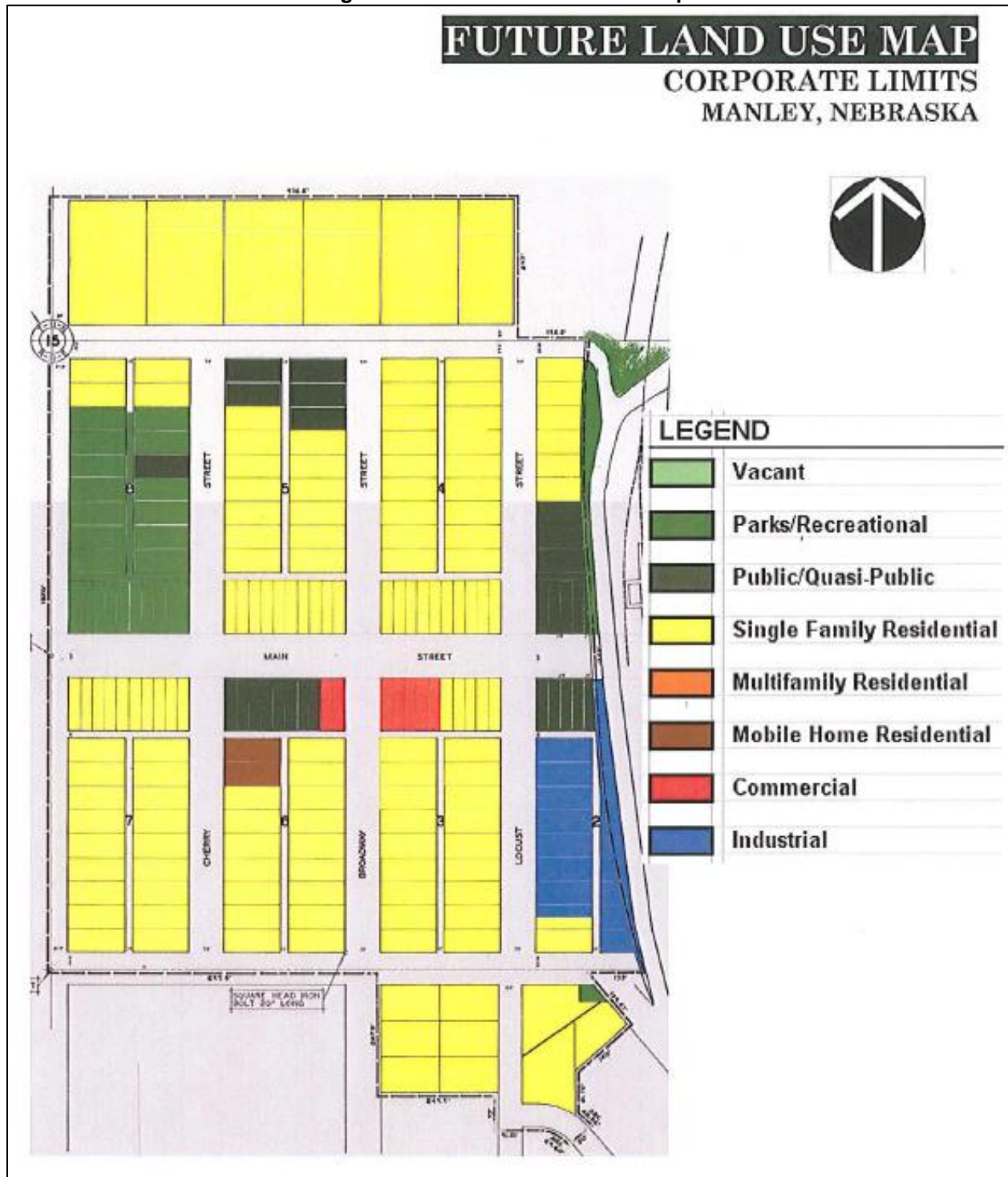
The Village of Manley has experienced several changes in the past five years, including the construction of a new picnic shelter, improvements to the park, and annexing land to the south of town. The new annexed land also includes one home on the west side of town and land to the south from South Street to Hwy 1. A new outdoor alert siren was also installed near Main and Cherry Streets in 2017.

In the next five years the Village is anticipating additional improvements to the park with a new playground and street resurfacing projects in the newly annexed homes south of town. The Village is also planning to replace water meters in the central part of town. There is a large tract of land for sale along Hwy 50 as well. The Village has received several potential commercial development offers, but there are no official plans to develop it at this time.

The following future land use map is the most current official map developed; however, the local planning team indicated several changes have been made locally. Sections along Main Street between Cherry and Broadway have been converted to commercial and the annexation to the south of town is all residential.

<sup>128</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure MAN.4: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table MAN.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
87	\$7,182,085	\$82,553	0	\$0

Source: Nebraska Department of Revenue, Property Assessment Division<sup>129</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there is one chemical storage site in Manley.

**Table MAN.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
FRONTIER COOPERATIVE	300 Manley Lane	N

Source: Nebraska Department of Environmental Quality 2017<sup>130</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

The Village of Manley utilizes the Community Building, Catholic Church, and Theatre as shelter locations and distribution centers in the case of an emergency.

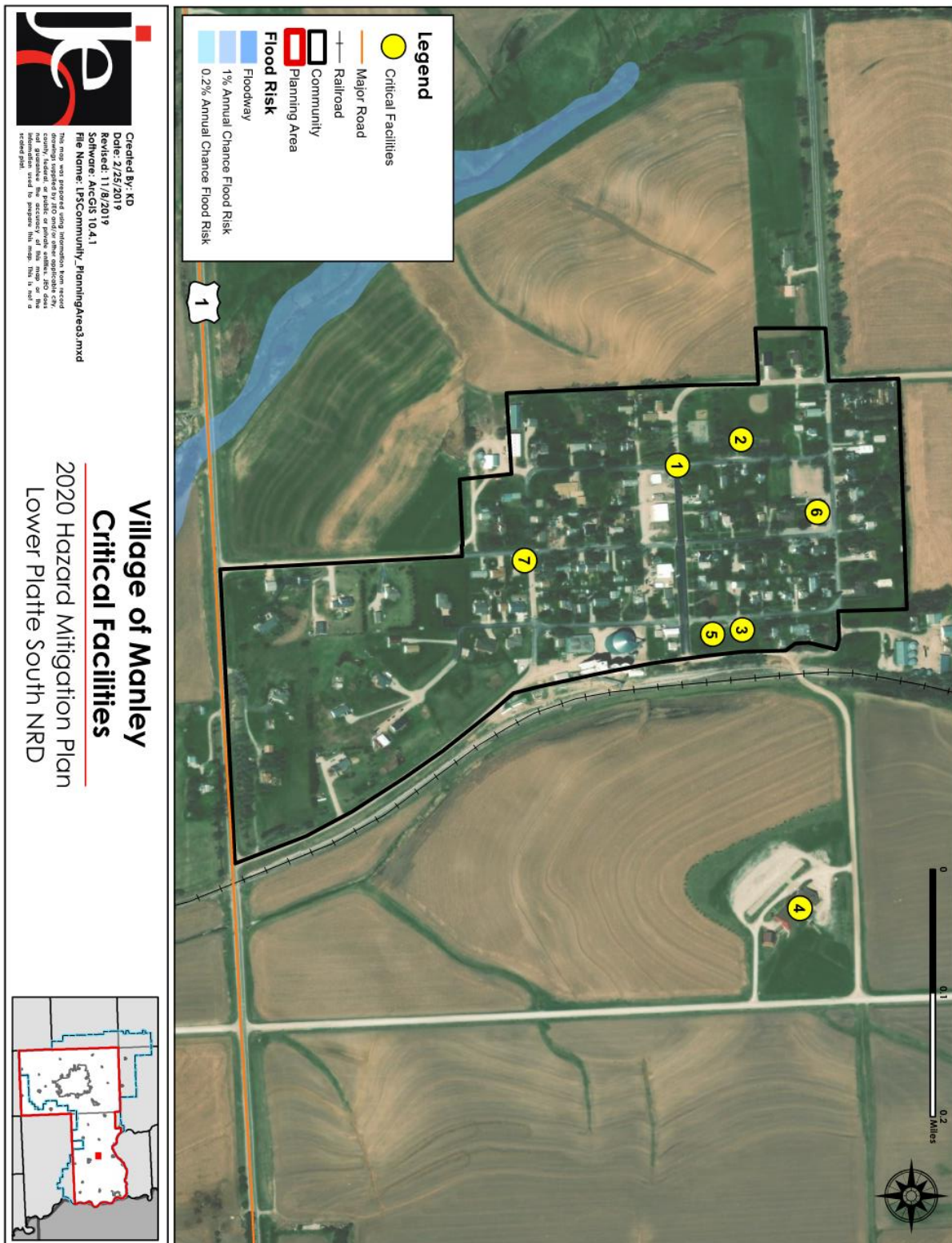
**Table MAN.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Alert Siren	N	N	N
2	Community Building	N	N	N
3	Fire Hall	N	Unknown	N
4	Lofte Community Theatre	N	N	N
5	Maintenance Building	N	N	N
6	St. Patrick’s Catholic Church	N	N	N
7	Water Station	N	N	N

<sup>129</sup> County Assessor. Personal correspondence, [2019].

<sup>130</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure MAN.5: Critical Facilities





## Historical Occurrence

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemical transportation spills are a concern for the Village due to the proximity of two major highways to town. There is a high volume of semi-trucks carrying hazardous materials along both Highway 1 and Highway 50 just outside of town. In the early 2000's, an anhydrous ammonia leak from a refill tank spurred an evacuation of the whole south side of town. The local volunteer fire department responds to incidents and has between 10 to 15 active members across town. All fire departments in the county have agreements in place to assist communities.

### Grass/Wildfires

The Village of Manley has experienced numerous grass/wildfires in the surrounding agricultural areas and fires are common annually. The local Volunteer Fire Department has between 10 to 15 active members and has aid agreements with all surrounding communities to respond to wildfire events. In the last several years a significant fire began in an agricultural field on a windy day and jumped across Highway 1. Local responders closed the highway until the fire was contained. Within the Village, fire hydrants are located on every street and are accessible from the edge of town to protect the wildland-urban interface. The fire department stores its water tanker in town.

### High Winds

High winds are a concern for the local planning team due to the location of the Village. The Village sits at a topographic high point in the county and regularly experiences strong wind events. Past high wind events have caused significant tree damage. Broken limbs and trees caused damage to buildings, roofs, and private property. Power lines throughout the Village are aboveground. High winds during the winter also cause burdensome snow drifts which block transportation routes and strain local snow removal resources.

### Severe Winter Storms

Severe winter storms include extreme cold, heavy snow, blizzards, and ice accumulation. The Village experiences severe winter storms annually. Primary concerns for such events include loss of power and blocked transportation routes from snow accumulation. The Village has an aging population, making power outages more severe for those reliant on electricity for heating and medical devices. While there are several avenues out of town, heavy snow can impede traffic and access to homes. There are no gas stations, grocery stores, or health care providers in town – emphasizing the need for open transportation routes in and out of the community. The Village is in charge of snow removal, including the newly paved and Village owned 160<sup>th</sup> road. This road has historically had significant snow drift problems.

### Tornadoes

Tornadoes are a concern due to their potential to cause catastrophic damage. The local planning team is particularly concerned as the Village is located at the highest point in the surrounding area. No tornadic events have directly impacted the community, historically. There are no FEMA certified safe rooms or shelters in the Village, but most residents have basements.

## Section Seven: Village of Manley Community Profile

In case of an event, the Community Center is the primary shelter location and distribution center. The Village has identified the need for additional signage to designate the facility as a storm shelter and supplies to provide short term shelter accommodation for residents. A new alert siren was installed in the center of town in 2017 and can be heard by all residents.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Manley has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Manley has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Volunteer Fire Department
- Planning and Zoning Commission
- Water Superintendent
- Sewer Superintendent

### Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table MAN.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes, 2010
	Capital Improvements Plan	No
	Economic Development Plan	Yes, in Comp Plan
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes, 2010
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	No
	Building Codes	Yes, 2012 IBC
	National Flood Insurance Program	No
<i>Administrative &amp; Technical Capability</i>	Community Rating System	No
	Other (if any)	
	Planning Commission	Yes
	Floodplain Administration	No
	Civil Engineering	No

Survey Components/Subcomponents		Yes/No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	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	No
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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)	No
	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Moderate
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

The Village of Manley have several plans to help guide and implement hazard mitigation actions and goals. Their Comprehensive Plan was last updated in 2010 and is aimed to grow and develop the community responsibly. It identifies major routes for emergency access to all areas of town, discusses population trends and distribution, and housing stock.

## Section Seven: Village of Manley Community Profile

The Village of Manley has an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

The Village's Zoning Ordinance and Subdivision Ordinance was last updated in 2010 and limits development in hazardous areas. There is no floodplain located within the Village jurisdiction, however current regulations limit density in hazard prone areas such as near industrial sites. The Village has a 1&6 Year Plan which identifies road improvement projects. The Village follows the 2012 International Building Codes.

The Village's annual municipal budget has remained consistent over the past several years but has some flexibility to pursue projects. A large portion of these funds are currently being used to work on street improvements. The Village has historically leveraged donations, grants, fundraising, and loans to implement projects including the community center improvements and the new siren.

### Mitigation Strategy

Mitigation Action	Backup Generators
Description	Provide backup power systems to provide redundant power supply to critical facilities and key infrastructure.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, High Winds, Tornadoes
Estimated Cost	\$30,000
Potential Funding	General Fund, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	A portable generator is needed to assist in emergency response. It would be stored in the Maintenance Facility.

Mitigation Action	Hazard Education
Description	Increase public awareness of vulnerability and risk reduction measures through hazard education.
Hazard(s) Addressed	All hazards
Estimated Cost	Varies
Potential Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board
Status	Educational pamphlets are available in the Village Office. Additional education efforts should be included for chemical spill events and sheltering locations.

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$200+ per tree
Potential Funding	General Fund
Timeline	5+ years
Priority	Low
Lead Agency	Village Board
Status	This is a new mitigation action. Hazardous trees near the community center need to be trimmed back or removed.

Mitigation Action	Short Term Residency Shelters and Identification
Description	Identify and designate short term shelters for residents These structures do not serve as FEMA approved safe rooms and are not intended for long-term recovery, such as displacement from floods, fires, etc. but are available for residents during power outages or severe weather events.
Hazard(s) Addressed	Severe Winter Storms, Severe Thunderstorms, Tornadoes
Estimated Cost	\$1,000
Potential Funding	General Fund, PDM, HMGP
Timeline	2-5 years
Priority	Low
Lead Agency	Village Board
Status	The Community Center is sufficient for short term residency, but additional supplies are needed to support community members including cots. Shelter signage is needed to designate sheltering locations.

Mitigation Action	Snow Fences
Description	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$50-\$100 per 100 linear feet
Potential Funding	General Fund, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. Snow fences are needed on 160 <sup>th</sup> Street headed south from town.

Section Seven: Village of Manley Community Profile

Mitigation Action	Stormwater System and Drainage Improvements
Description	These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000
Potential Funding	Highway Fund
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board
Status	Localized flooding issues at the end of Main Street, common washout area. Repairing the area is an ongoing effort.

Mitigation Action	Windbreaks
Description	Identify and install windbreaks in areas prone to extreme wind events.
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$5,000+
Potential Funding	General Fund
Timeline	5+ years
Priority	Low
Lead Agency	Village Board
Status	To help reduce high winds and snow drift, windbreaks are needed along 160 <sup>th</sup> St to the highway south of town.

**Removed Mitigation Actions**

Mitigation Action	Tree City USA
Description	Work to become a Tree City USA member through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program to maintain trees in the community.
Hazard(s) Addressed	Severe Thunderstorms, High Winds, Severe Winter Storms, Tornadoes
Reason for Removal	No longer a priority. The Village is prioritizing hazardous tree removal.

Mitigation Action	Low Impact Development and Green Infrastructure
Description	Utilize low impact development practices and green infrastructure to reduce flood risk. These can reduce runoff and result in a reduction in stormwater related flooding
Hazard(s) Addressed	Flooding
Reason for Removal	No floodplain located within the community to emphasize low impact development or green infrastructure.

# COMMUNITY PROFILE

## VILLAGE OF MURDOCK

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

**Table MRD.1: Murdock Local Planning Team**

NAME	TITLE	JURISDICTION
JAKE WILSON	Board Member	Village of Murdock
TJ OLSON	Board Member	Village of Murdock

## Location and Geography

The Village of Murdock is in the west-central portion of Cass County, approximately seven miles south of the Platte River. The Village covers an area of 0.13 square miles. There is one minor waterway near the town, an unnamed stream a mile west of town that is a tributary of the Callahan Creek. The two bodies of water form a confluence 2.5 miles west of town.

**Figure MRD.1: Village of Murdock**





Created By: EH  
 Date: 2/25/2019  
 Revised: 2/25/2019  
 Software: ArcGIS 10.4.1  
 File Name: LPSCCommunity\_PlanningArea.mxd

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

### Village of Murdock

2020 Hazard Mitigation Plan  
 Lower Platte South NRD





## Transportation

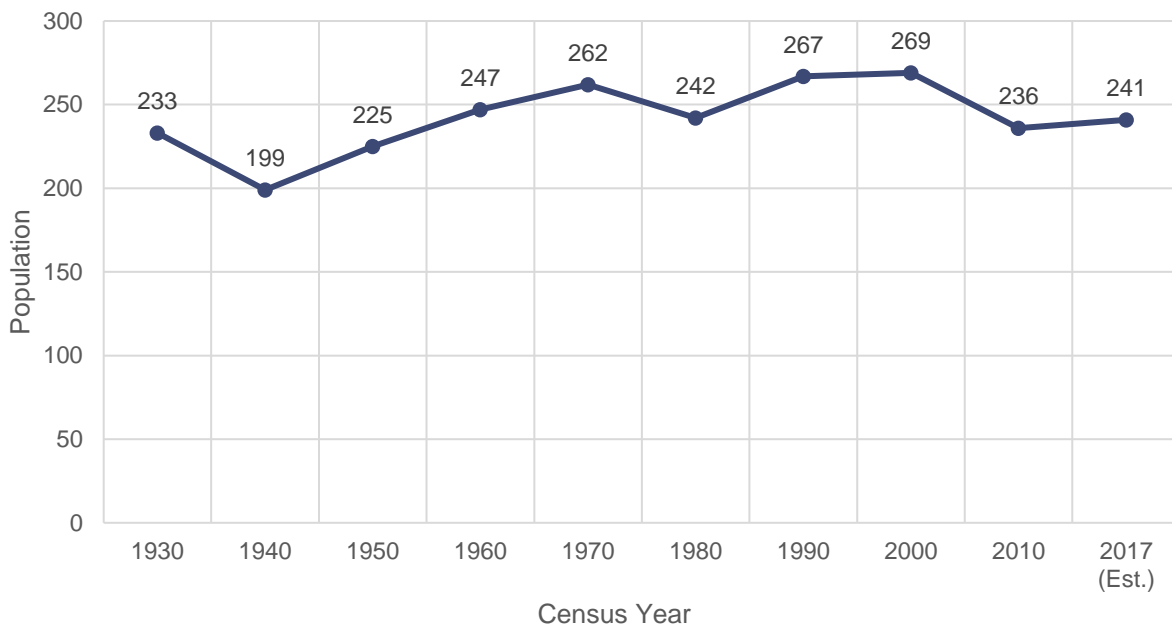
The Village of Murdock has one major transportation corridor located near the Village limits. The corridor is Nebraska Highway 1 which runs east and west before turning sharply south after running past Murdock. The corridor is connected to the community by a spur road, Nebraska Highway 13A. This corridor averages 1,110 vehicles per day and the spur road averages 605. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

The two transportation routes of the most concern are Highway 1 and 310<sup>th</sup> Street, both of which are essential to access the interstate. Chemicals are regularly transported along these routes and are usually petroleum products, agricultural, and industrial chemicals. There have been no significant transportation events recently.

## Demographics

Murdock’s population declined from about 269 people in 2000 to 241 people in 2017, a decrease of 28 people and total loss of 10.4%. Overall, Murdock’s population is relatively stable. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Murdock’s population accounted for 0.94% of Cass County’s population of 25,767 in 2017.<sup>131</sup>

Figure MRD.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Murdock’s population was:

- **Younger.** The median age of Murdock was 39.5 years old in 2017, compared with the County average of 41.9 years. Murdock’s population grew younger since 2009, when the

<sup>131</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Murdock Community Profile

median age was 46.5 years old. Murdock had a smaller proportion of people under 20 years old (20.6%) than Cass County (26.6%).<sup>132</sup>

- **More ethnically diverse.** Since 2010, Murdock grew more ethnically diverse. In 2010, Murdock's population was 0% Hispanic or Latino. By 2017, Murdock's population was 0.9% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>133</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Murdock (15.9% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>134</sup>

## Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing(9.4%) and construction (9%) In comparison to the County, The Village of Murdock economy had:

- **Diverse mix of industries.** Murdock major employment sectors, accounting for 10% or more of employment each, were: transportation/warehousing/utilities (14.8%), manufacturing (12.3%), and education/healthcare/social services (10.7%).<sup>135</sup>
- **Lower household income.** Murdock's median household income in 2017 (\$43,750) was \$24,534 lower than the County (\$68,284).<sup>136</sup>
- **More long-distance commuters.** A total of 21.3% percent of workers in Murdock commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 48.2% of workers in Murdock commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>137</sup>

## Major Employers

Major employers within Murdock include the CO-OP, Bank, Railroad, School, and Stock Seed Farm. A large percentage of residents commute to Omaha, Lincoln, Springfield, and Waverly for employment.

## Housing

In comparison to Cass County, Murdock's housing stock was:

- **Similar renter-occupation.** Of occupied housing units in Murdock, 18.8% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>138</sup>
- **Older.** Murdock had a larger share of housing built prior to 1970 than Cass County (80.7% compared to 41.4%).<sup>139</sup>
- **No multifamily dwellings.** The predominant housing type in Murdock is single family detached (96.9%), with more stock than Cass County (87.7%). Murdock contains no multifamily housing with five or more units per structure. Murdock has no mobile housing.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

132 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

133 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

134 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

135 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

136 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

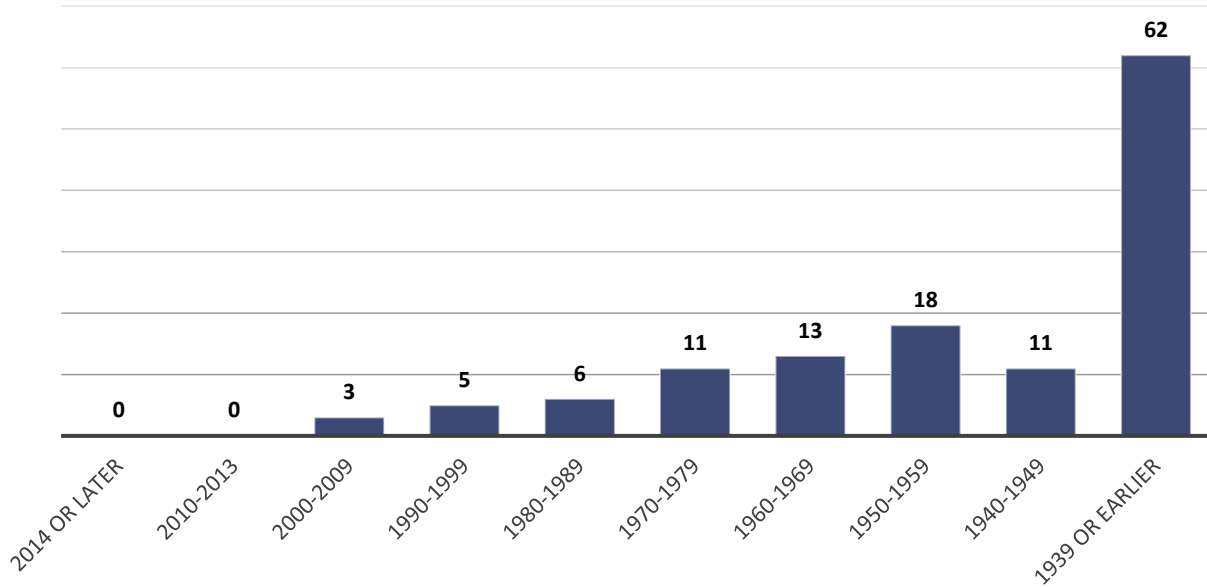
137 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

138 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

139 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure MRD.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>140</sup>

### Future Development Trends

Over the past five years three buildings have been demolished and seven new homes have been constructed. The local planning team indicated the community population and characteristics are stable and attributed this to Murdock being located between major cities and a young population. The local planning team noted that there is no space for additional growth. At present there is one building that is condemned and uninhabitable and there is an additional property that may need to be demolished. The only new industry planned in the area is the inclusion of keno at the local bar.

### Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table MRD.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
148	\$12,692,728	\$85,762	0	\$0

Source: Nebraska Department of Revenue, Property Assessment Division<sup>141</sup>

<sup>140</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.  
<sup>141</sup> County Assessor. Personal correspondence, [2019].

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there is one chemical storage site in Murdock.

**Table MRD.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
MIDWEST FARMERS COOPERATIVE	417 Railroad St	N

Source: Nebraska Department of Environmental Quality 2017<sup>142</sup>

### Critical Facilities

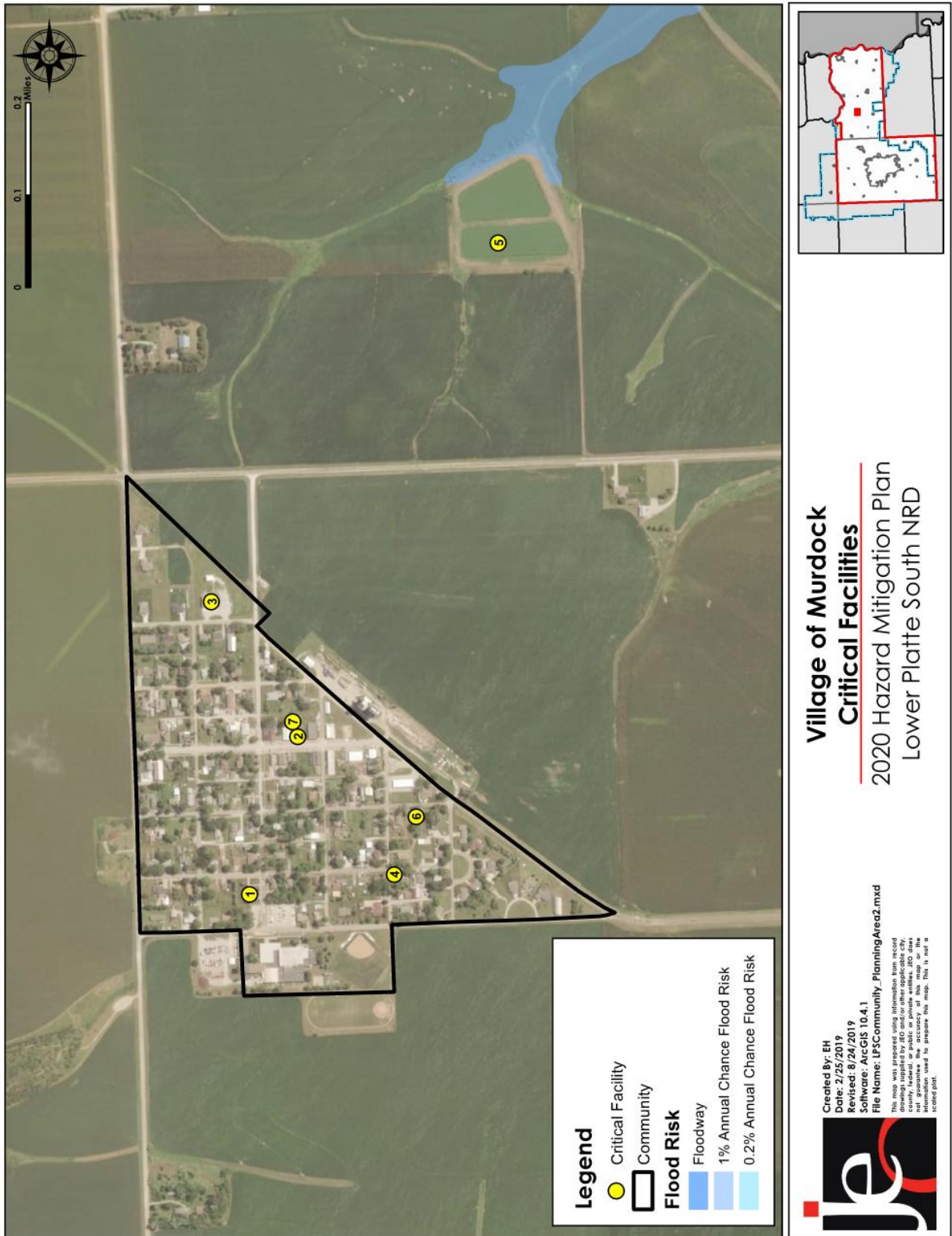
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

**Table MRD.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Ebenezer United Methodist Church	N	N	N
2	Village Office	N	N	N
3	Murdock Volunteer Fire Department	N	Y	N
4	Old Well House	N	N	N
5	Village Lagoons	N	N	N
6	Village Office Record Location	N	N	N
7	Water Tower/Siren	N	N	N

<sup>142</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces..>

Figure MRD.4: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Fixed)

There are three significant sources of hazardous materials in the Murdock area. The Midwest Farmer's CO-OP stores bulk anhydrous ammonia, the gas station contains petroleum products, and the Northern Natural Gas plant houses natural gas. In May 2018 there was a natural gas leak that caused several residents to evacuate. In February 2018 a cut gas line in a basement caused 25% of the town to temporarily evacuate. As an additional concern, the CO-OP is constructing a new facility three miles east of town. Critical facilities, including the school, are located near chemical fixed sites. Residents are aware of the facilities, but there are no public outreach activities to inform the public. The local response resources include the Fire Department which have personal protective equipment but lack detection equipment.

### Grass/Wildfire

Grass/wildfire is a concern for the Village due to the large amount of surrounding agricultural land. The local volunteer fire department has approximately 30 participants, including some retired residents. The Village does not have Wildland-Urban Interface (WUI) code and there are no incentives for property owners to include defensible space around their homes or utilize fire-resistant building materials.

### Severe Thunderstorms

Severe thunderstorms are a common occurrence across the State of Nebraska and the planning area, with the Village sustaining damage annually from events. A 2011 storm caused damage to half of the town from high winds downing trees and damaging roofs. Storms in 2016 and 2017 included significant hail damage to homes and facilities with the 2017 storm producing two foot high drifts of hail. Concerns about severe thunderstorms include property damage, resident safety, power loss, downed trees, and crop loss. Municipal records are backed up and are protected by a surge protector, however only the fire hall has a backup generator. No critical facilities have weather radios. The fire department and volunteers are notified of severe weather via various phone apps.

### Severe Winter Storms

Severe winter storms are common across the planning area and significant events have impacted Murdock. The winter of 2008-2009 required local volunteers to use personal equipment to clear main roads. Snow accumulation and low temperatures in winter 2018 caused the water tower to freeze completely, causing damage and loss of water pressure and supply to the community. Local concerns include access for emergency services to reach residents, reliance on volunteers for snow removal, loss of power, and safety of vulnerable populations. There are three main power lines into town and there are no buried powerlines except to residences; however, OPPD did upgrade poles and line equipment in 2017. In the case of power outages and the loss of heat, the fire hall is open to the public as a shelter. There are no designated snow routes in town although it is generally understood that main street and the spur road receive priority. The local planning

team noted that 310<sup>th</sup> St to the highway is the last one plowed and can restrict traffic flow. The local planning team that additional snow removal resources are needed.

**Tornadoes**

There have been several tornadoes which have directly impacted the village. In May 2004 the Hallam Tornado caused damage to property and trees. In September 2010 a tornado and associated 1 3/4” hail caused damage to crops, buildings, and trees. In June 2017 a tornado damaged houses, trees, and power lines across town. All municipal data is backed up automatically on the cloud. New sirens were installed in 2019 to notify residents of impending hazard events. While community shelters are available, the majority of homes in Murdock have basements. Neither the Village nor Cass County offer text alerts. There is no formal mutual aid agreement between emergency services; however, Elmwood Volunteer Fire Department provides EMS coverage of Murdock.

**Governance**

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Murdock has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Murdock has five village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Street Commissioner
- Utility Superintendent
- Water Commissioner
- Volunteer Fire Department
- Water Operator

**Capability Assessment**

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table MRD.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	In progress
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	In progress
	Floodplain Ordinance	No
	Building Codes	Yes
National Flood Insurance Program	No	

Section Seven: Village of Murdock Community Profile

Survey Components/Subcomponents		Yes/No
	Community Rating System	No
	Other (if any)	
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	County
	Chief Building Official	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)	
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
General Obligation Revenue or Special Tax Bonds	Yes	
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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)	No
	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	High
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited



## Plan Integration

The Village of Murdock has a Comprehensive Plan, Zoning Ordinance, and Building Code which were all last updated in 1974. The Village is prioritizing updating all of these plans; however limited funding is available at the local level and previous efforts to secure funding for plan updates has been unsuccessful. The current municipal budget is limited to covering current maintenance and operations and the local planning team indicated there are severe limitations on the Village’s ability to raise funds.

The Village of Murdock has an annex as part of the Cass County Local Emergency Operations Plan which was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Designate Snow Routes
Description	During winter events the community will designate snow routes for the community to use
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$1,000, Staff Time
Potential Funding	HMGP, PDM, Cass County, Village Funds
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. The Village is responsible for own snow removal and currently there are no designated snow routes or snow storage places.

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$200+ per tree
Potential Funding	HMGP, PDM, Cass County, Village Funds
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. There have been confirmed cases of Emerald Ash Borer in the county and around the Village. Numerous large Ash trees need to be removed in town. Additionally the tree stock in Murdock is very old and many trees are naturally dying off and must be removed and replaced.

Section Seven: Village of Murdock Community Profile

Mitigation Action	Promote Use of Higher Codes and Standards
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000+
Potential Funding	HMGP, PDM, Cass County, Village Funds
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This action will be integrated into the development of the Comprehensive Plan.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Upgrade water district infrastructure to decrease likelihood of damages and improve water system for emergency uses.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	Varies by Scope
Potential Funding	HMGP, PDM, Cass County, Village Funds
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	The current water main is 2" diameter in size and is not sufficient to meet local needs. Water quality testing is needed at previous well sites to determine if decommissioned wells can be reinstated to the system to help supply water. If the water quality has not improved, the water main must be upgraded to improve water supply from the Rural Water District.

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other CFs and provide new radios as needed
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50 per radio
Potential Funding	Village Funds
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Well Improvements
Description	Improve community well system
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	Unknown
Potential Funding	HMGP, PDM, Cass County, Village Funds
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action. The previous wells used in town were sealed 35 years ago due to high hydro tetrachloride levels. Remediation actions have been taken and thus water should be retested for suitability. Old wells need improvements and repairs in order to resume operations.

**Removed Mitigation Actions**

Mitigation Action	Public Awareness/Education and Equipment
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods. In addition, purchasing equipment such as overhead projectors and laptops.
Reason for Removal	This action is covered by efforts by the local public schools and is not a priority for the Village.

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# COMMUNITY PROFILE

## VILLAGE OF MURRAY

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

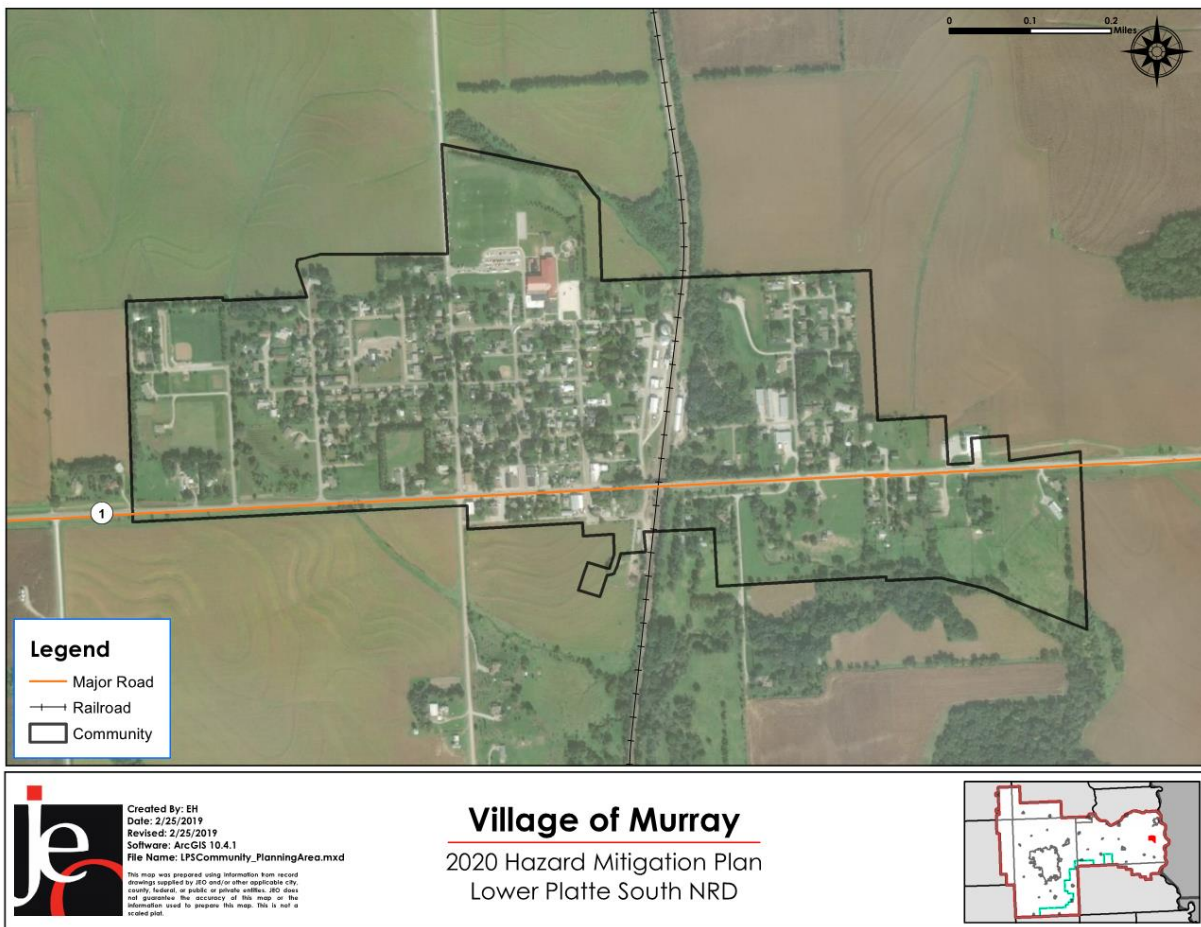
**Table MRY.1: Murray Local Planning Team**

NAME	TITLE	JURISDICTION
ALAN MILLER	Board Member	Village of Murray

## Location and Geography

The Village of Murray is in the eastern portion of Cass County, approximately five miles west of the Iowa border and 10 miles south of the Platte River. The Village covers an area of 0.37 square miles. There are two major bodies of water near the town. The nearest is Beaver Lake about two miles to the east. This is a private residential neighborhood centered around a 300-acre, 50-foot deep lake. The other is the Missouri River five miles east.

**Figure MRY.1: Village of Murray**



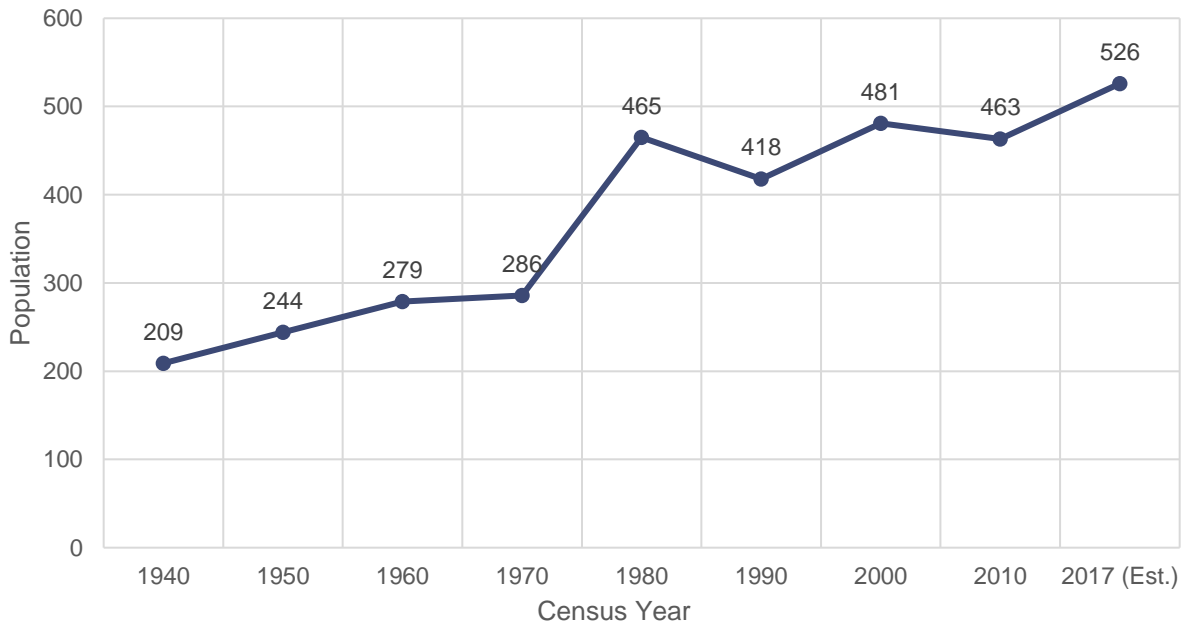
## Transportation

The Village of Murray has two major transportation corridors located near the Village limits. The first is US Highway 75 which runs north-and-south to the east of town. This corridor averages, 5,260, vehicles per day. The second corridor is Nebraska Highway 1 which runs east-and-west, through the town, and intersects with US Highway 75. This corridor averages 3,345. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. A Union Pacific (UP) rail line runs north and south on the east-central side of town. This line hauls a variety of agricultural and industrial products. The railroad is of concern for the local planning team as it regularly hauls chemicals ranging from agricultural to energy to industrial products. While there has not been an accident on this line since 1950, potential damages and impact to the community from a spill would be significant.

## Demographics

Murray's population increased from about 481 people in 2000 to 526 people in 2017, an increase of 45 people and total gain of 9.4%. This is important because increasing populations are associated with changing demographics which may impact hazard mitigation priorities. Murray's population accounted for 2% of Cass County's population of 25,767 in 2017.<sup>143</sup>

**Figure MRY.2: Population 1930 - 2017**



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Murray's population was:

- **Younger.** The median age of Murray was 36.8 years old in 2017, compared with the County average of 41.9 years. Murray's population grew younger since 2009, when the

<sup>143</sup> United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Murray Community Profile

median age was 38 years old. Murray had a similar proportion of people under 20 years old (26.2%) to Cass County (26.6%).<sup>144</sup>

- **More ethnically diverse.** Since 2010, Murray grew more ethnically diverse. In 2010, Murray's population was 1% Hispanic or Latino. By 2017, Murray's population was 7.6% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>145</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Murray (12.1% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>146</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing(9.4%) and construction (9%) In comparison to the County, The Village of Murray economy had:

- **Similar mix of industries.** Murray major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (26.2%), construction (15.6%), and transportation/warehousing/utilities (9.3%).<sup>147</sup>
- **Higher household income.** Murray's median household income in 2017 (\$54,861) was \$13,423 lower than the County (\$68,284).<sup>148</sup>
- **More long-distance commuters.** A total of 18.3% percent of workers in Murray commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 56.3% of workers in Murray commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>149</sup>

### Major Employers

Major employers within Murray include the Conestoga Elementary School. A large percentage of residents commute to employment in Douglas and Sarpy Counties.

### Housing

In comparison to Cass County, Murray's housing stock was:

- **More renter-occupied.** Of occupied housing units in Murray, 23.2% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>150</sup>
- **Older.** Murray had a similar share of housing built prior to 1970 than Cass County (57.7% compared to 41.4%).<sup>151</sup>
- **No multifamily dwellings.** The predominant housing type in Murray is single family detached (86.5%), with less stock than Cass County (87.7%). Murray contains no multifamily housing with five or more units per structure. Murray has a larger share of mobile housing (6.5%) compared to the County (3.6%).<sup>152</sup> Mobile homes are located throughout the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied

144 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

145 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

146 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

147 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

148 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

149 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

150 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

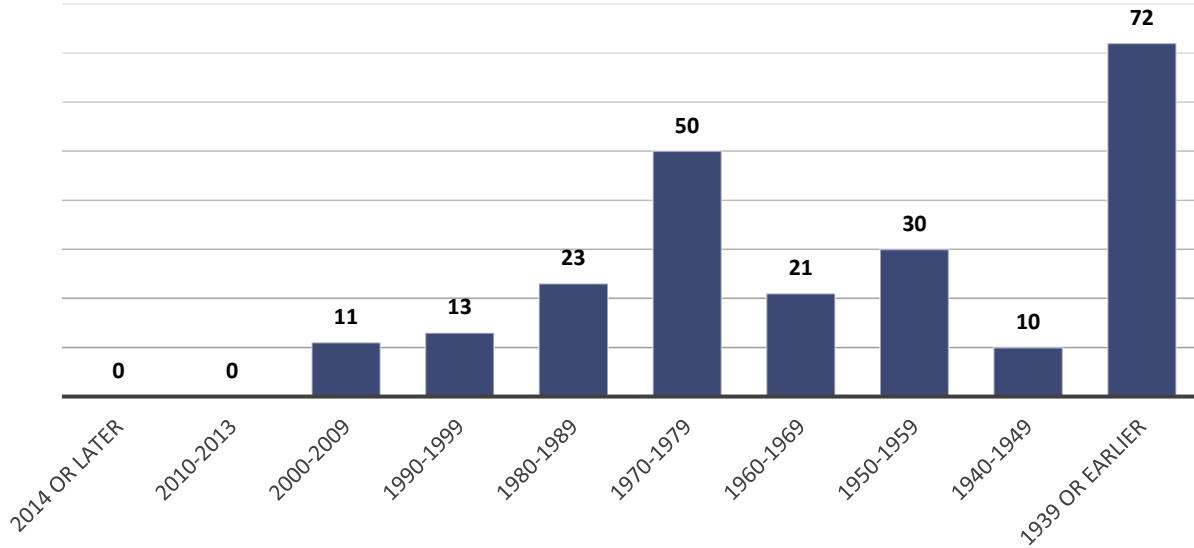
151 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

152 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.



housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure MRY.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>153</sup>

### Future Development Trends

In the past five years several new homes have been constructed, but no other development has occurred. There are no new opportunities, but the population has been increasing due to the low cost of living. There are no new housing developments or businesses planned in the next five years.

### Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table MRY.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
243	\$21,643,569	\$89,068	10	\$1,356,792

Source: Nebraska Department of Revenue, Property Assessment Division<sup>154</sup>

### Critical Infrastructure/Key Resources

#### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites within the Murray community boundary.<sup>155</sup>

<sup>153</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

<sup>154</sup> County Assessor. Personal correspondence, [2019].

<sup>155</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces..>

## Section Seven: Village of Murray Community Profile

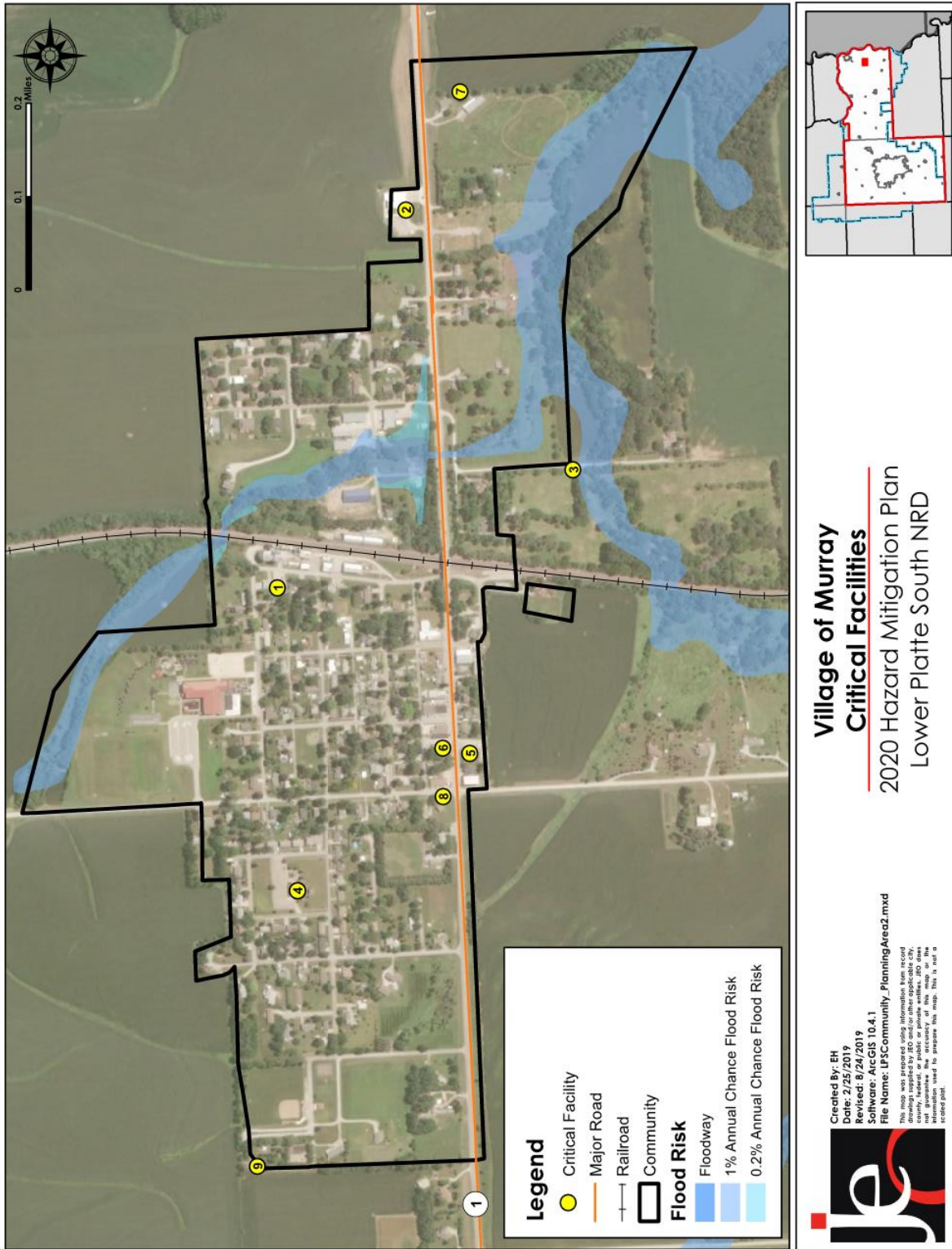
### Critical Facilities

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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table MRY.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Cass County Rural Water District #1	N	N	N
2	Fire & Rescue	N	N	N
3	Lift Station	N	Y	N
4	Murray Christian Church	Y	N	N
5	Presbyterian Church (USA)	N	N	N
6	Town Hall & Siren	N	N	N
7	Water Meter Pit (East)	N	N	N
8	Water Meter Pit (West)	N	N	N
9	Water Tower	N	N	N

Figure MRY.4: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Local concerns exist for chemical transportation spills due to the large volume of chemicals regularly transported by the Village. There are two routes of concern in town: the main UP rail line and Highway 1, which goes through town. Both of which regularly feature hazardous materials related to agriculture and industry. While no spill events have occurred recently, concerns exist for safety of residents, blocked transportation routes for emergency responders, and potential damage to critical facilities. The town hall is located near these transportation routes.

### High Winds

High winds are a concern due to potential impacts on trees, power lines, residential homes, and crops. In case of power loss, municipal records are backed up on a hard drive. There are no safe rooms in the community has no safe rooms, but both the Fire Department and Public School can serve as shelter locations. Cass County EMA offers text alerts, but there are no additional educational outreach activities in the community.

### Severe Thunderstorms

Severe thunderstorms are a common occurrence in the region and the planning area. Significant events have caused damage to property, crops, and trees due to the combination of hail, high winds, heavy rainfall, and lightning strikes. Municipal electronic devices do not utilize surge protectors and the sewer lift station is the only facility with a backup generator. Less than 1% of powerlines in the Village are buried. There are trees in the area that need removal and two have already been designated and planned for removal. There are no weather radios in the critical facilities.

### Severe Winter Storms

Severe winter storms include heavy snow, blowing and drifting snow, and ice accumulation which can close major transportation routes, strand motorists, cause power outages, damage property, and agriculture. Ice accumulation on power lines can also cause power outages as less than 1% of powerlines are buried. There are no designated snow routes in town and does not use snow fences. The town maintenance personnel are responsible for snow removal. Additional snow removal resources including an additional truck and snow blade are needed.

### Tornadoes

Tornadoes are a concern to the local planning team because of this hazard's potential to cause widespread property damage and loss of life. Thus far, there have been no recent significant tornadic events. Municipal data is backed up on an external hard drive. There are tornado sirens in the county that are activated by the Sheriff's Office in Plattsmouth and all areas of the County are covered by the sirens. There are no safe rooms in the community has no safe rooms, but both the Fire Department and Public School can serve as shelter locations. Cass County EMA does offer text alerts. The Fire Department is in a mutual aid agreement, but the town is not.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Murray has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Murray has a five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Street Commissioner
- Sewer Commissioner
- Water Commissioner
- Volunteer Fire Department

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table MRY.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	
	Subdivision Regulation/Ordinance	
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	
	Community Rating System	No
Other (if any)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No
Other (if any)		
<i>Fiscal</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes

## Section Seven: Village of Murray Community Profile

Survey Components/Subcomponents		Yes/No
<i>Capability</i>	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	City Tax
<i>Education &amp; Outreach Capability</i>	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

The Village of Murray have several plans to help guide and implement hazard mitigation actions and goals. Their Comprehensive Plan contains goals and objectives aimed at safe growth and allows for emergency access to all areas of town. Future updates of the plan will also encourage infill development and strengthen floodplain regulations.

The Village of Murray has an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols. Copies of the plan area available at the Village Hall and in the Maintenance Facility.

The Village's Zoning Ordinance was last updated in 2004 but does not include provisions to prevent development in hazardous areas. The Capital Improvement Plan was also last updated

in 2004 and identified bridge improvements, water meters, backup generators, and constructing a maintenance and community center building as needs for the Village. The Village follows Cass County’s Building Codes.

The Village’s annual municipal budget has remained consistent over the past several years but has some flexibility to pursue projects. A large portion of these funds are currently being used to work on the water tower in town.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a source of backup power to CFs.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$15,000-\$30,000 per generator
Potential Funding	PDM, HMGP, LPSNRD, Cass County, Village of Murray
Timeline	1 year
Priority	High
Lead Agency	Village Board
Status	This project has not yet been started. Power needs to be provided to town hall/siren.

Mitigation Action	Continuity Planning
Description	Continuity planning helps to ensure that services can be maintained during and after a disaster.
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,000
Potential Funding	PDM, HMGP, Village Funds
Timeline	2 to 5 years
Priority	High
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Emergency Fuel Supply Plan
Description	Plan to ensure adequate fuel supply is available during an emergency. Prioritize and rationing plans for gasoline and diesel uses in extended loss of fuel supply or electric power supply; plans to purchase local fuel supply; etc.
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,000+ Staff Time
Potential Funding	General Budget
Timeline	1 year
Priority	Medium
Lead Agency	Village Board
Status	This is a new mitigation action. A plan for additional fuel supplies is needed for the Lift Station generator and Village owned tractors.

## Section Seven: Village of Murray Community Profile

Mitigation Action	Evacuation Planning
Description	Develop an evacuation plan to be prepared for any disaster that would require evacuation.
Hazard(s) Addressed	All hazards
Estimated Cost	\$2,000
Potential Funding	PDM, HMGP, LPSNRD, Cass County, Village of Murray, Conestoga Public Schools
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board
Status	This project has not yet been started.

Mitigation Action	Public Education
Description	Increase public awareness of vulnerability and risk reduction measures through hazard education.
Hazard(s) Addressed	All hazards
Estimated Cost	\$1,500
Potential Funding	PDM, HMGP, LPSNRD, Cass County, Village of Murray, Conestoga Public Schools
Timeline	1 year
Priority	Medium
Lead Agency	Village Board
Status	The Village needs to send additional education materials to the public schools for students to take home.

Mitigation Action	Storm Shelters
Description	Identify, design, and develop storm shelters to protect community and CFs.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Potential Funding	PDM, HMGP, LPSNRD, Cass County, Village of Murray, Conestoga Public Schools
Timeline	2 to 5 years
Priority	Medium
Lead Agency	Village Board
Status	Not started. This action was listed in the previous mitigation plan.

Mitigation Action	Vehicular Barriers
Description	Install vehicular barriers to protect critical facilities and key infrastructure where possible. Vehicular barriers can be utilized to prevent accidental, or purposeful, vehicular impacts to critical facilities and key infrastructure.
Hazard(s) Addressed	Terrorism
Estimated Cost	\$5,000 +
Potential Funding	DHS, Cass County, Conestoga Public Schools, Village Funds
Timeline	2 to 5 years
Priority	High
Lead Agency	Maintenance Department
Status	This action has entered the planning phase and was listed in the previous mitigation plan. Several locations have been identified for barriers: water tanker, sewer pump station, and siren.



# COMMUNITY PROFILE

## VILLAGE OF NEHAWKA

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

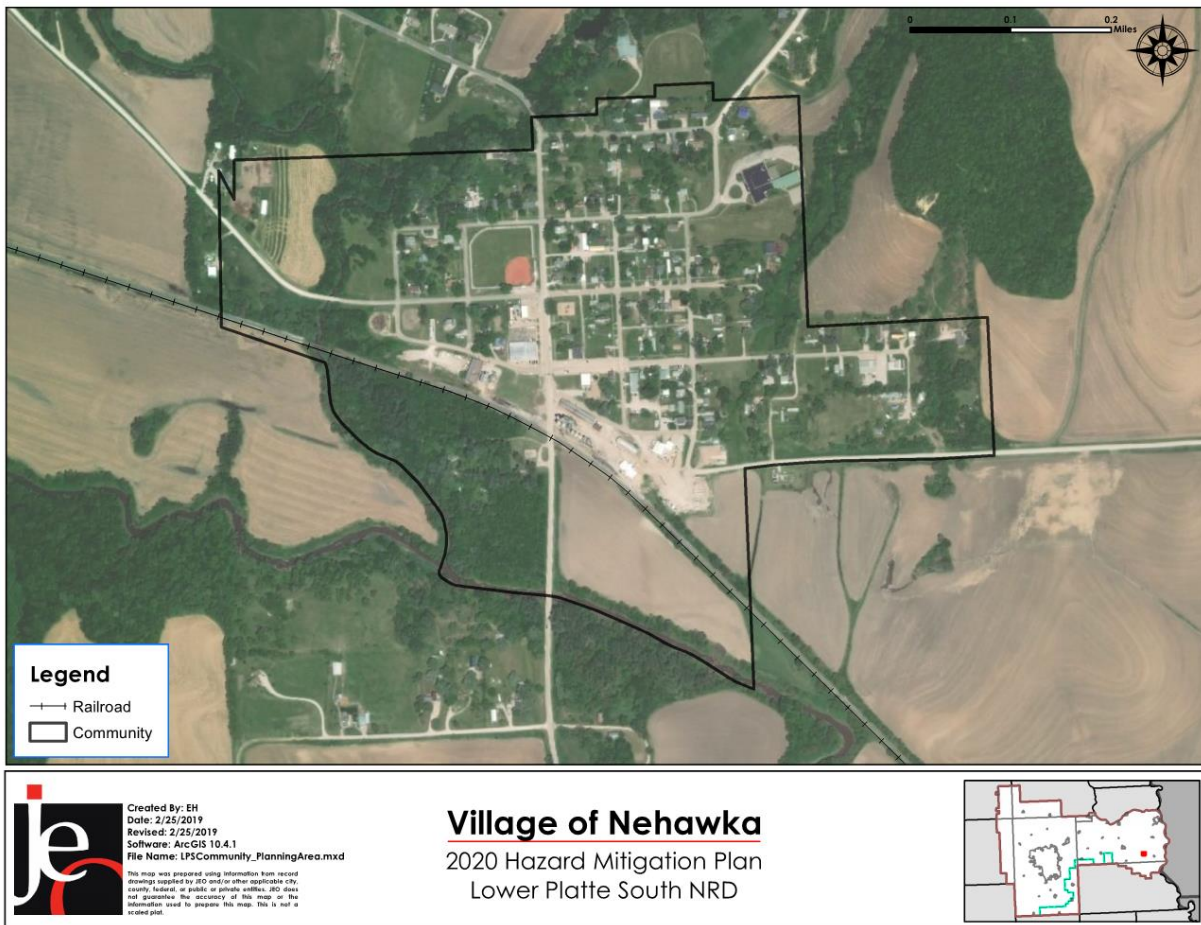
Table NWK.1: Nehawka Local Planning Team

NAME	TITLE	JURISDICTION
ALLEN GANSEMER	Board Chair	Village of Nehawka
JEN GANSEMER	Clerk	Village of Nehawka
ROBERT SORENSON	Board Member	Village of Nehawka
JOHN HENDERSON	Board Member	Village of Nehawka
THOMAS PRICKETT	Village Attorney	Village of Nehawka

## Location and Geography

The Village of Nehawka is in the southeastern corner of Cass County, approximately eight miles west of the Missouri River and 15 miles south of the Platte River. The Village covers an area of 0.23 square miles. There are two waterways near the town that form a confluence. The tributary branch is the North Branch Weeping Water Creek which feeds into the main stem Weeping Water Creek. The confluence is located one-quarter of a mile southwest of town and the creeks flow northwest-to-southeast.

Figure NWK.1: Village of Nehawka



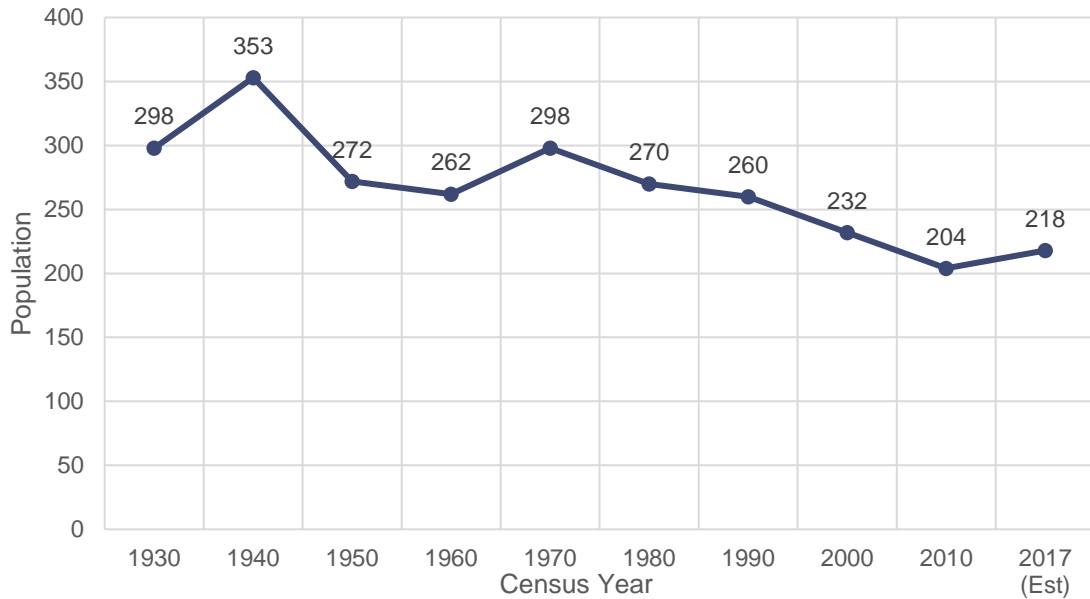
## Transportation

The Village of Nehawka has one major transportation corridor located near the Village limits, US Highway 34 runs east-and-west about a mile south of town and is connected by a spur road, Nebraska Highway 13D. This corridor averages 1,330 vehicles per day and the spur road averages 410.<sup>156</sup> There is a Union Pacific (UP) line running northwest-to-southeast on the south side of town. The local planning team indicated the rail line primarily transports agricultural products; however, semi-trucks regularly transports grain, propane, anhydrous ammonia, fuel, and fertilizer. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Nehawka's population declined from about 232 people in 2000 to 218 people in 2017, a decrease of 14 people and total loss of 6%. The local planning team indicated the population in town has remained relatively stable and the housing stock is currently full. Nehawka's population accounted for 0.85% of Cass County's population of 25,767 in 2017.<sup>157</sup>

Figure NWK.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Nehawka's population was:

- **Similarly aged.** The median age of Nehawka was 41.5 years old in 2017, compared with the County average of 41.9 years. Nehawka's population stayed similar since 2009, when the median age was 40.6 years old. Nehawka had a larger proportion of people under 20 years old (30.3%) than Cass County (26.6%).<sup>158</sup>
- **More ethnically diverse.** Since 2010, Nehawka grew more ethnically diverse. In 2010, Nehawka's population was 0% Hispanic or Latino. By 2017, Nehawka's population was

156 Airnav.com. "Laurel Municipal Airport." Accessed December 2018. <https://www.airnav.com/airport/08NE>.

157 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

158 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Nehawka Community Profile

0.9% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>159</sup>

- **Less likely to be below the federal poverty line.** The poverty rate in Nehawka (0% of families living below the federal poverty line) was lower than Cass County's poverty rate (4.5%) in 2017.<sup>160</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Nehawka economy had:

- **Similar mix of industries.** Nehawka major employment sectors, accounting for 10% or more of employment each, were: transportation/warehousing/utilities (27%), education/healthcare/social services (15.7%), finance/insurance/real estate/rental/leasing (10.1%), and construction (9%).<sup>161</sup>
- **Lower household income.** Nehawka's median household income in 2017 (\$53,125) was \$15,159 lower than the County (\$68,284).<sup>162</sup>
- **Fewer long-distance commuters.** A total of 23% percent of workers in Nehawka commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 39% of workers in Nehawka commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>163</sup>

### Major Employers

The primary employer in town is the Farmers Cooperative; however, most residents commute to Omaha, Nebraska City, Plattsmouth, or Lincoln for employment.

### Housing

In comparison to Cass County, Nehawka's housing stock was:

- **Less renter-occupied.** Of occupied housing units in Nehawka, 9.6% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>164</sup>
- **Older.** Nehawka had a similar share of housing built prior to 1970 than Cass County (66.3% compared to 41.4%).<sup>165</sup>
- **No multifamily dwellings.** The predominant housing type in Nehawka is single family detached (78.3%), with less stock than Cass County (87.7%). Nehawka contains no multifamily housing with five or more units per structure. Nehawka has a larger share of mobile housing (17.4%) compared to the County (3.6%).<sup>166</sup> Mobile homes are located in the southeast part of the Village.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

<sup>159</sup> United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

<sup>160</sup> United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

<sup>161</sup> United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

<sup>162</sup> United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

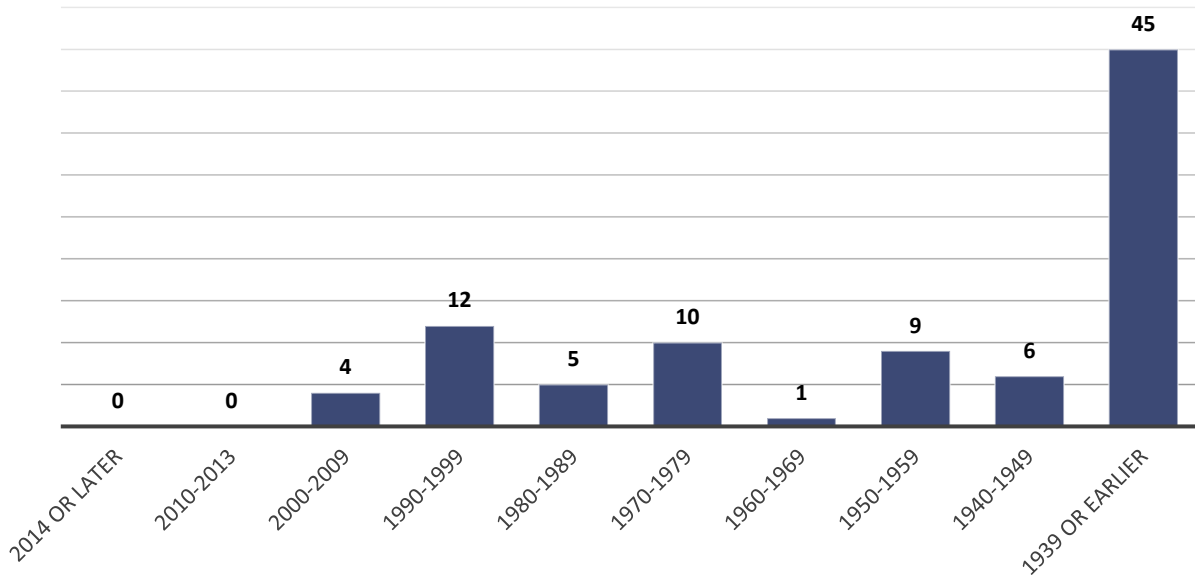
<sup>163</sup> United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

<sup>164</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

<sup>165</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

<sup>166</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

Figure NWK.3: Housing Units by Year Built



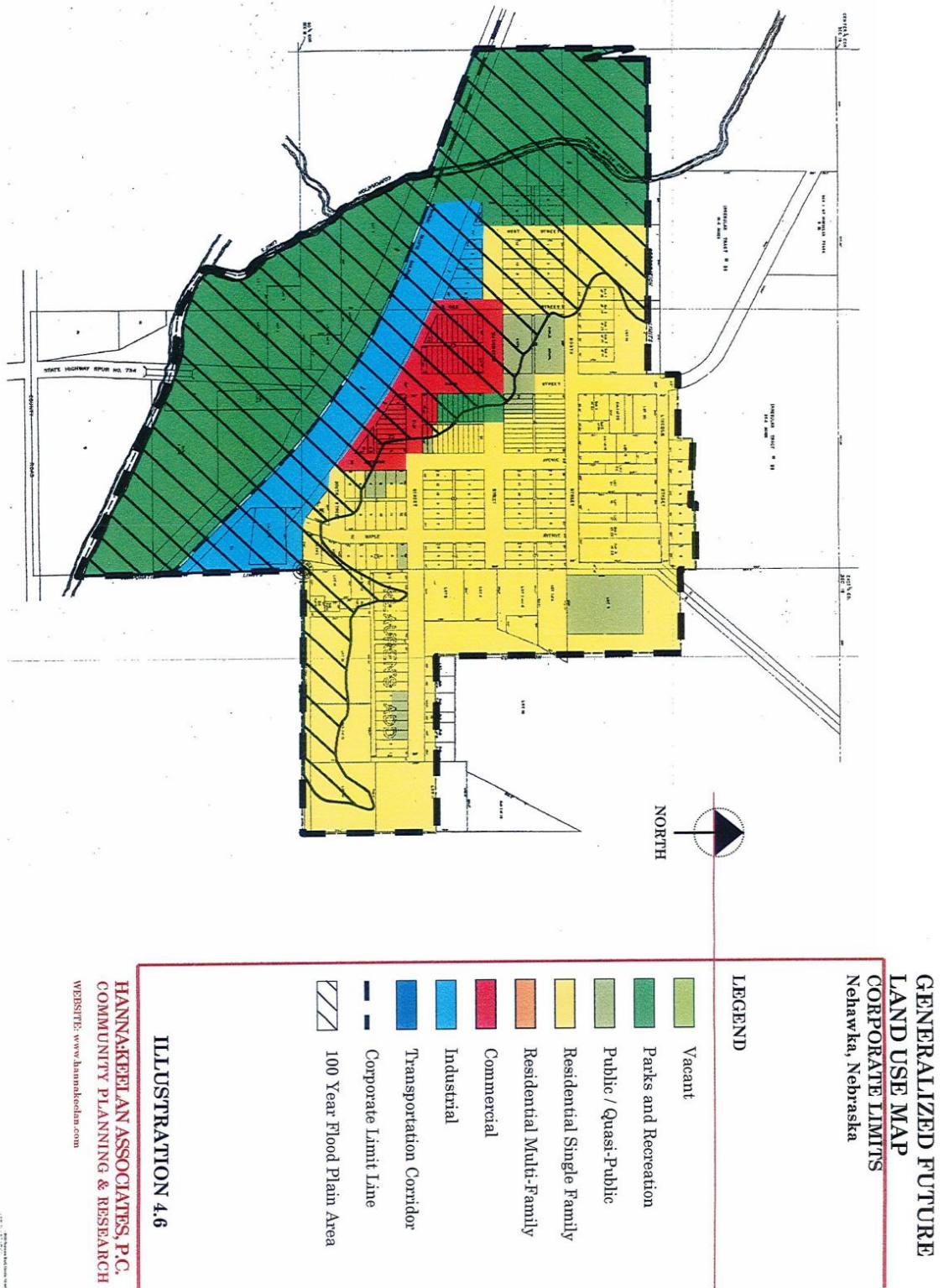
Source: U.S. Census Bureau<sup>167</sup>

### Future Development Trends

The Village has experienced few changes over the past five years. Historically the community had a property buy-out program after the 1993 flood event which reduced the local housing stock by a quarter. Several businesses have moved in and out of the community in the past decade, but no new business have been established in town in the last five years. Currently there are no new housing or commercial developments planned in the next five years.

<sup>167</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure NWK.4: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table NWK.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
125	\$6,541,276	\$52,330	40	\$2,040,092

Source: Nebraska Department of Revenue, Property Assessment Division<sup>168</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one chemical storage site in Nehawka.

**Table NWK.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
MIDWEST FARMERS COOPERATIVE	300 Main St	Y

Source: Nebraska Department of Environment and Energy, 2017<sup>169</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

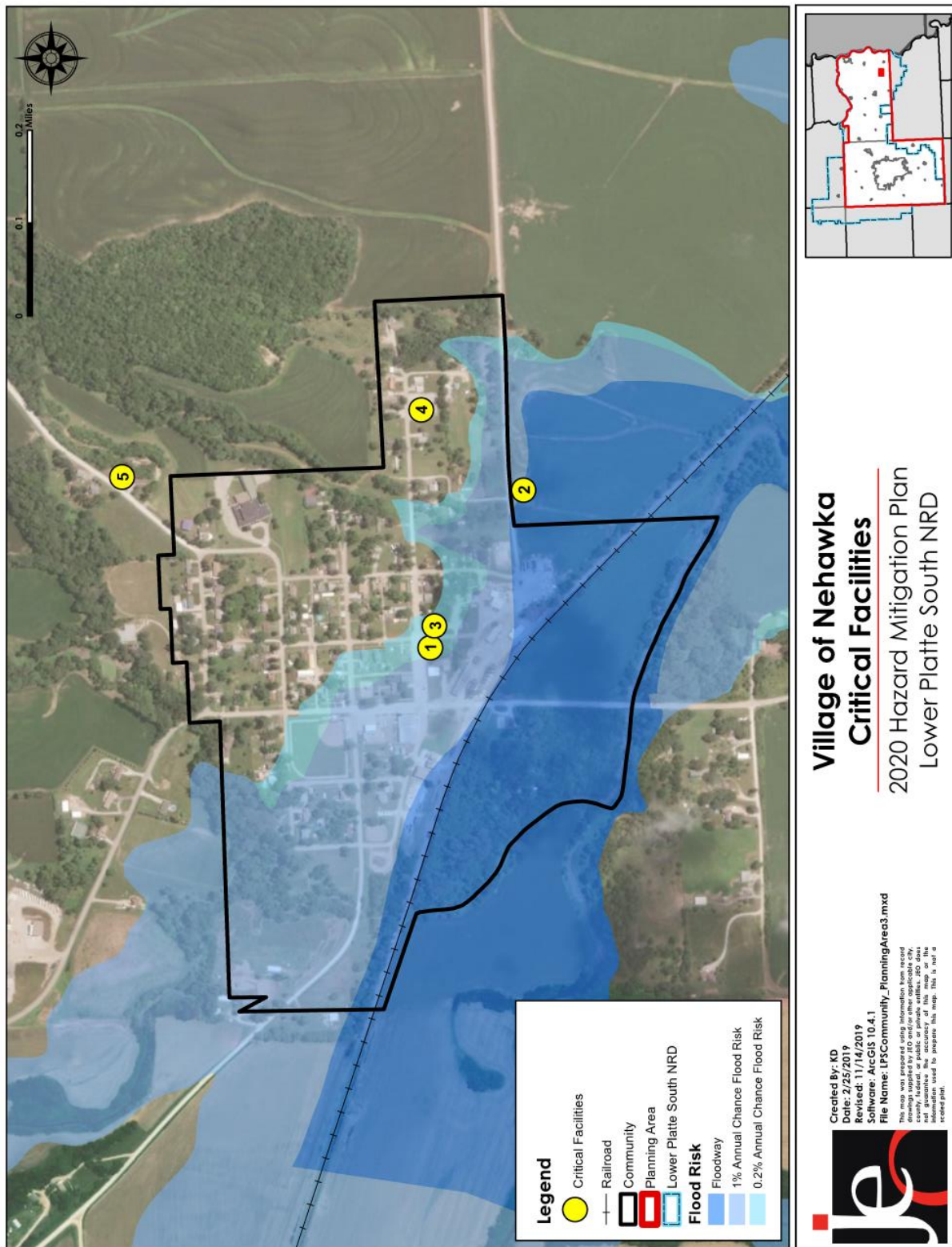
**Table NWK.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Alert Siren	N	N	Y
2	Sewer Treatment Plant	N	Y	Y
3	Village Office	N	N	Y
4	Volunteer Fire Department	N	N	N
5	Water Tower and Storage	N	N	N

<sup>168</sup> County Assessor. Personal correspondence, [2019].

<sup>169</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces..>

Figure NWK.5: Critical Facilities





## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Fixed)

The local planning team identified chemical spills from fixed site as a hazard of top concern specifically as anhydrous ammonia tanks are stored at a site approximately a quarter of a mile outside of town. Strong winds are common through the area and could push fumes or released gases into town. The Village has a volunteer fire department who responds to events. The Fire Department has some basic hazmat training and there are mutual aid agreements in place across the county.

### Flooding

The Village is situated alongside the Weeping Water Creek and approximately half of the village is located within the floodplain. The local planning team indicated poor interior drainage and a high groundwater table contribute to interior flooding in town. In particular, heavy rains contribute to flooding and infiltration in the sewer treatment facility. The Village is a participant in the National Flood Insurance Program.

### Severe Thunderstorms

Severe thunderstorms occur annually across the state and in the planning area. Associated impacts from severe thunderstorms include heavy rain, lightning strikes, strong winds, and hail. The Village has poor interior drainage and heavy rains can cause infiltration and flooding problems in the sewer treatment facility. Additionally, loss of power is a concern for the local planning team. The Village is served by NPPD for electricity and the majority of lines are above ground. There are no lightning rods located on municipal buildings.

### Severe Winter Storms

Severe winter storms are a hazard of top concern due to the risk for power loss and blocked transportation routes. The Village is responsible for snow removal which, during particularly heavy events, can strain local resources. Past severe storms have caused power outages of up to three days from ice accumulation pulling down power lines. Storms have also caused significant tree damage and damage to property from dropped limbs. The planning team indicated several ash trees are located throughout town which have been infected with Emerald Ash Borer and need to be removed.

### Tornadoes

On May 9<sup>th</sup>, 2016 an EF2 tornado passed by the Village of Nehawka and destroyed at least one home and damaged numerous others. There are no FEMA certified safe rooms in the village, however the local planning team indicated the community church would be used as a shelter, despite being located within the floodplain. Most residents have basements and a siren is located near the village office.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Nehawka has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Nehawka has five Village board members and the following offices that may help implement mitigation actions.

- Clerk
- Utilities Superintendent
- Volunteer Fire Department
- Village Attorney
- Board of Health
- Zoning and Planning Commission
- Nehawka Rescue Group

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table NWK.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	County
	Floodplain Management Plan	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	County
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	County
	Civil Engineering	Contract
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No

Section Seven: Village of Nehawka Community Profile

Survey Components/Subcomponents		Yes/No
	Other (if any)	
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	NO
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<i>Education &amp; Outreach Capability</i>	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	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

Nehawka has an annex to the Cass County Local Emergency Operations Plan (LEOP), last updated in 2014. The LEOP is currently being updated with an estimated completion date of late 2019. The LEOP incorporates hazard mitigation through the following: addresses hazards of top concern; assigns specific responsibilities to individual communities; identifies scenarios that would require evacuation; identifies sheltering locations; and provides clear assignment of responsibility during an emergency. Copies of the LEOP are held at the Village Office.

The Village’s Comprehensive Plan was last updated in 2012 and includes an action strategy that “future development and redevelopment activities should be supported by a modern infrastructure system consistent of an appropriate water source and distribution, sanitary sewer collection, storm

## Section Seven: Village of Nehawka Community Profile

sewer collection, and electrical and natural gas system.” The plan also discusses how any future development should be directed in non-sensitive areas including the floodplain and rail corridor. Future potential annexation areas include north and northeast of town.

The Zoning Ordinance was last updated in 2012 and prevents development in the floodplain. This includes Subdivision Ordinances which require proper interior drainage for areas being subdivided and reduce flood risk.

The Village’s annual municipal budget has remained stable over the past decade but is limited to maintaining current facilities and municipal systems. Currently the Village is working to pay off past watermain and sewer repair costs.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous trees in and around the community. This may include trees infected by EAB and experiencing tree mortality.
Hazard(s) Addressed	High Winds, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Estimated Cost	\$200+ per tree
Potential Funding	General Funds, PDM, HMGP, Arbor Day Foundation
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Board
Status	This is a new mitigation action

Mitigation Action	Sanitary Sewer Improvements
Description	Undersized systems can contribute to localized flooding. System improvements may include pipe upsizing and floodproofing of sewer treatment facility.
Hazard(s) Addressed	Flooding
Estimated Cost	\$100,000+
Potential Funding	General Funds, fundraising efforts, PDM, HMGP, CDBG
Timeline	2-5 years
Priority	High
Lead Agency	Village Board
Status	This is a new mitigation action

# COMMUNITY PROFILE

## CITY OF PLATTSMOUTH

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

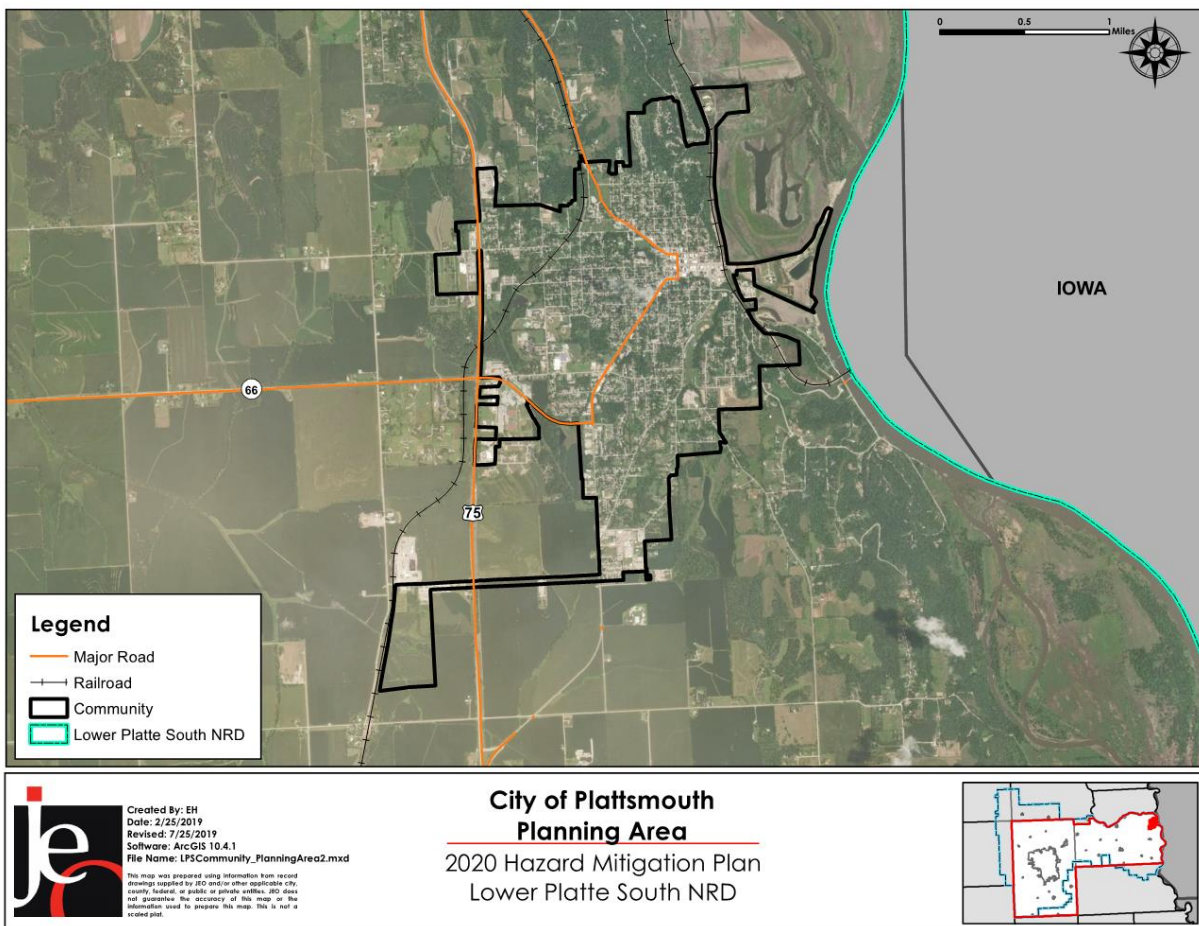
Table PTS.1: Plattsmouth Local Planning Team

NAME	TITLE	JURISDICTION
ERV PORTIS	City Administrator	City of Plattsmouth

## Location and Geography

The City of Plattsmouth is in the northeast corner of Cass County and serves as the county seat. The City is directly adjacent to the Schilling State Wildlife Management Area and less than a mile west of the Missouri River, the city's major water way. The City covers an area of 3.11 square miles.

Figure PTS.1: City of Plattsmouth



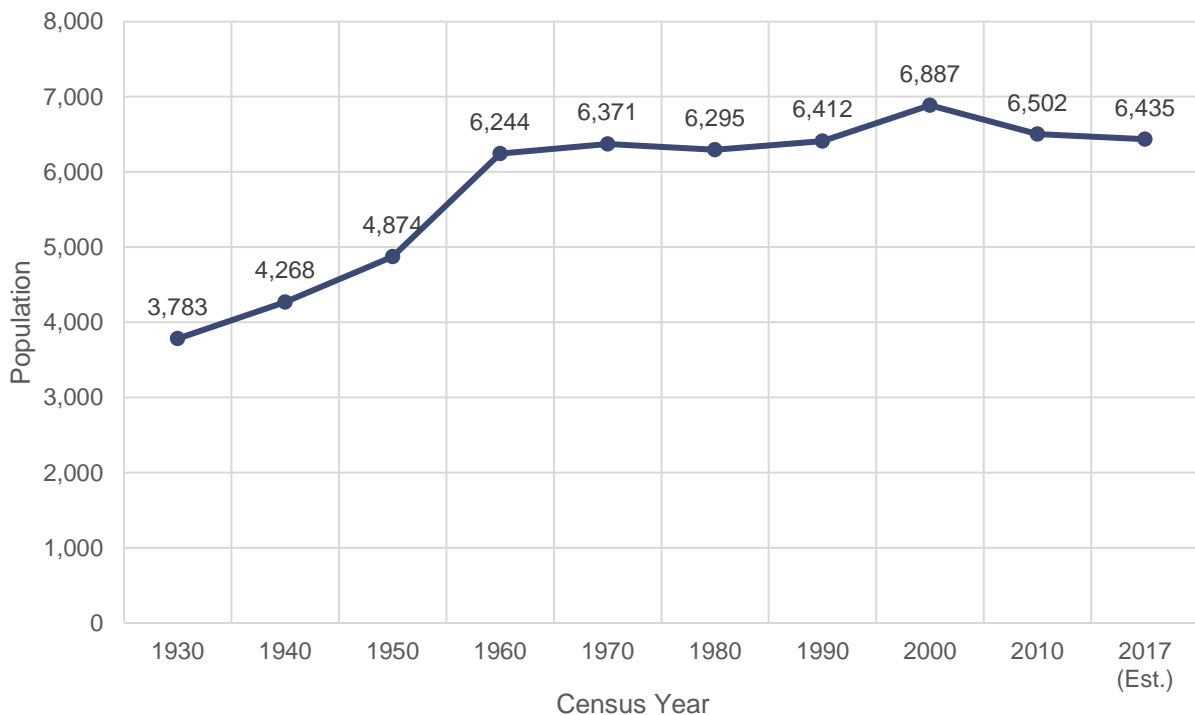
## Transportation

The City of Plattsmouth has two major transportation corridors located in and around the City limits. The first is US Highway 34 which north-and-south on the west side of town. This corridor averages 13,655 vehicles per day. The second corridor is Nebraska Highway 66 which runs east and west and intersects with the main highway just outside of town. This corridor averages 13,655 vehicles per day.<sup>170</sup> Both Union Pacific and Burlington-Northern-Santa Fe (BNSF) railroads are in the town and haul various agricultural and energy commodities.<sup>171</sup> The city also features an airport, the Plattsmouth Municipal Airport, which hosts 39 aircraft and conducts about 56 aviation operations a day.<sup>172</sup> Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Plattsmouth's population declined/increased from about 6,887 people in 2000 to 6,435 people in 2017, a decrease of 452 people and total loss of 6.6%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Plattsmouth's population accounted for 25% of Cass County's population of 25,767 in 2017.<sup>173</sup>

**Figure PTS.2: Population 1930 - 2017**



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Plattsmouth's population was:

170 Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>  
 171 Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.  
 172 Airnav.com. "Plattsmouth Municipal Airport." Accessed December 2018. <https://www.airnav.com/airport/KPMV>.  
 173 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: City of Plattsmouth Community Profile

- **Younger.** The median age of Plattsmouth was 36.5 years old in 2017, compared with the County average of 41.9 years. Plattsmouth's population has stayed similar to 2009, when the median age was 37 years old. Plattsmouth has a similar proportion of people under 20 years old (29.8%) than Cass County (26.6%).<sup>174</sup>
- **More ethnically diverse.** Since 2010, Plattsmouth grew more ethnically diverse. In 2010, Plattsmouth's population was 2.9% Hispanic or Latino. By 2017, Plattsmouth's population was 3.4% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>175</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Plattsmouth (9.5% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>176</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing(9.4%) and construction (9%) In comparison to the County, The City of Plattsmouth economy had:

- **Diverse mix of industries.** Plattsmouth major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (25.9%), retail (18.9%), transportation/warehousing/utilities (9.4%), and manufacturing (9.3%).<sup>177</sup>
- **Lower household income.** Plattsmouth's median household income in 2017 (\$49,211) was \$19,073 lower than the County (\$68,284).<sup>178</sup>
- **Fewer long-distance commuters.** A total of 40.1% percent of workers in Plattsmouth commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 37% of workers in Plattsmouth commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>179</sup>

### Major Employers

Major employers within Plattsmouth include: Cass County, Plattsmouth Community Schools, the Masonic Home, Schmidt Transportation; Wiles Brothers, HyVee, Plattsmouth Care and Rehabilitation, New Age Manufacturing, Superior Sales and Service, and DJs Dugout.

### Housing

In comparison to Cass County, Plattsmouth's housing stock was:

- **More renter-occupied.** Of occupied housing units in Plattsmouth, 36.3% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>180</sup>
- **Older.** Plattsmouth has an older share of housing built prior to 1970 than Cass County (63.6% compared to 41.4%).<sup>181</sup>
- **More multifamily dwellings.** The predominant housing type in Plattsmouth is single family detached (74.7%), with less stock than Cass County (87.7%). Plattsmouth contains more multifamily housing with five or more units per structure compared to Cass County (11.5% compared to 3.6%). Plattsmouth has a smaller share of mobile housing (2.1%) compared to the County (3.6%).<sup>182</sup> Mobile homes are located in the south of the City.

174 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

175 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

176 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

177 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

178 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

179 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

180 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

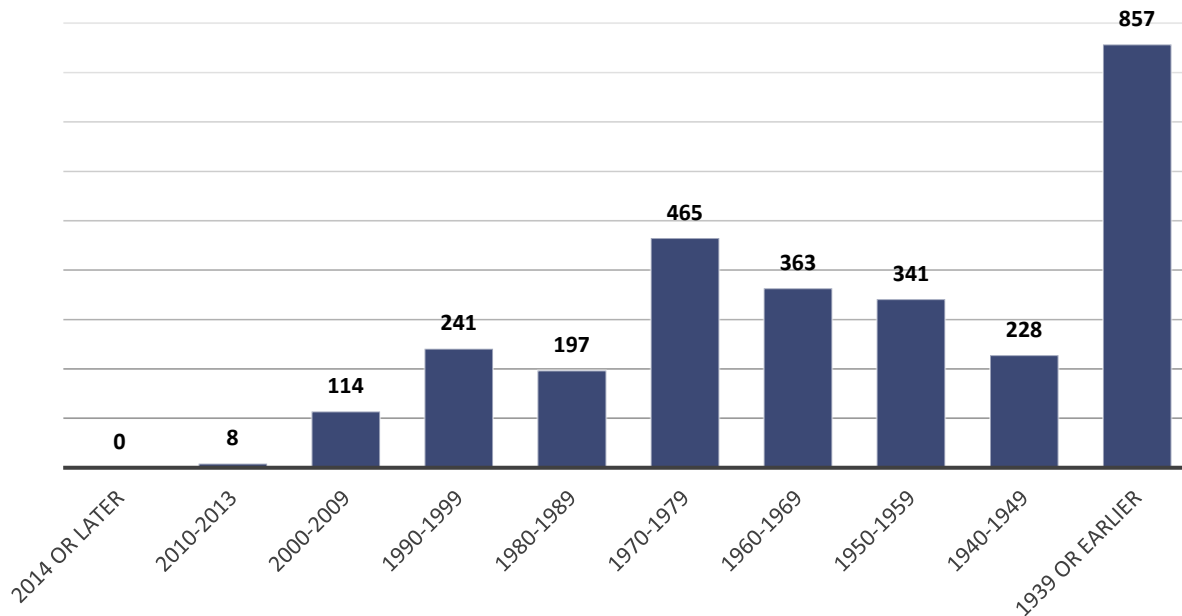
181 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

182 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.



This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure PTS.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>183</sup>

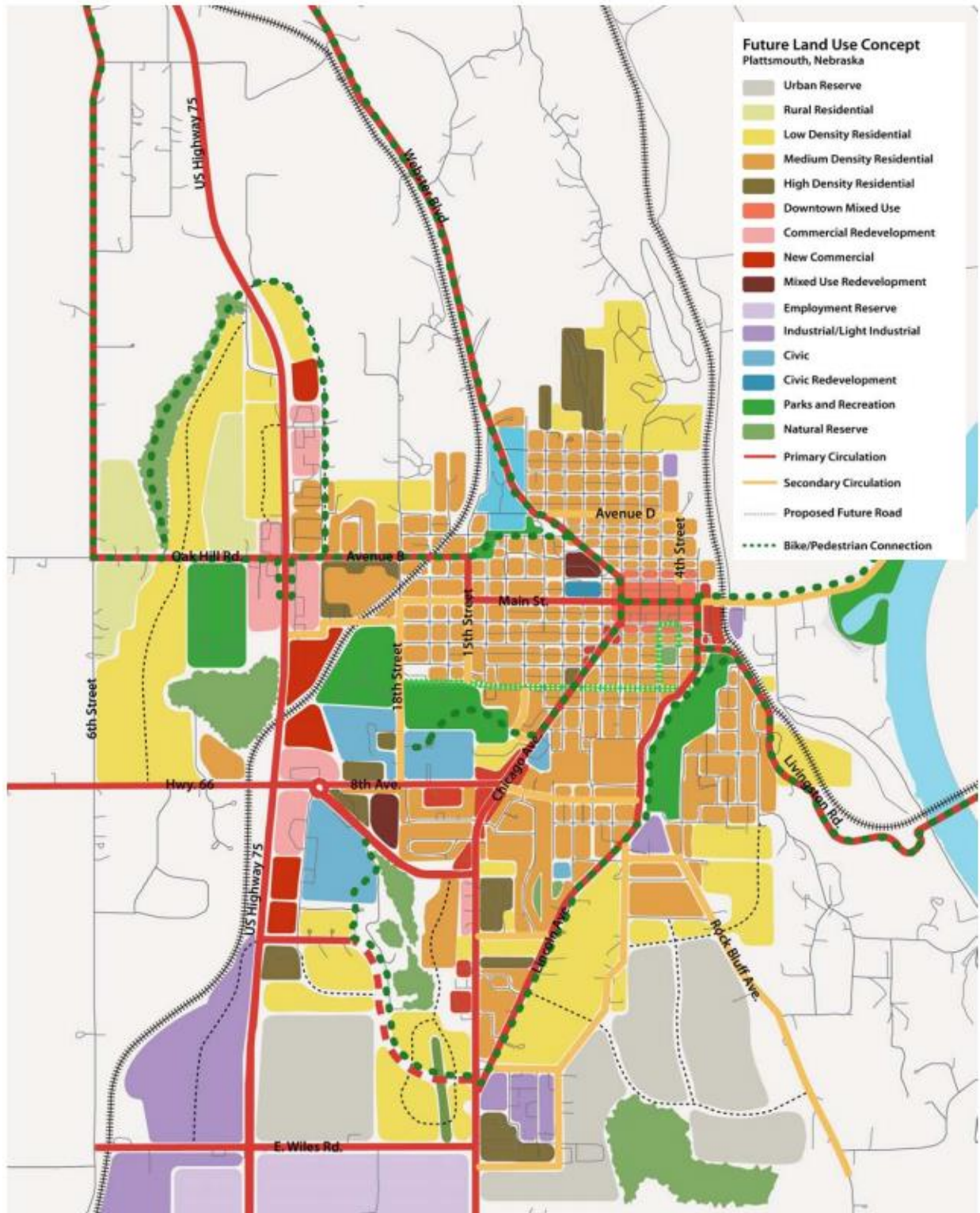
### Future Development Trends

The City of Plattsmouth has experienced several changes in the past five years. New businesses include: HyVee, Little Caesar’s Pizza, Casey’s, Herban Coffee Lab, DJs Dugout, Runza, and Scooters. Both Woodhouse Ford and Bomgaars in Plattsmouth have leveraged tax-increment-financing to open new businesses in town. In the future new businesses and industries are expected along the Hwy 75 retail corridor with the expansion of the highway and along Main St.

The City’s population is relatively stable; however, the recent relocation of several mobile home operations has reduced available spots for mobile homes. Since 2016 at least 36 new homes have been constructed and new housing developments are planned in the next five years including near downtown, S 15<sup>th</sup> St, Washington Ave, Chicago Ave, and near Hwy 75. There are additional infill opportunities near the old high school and Main St. The planning team indicated some strategic corridors for future development are designated as blighted and substandard, paving the way for tax-increment financing and other public incentives to improve business and housing opportunities.

<sup>183</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure PTS.4: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table PTS.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
2,376	\$230,266,884	\$96,914	264	\$23,757,768

Source: Nebraska Department of Revenue, Property Assessment Division<sup>184</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 6 chemical storage sites in Plattsmouth.

**Table PTS.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
NDOT Plattsmouth Yard	1000 S 22nd St	N
Plattsmouth Potable Water	17504 Schilling Refuge Rd	N
Windstream Communications	645 Main St	N
Plattsmouth Wastewater Treatment	2219 E Main St	Y
AT&T	901 Wiles Rd	N
Forterra Concrete Products	369 W Wiles Rd	N

Source: Nebraska Department of Environment and Energy, 2017<sup>185</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

The Plattsmouth Community Center is also used as a shelter location in case of severe hazard events.

<sup>184</sup> County Assessor. Personal correspondence, [2019].

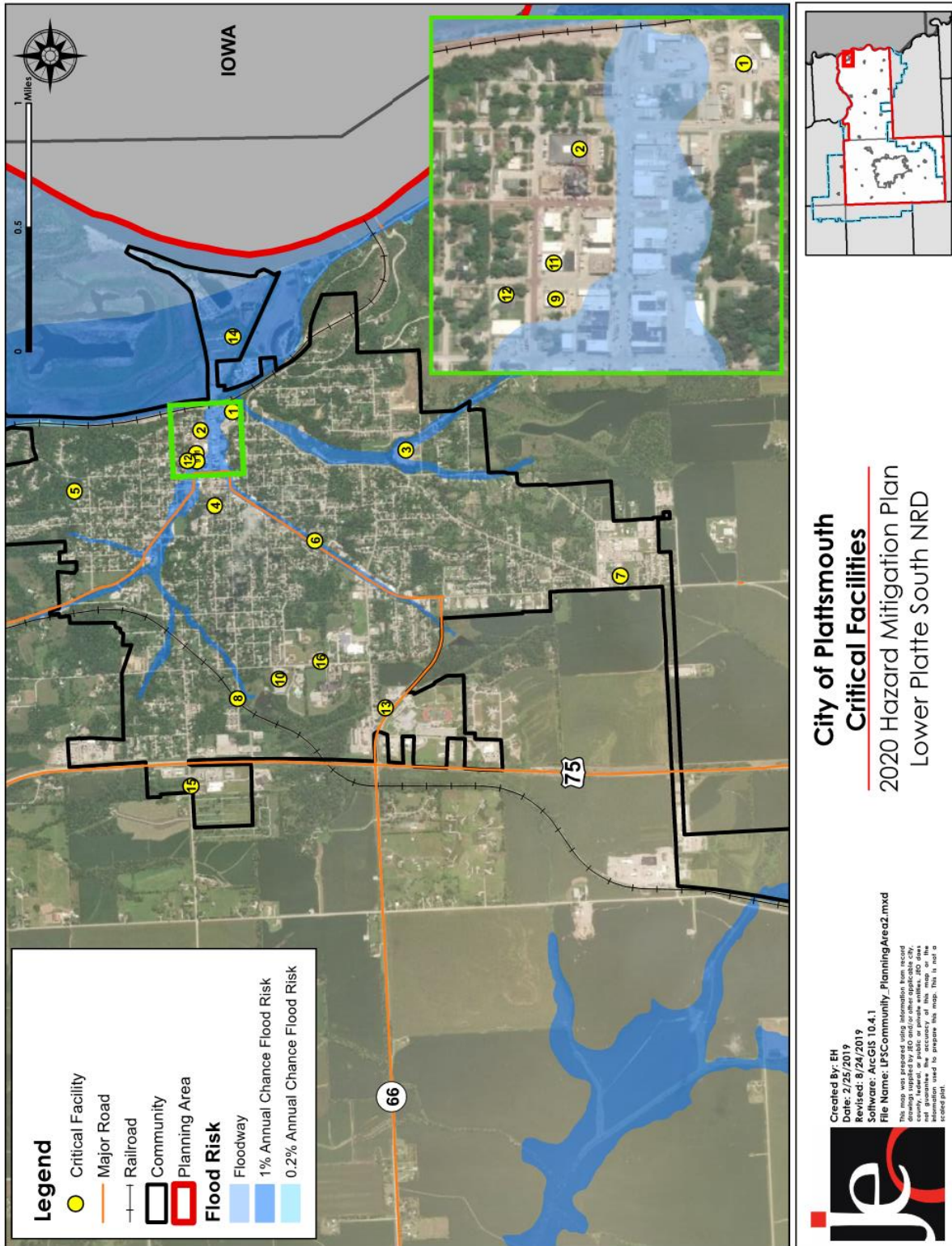
<sup>185</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Section Seven: City of Plattsmouth Community Profile

**Table PTS.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Black Hills Energy Shop	N	N	N
2	Cass Courthouse, LEC, Police Department, Jail, Annex	N	Y	N
3	City Shops	N	N	Y
4	City Water Plant & Well Field	N	Y	Y
5	North Water Tower	N	N	N
6	NPPD Office	N	N	Y
7	NPPD Shop	N	N	N
8	NRD Dam/City Pond	N	N	N
9	Plattsmouth City Hall	N	Y	N
10	Plattsmouth Community Center	N	N	N
11	Plattsmouth Volunteer Fire Department	N	Y	N
12	St. Paul Church of Christ	Y		N
13	UNMC Clinic	N	N	N
14	Wastewater Plant	N	Y	Y
15	Westside Life Station	N	Y	N
16	White Water Tower (south)	N	Y	N

Figure PTS.5: Critical Facilities



**City of Plattsmouth**  
**Critical Facilities**  
 2020 Hazard Mitigation Plan  
 Lower Platte South NRD

Created By: BH  
 Date: 2/25/2019  
 Revised: 8/24/2019  
 Software: ArcGIS 10.4.1  
 File Name: LPSCommunity\_PlanningArea2.mxd

This map was prepared using information from records and data provided by the City of Plattsmouth, Iowa. The City of Plattsmouth, Iowa, does not guarantee the accuracy of this map or the information contained herein. The City of Plattsmouth, Iowa, is not responsible for any errors or omissions in this map or the information contained herein. The City of Plattsmouth, Iowa, is not responsible for any damages, including consequential damages, arising from the use of this map or the information contained herein.



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

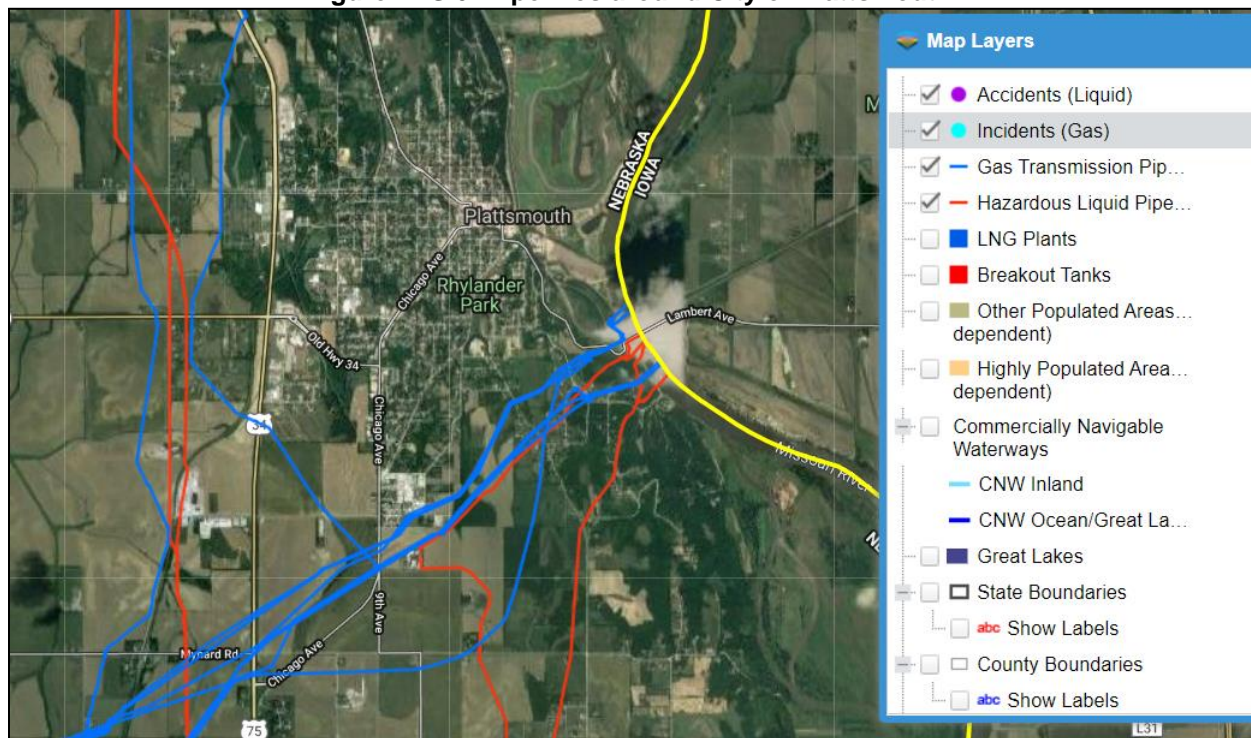
For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction’s capabilities.

### Chemical Spills (Transportation)

Chemical transportation spills are a concern for the City due to the high volume of chemicals transported via the Union Pacific and BNSF rail lines and Highways 34 and 66. Numerous critical facilities are located along these main transportation corridors and would be at risk in the case of a chemical transportation spill. The water treatment plant is located between the Missouri River and the BNSF line. There is also a high hazard dam adjacent to the Union Pacific line. Vulnerable populations at risk include mobile homes, low income residents, or those with decreased mobility. While two rail spill events have occurred in Plattsmouth according to the PHMSA, neither produced property damage, injuries, or fatalities. One event occurred in 1974 when a derailment occurred; however, no injuries or spillage was reported. The second was in 2009 when a leaking oil tanker spilled three liquid gallons on its side shell during loading.

Additionally, there are several gas and hazardous liquid pipelines surrounding the City. The figure below from the National Pipeline Mapping System provides a map of transmission lines around the city. Many of these transmission lines cross underneath the Missouri River into neighboring counties and communities. There have been no major leaks or failures of these transmission lines reported.

Figure PTS.6: Pipelines around City of Plattsmouth



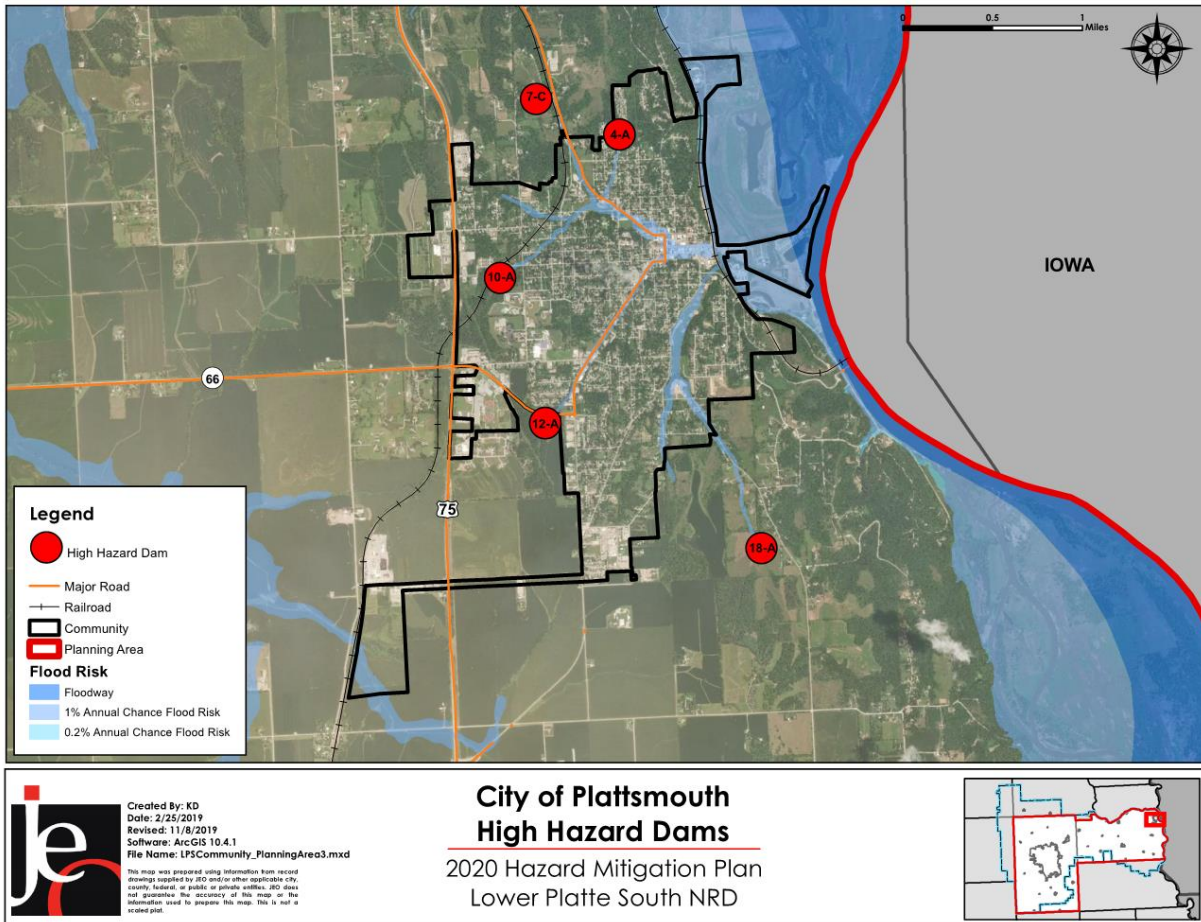
**Dam Failure**

The City of Plattsmouth has five high hazard dams located within or adjacent to the city boundaries. The dams were constructed with the assistance of the Lower Platte South NRD but are now owned and maintained by the City of Plattsmouth. All dams are inspected annually, and high hazard dams have Emergency Action Plans in the case of a dam failure. While no dam failure events have occurred on record, dam failure is a hazard of concern due to the high potential for property damage and loss of life. The local planning team indicated that dams 10A and 18A typically hold water, while the others rarely, if ever, hold water in town.

**Table PTS.5: High Hazard Dams in Plattsmouth**

Dam ID	Dam Name	Owner	River System
NE00097	PLATTSMOUTH 10-A	City of Plattsmouth	Missouri River
NE00098	PLATTSMOUTH 18-A	City of Plattsmouth	Missouri River
NE00099	PLATTSMOUTH 12-A	City of Plattsmouth	Missouri River
NE01888	PLATTSMOUTH 4-A	City of Plattsmouth	Missouri River
NE01889	PLATTSMOUTH 7-C	City of Plattsmouth	Four Mile Creek

**Figure PTS.7: High Hazard Dams in Plattsmouth**



**Flooding**

The local planning team identified flooding as a top concern for the community. Plattsmouth has an extensive history of previous flooding, as documented below. Several critical facilities including

## Section Seven: City of Plattsmouth Community Profile

the NPPD Office, Water Plant, Wastewater Plant are located within the floodplain or are at significant threat of flooding. Previous events include:

- In 1984, the Missouri River flooded with a crest of 34.66' and it caused damage to a wastewater treatment plant clarifier.
- In 1993, the Missouri River flooded with a crest of 35.65' and it destroyed the house at the water treatment plant, damaged the electrical in well house #1, and caused a levee breach above the well field. There was also one drowning fatality in floodwaters north of the well field.
- In 2010, the Missouri River flooded and it collapsed the main interceptor sewer to the wastewater plant, as well as causing pump damage from silt. As a result, the wastewater plant was out of order for months.
- In 2011, the Missouri River flooded with a crest of 36.73' and it collapsed the main interceptor sewer to the wastewater plant. The boat ramp and park on the Missouri River were entirely destroyed. East Main Street was washed out and there was one reported home and three of seven water wells were inundated and destroyed. The city was at risk of completely losing the entire water plant due to structural and electrical damage. According to city officials, public infrastructure damage exceeded \$2,500,000. After the 2011 flood, two of the city wells were written off and a new well was built three feet above base flood elevation and has backup power. In 2011, a sewer separation project was completed which installed a 36" pipe underneath Main Street to assist in stormwater management. The pipe helps protect the city for average heavy rain and flooding from storms with a 3-5" rainfall.
- The March 2019 flood is the most severe flood on record for the City of Plattsmouth. The Platte River cut a shortcut to the Missouri River on the northeast corner of town approximately 1.1 miles west of the Platte River and Missouri River confluence. This entirely inundated the Shilling Wildlife Management Area Refuge and the eastern edge of the City. Homes along the edge of the river near the confluence were flooded and destroyed. The new route also flooded the sand and gravel pits northeast of Plattsmouth and the Pallid Sturgeon chutes east of town. Between the starting point of the river embankment which gave way and the Missouri River rejoin point east of town, there is a seven-foot topographic drop. All city wells and the water treatment plant were flooded and sustained severe damage. The local planning team reported the water treatment plant had over 10 feet of floodwater inundate the facility.

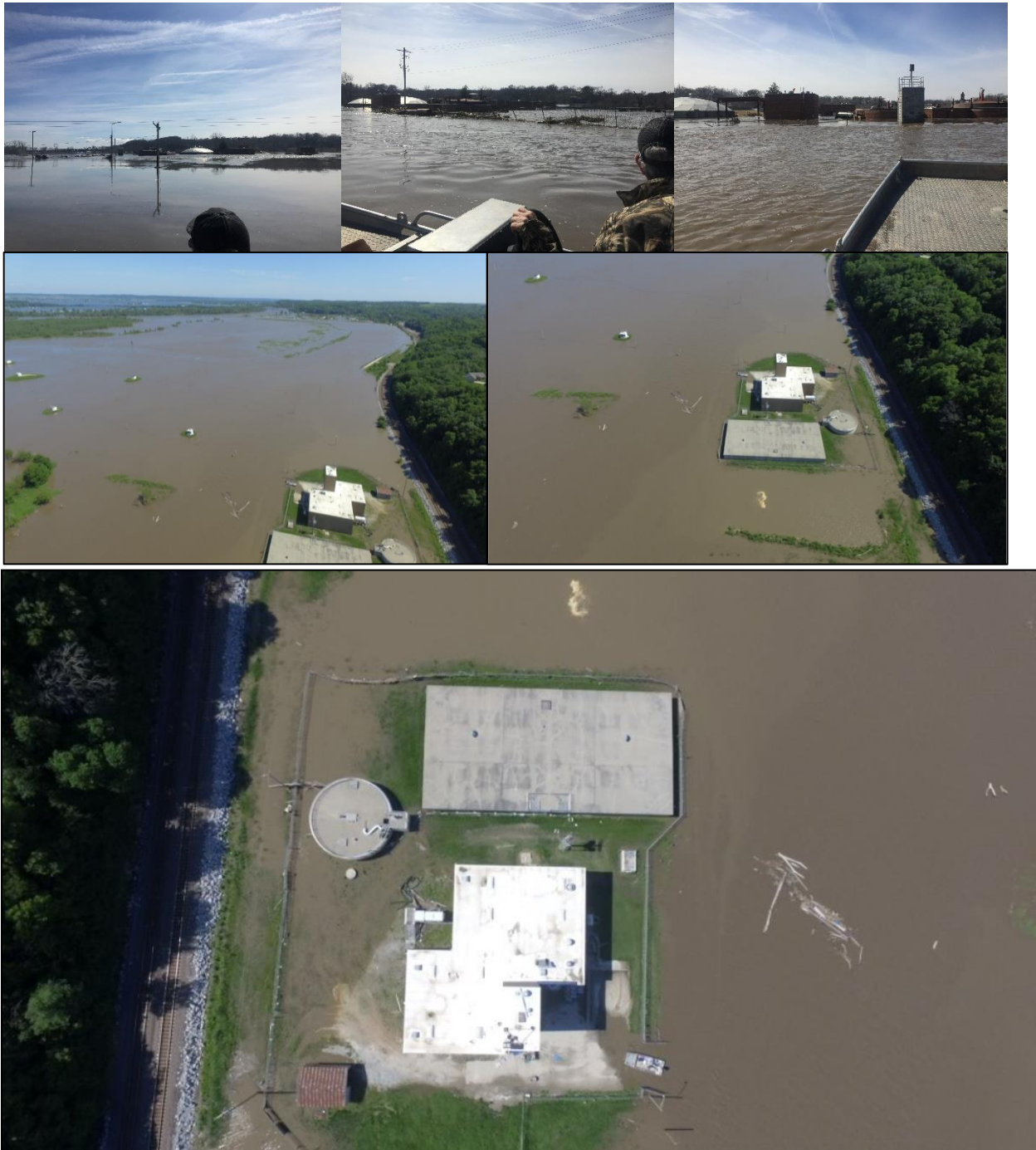
As of November, 2019 the water treatment plant is still surrounded by flood water and can only be accessed via heavy utility vehicles through flood waters. Only one of five wells resumed operations in late July 2019. This well was elevated after the 2011 flood. Of the remaining four, one was entirely destroyed, one is in progress to resume operations, and the last is non-operational. The City is currently determining alternative water supply options. Prior to the flood, the City earned revenue by selling treated water to surrounding communities and rural water districts. The City is now purchasing water from Cass County Rural Water District #1 to meet local needs. The City is also currently working with FEMA to install a water distribution line under the Missouri River to the Metropolitan Utility Department (MUD) north of the river. The City will purchase water wholesale from the MUD if the project is completed.

Additionally, the City is exploring funding options to purchase properties located along the river. The 2019 flood also significantly damaged the boat ramp and park at the end of Main Street which is used heavily by various state and federal agencies. The estimated total



recovery cost for the City of Plattsmouth from the 2019 flood event is in excess of \$40,000,000.

**Figure PTS.8: Water Treatment Plant Flooding in Plattsmouth**



There were also two documented major floods occurring in 1956 and 1974 from the previous hazard mitigation plan. The flooding in the city generally results from heavy rain and snow melt. Two main transportation corridors through town, Washington and Chicago Avenues, are prone to

## Section Seven: City of Plattsmouth Community Profile

flooding during severe events. The Platte and Missouri River overflow their banks and inundate the floodplain on the outskirts of town.

### Severe Thunderstorms

Severe thunderstorms occur annually in the planning area and are typically associated with heavy rain, lightning, high winds, and hail. A June 2017 storm with high winds caused damage to the majority of trees in town which blocked transportation routes, downed power lines, and had to be removed by the City. Most of these trees have since been replaced with new trees but are still at risk for future severe events. Severe thunderstorms have also caused damage to the senior community center and residential homes throughout town. Lightning strikes have damaged electrical equipment at the water treatment plant. Few power lines are buried in Plattsmouth and critical facilities lack weather radios. The local planning team indicated that sirens are located throughout the City, but the analog technology needs to be updated to ensure residents are receiving the most accurate information. Heavy rainfall events can cause significant interior flooding, particularly along Washington and Chicago Streets. The topography along these routes contribute to interior flooding. The local planning team has identified the need for mitigation measures to slow the flow of water through the area; however, current development in the area inhibits potential structural measures.

### Severe Winter Storms

Severe winter storms are common across the planning area and the City of Plattsmouth. Local concerns include access for emergency services to reach residents, snow removal resources, loss of power, and safety of vulnerable populations. The winter of 2008-2009 produced heavy rain on top of snow pack and had significant damage to local buildings and equipment. The Streets Department is responsible for clearing roads of snow and the local planning team indicated that snow removal resources need to be updated and replaced. The City has designated snow routes but does not have snow fences. While the middle and high schools are used as shelter locations, in the case of power loss they do not have backup generators.

### Tornadoes

The local planning team identified tornadoes as a significant concern for the community. The local planning team identified one F0 event in 2003 which did not produce any structural damages. While there are no FEMA certified safe rooms in town, the high school, middle school, and community center are used as community shelters. The local planning team noted that Cass County Emergency Management releases information via social media about tornado and severe weather safety. There are mutual aid agreements between fire and EMS departments.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Plattsmouth has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Plattsmouth has eight City council members and the following offices that may help implement mitigation actions.

- Mayor
- City Administrator
- Clerk
- Police Department
- Public Works Director
- Planning Commission
- City Inspector

- Volunteer Fire Department
- Airport Authority
- Board of Adjustment
- Cemetery Board
- Civil Service Commission
- Library Board
- Park Board
- Emergency Medical Services
- Economic Development Application Review Committee
- Economic Development Citizens Advisory Committee
- Historic Preservation Board
- Housing Authority
- Building and Zoning
- Recreation

### Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table PTS.6: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Emergency Operational 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)		
<i>Administrative &amp; Technical Capability</i>	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

Section Seven: City of Plattsmouth Community Profile

Survey Components/Subcomponents		Yes/No
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	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	Yes
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	High
Does your jurisdiction have the community support to implement projects?	Moderate
Does your jurisdiction staff have the time to devote to hazard mitigation?	Moderate

### Plan Integration

The Zoning Ordinance and Subdivision Ordinances were last fully updated in 2006 but the City makes periodic revisions on an as needed basis. While the ordinance does not fully prohibit development in the floodplain, it does include strict permitting and elevation requirements for structures in these areas and does prohibit any development in the floodway. The City also has a floodplain ordinance which details these requirements as part of the Zoning Ordinance. The local planning team indicated riverine flooding primarily impacts city owned properties while heavy rainfall and interior flooding impacts residential areas and primary transportation routes – thus emphasizing the need for clear zoning and future growth planning for the City.

The City of Plattsmouth follows the 2012 International Building Codes and make revisions and updates to the codes on an as-needed basis. The City has evaluated the requirements of building in dam inundation areas and future updates will likely discuss prohibiting development in these areas.

The City of Plattsmouth has an annex to the Cass County Local Emergency Operations Plan (LEOP), last updated in 2014. The LEOP is currently being updated with an estimated completion date of late 2019. The LEOP incorporates hazard mitigation through the following: addresses hazards of top concern; assigns specific responsibilities to individual communities; identifies scenarios that would require evacuation; identifies sheltering locations; and provides clear assignment of responsibility during an emergency.

The City's overall budget has remained relatively stable over the past decade. The local planning team indicated the budget is typically sufficient to meet current needs; however, all available funds are being utilized to aid in flood response and recovery efforts for the City.

## Mitigation Strategy

### Completed Mitigation Actions

Mitigation Action	Protect New Facilities which House Vulnerable Populations
Description	Ensure all facilities which will house vulnerable populations are placed in the least vulnerable areas of the community
Hazard(s) Addressed	All Hazards
Status	This action was accomplished through the development and updates to the City's Comprehensive Plan, Zoning Ordinances, Subdivision Ordinances.

### Ongoing and New Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, shelters, or other critical facilities
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies based on need
Potential Funding	Enterprise and General Funds, USDA, ADA
Timeline	2-5 years
Priority	Medium
Lead Agency	City Administration
Status	This is a new mitigation action. The City is currently evaluating generator needs for the community shelter. Additional portable generators are needed.

Section Seven: City of Plattsmouth Community Profile

Mitigation Action	Preserve Natural and Beneficial Functions
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain
Hazard(s) Addressed	Flooding
Estimated Cost	\$5,000+
Potential Funding	General Funds
Timeline	Ongoing
Priority	High
Lead Agency	City Administration and Utilities
Status	This is an ongoing effort. Prior to 2011, the City had zoned along the riverfront as residential development. This has since been modified and rezoned for commercial campgrounds and is an ongoing effort to mitigate flood risk.

Mitigation Action	Property Acquisitions
Description	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP. Repetitive loss structures are typically highest priority.
Hazard(s) Addressed	Flooding
Estimated Cost	\$1,500,000
Potential Funding	General Funds, CDBG, USDA, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	City Administration
Status	The City has submitted a NOI for several property acquisitions. At this point the City has not yet submitted an application.

Mitigation Action	Relocate Water Treatment Plant
Description	Relocate the City's water treatment plant out of the floodplain.
Hazard(s) Addressed	Flooding
Estimated Cost	\$20,000,000
Potential Funding	FEMA 428 Funds, Flood Insurance, SRF, Enterprise Funds, USDA
Timeline	2-5 years
Priority	High
Lead Agency	City Administration
Status	The City is currently evaluating the feasibility of relocating or elevating the treatment plant.

Mitigation Action	Shelter-In-Place Training
Description	Ensure that all critical facilities, businesses, and residents located near major transportation corridors are aware of how to safely shelter in place in the case of a chemical incident
Hazard(s) Addressed	Chemical Spills (Transportation)
Estimated Cost	\$1,000+
Potential Funding	Emergency Management, General Funds
Timeline	Ongoing
Priority	Medium
Lead Agency	Emergency Management, City Administration
Status	This project has not yet been started.

Mitigation Action	Urban Drainage Study
Description	Conduct an Urban Drainage Study to analyze the impact on the Washington and Chicago corridors from significant rainfall events.
Hazard(s) Addressed	Severe Thunderstorms, Flooding
Estimated Cost	\$30,000
Potential Funding	Enterprise Funds
Timeline	2-5 years
Priority	Medium
Lead Agency	City Administration
Status	This is new mitigation action.

Mitigation Action	Water Distribution Line/Primary Water Source Line
Description	Connect to the MUD water plant and buy water wholesale to supply the City of Plattsmouth with a drinking water supply.
Hazard(s) Addressed	Flooding, Drought
Estimated Cost	\$18,000,000+
Potential Funding	Enterprise Fund, HMGP, PDM
Timeline	2-5 years
Priority	High
Lead Agency	City Administration
Status	The City is currently evaluating options with FEMA and the MUD to design and implement this project.

**Removed Mitigation Actions**

Mitigation Action	Maintain Good Standing with the NFIP
Description	Maintain Good Standing with National Flood Insurance Program (NFIP)
Reason for Removal	While the City of Plattsmouth will continue to participate in the NFIP, continued participation is no longer considered a mitigation action.

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# COMMUNITY PROFILE

## VILLAGE OF SOUTH BEND

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

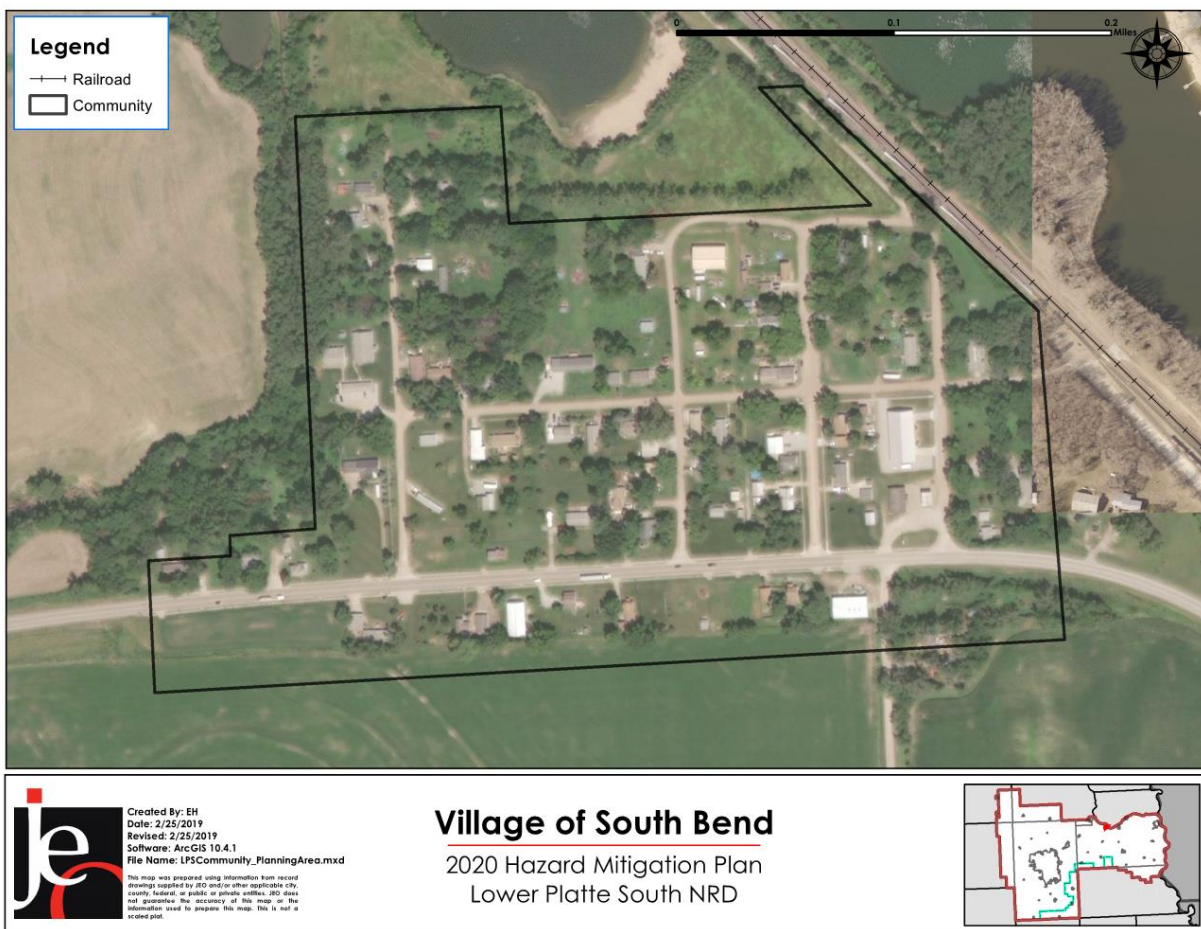
**Table STB.1: South Bend Local Planning Team**

NAME	TITLE	JURISDICTION
DEBORAH CUNNINGHAM	Village Clerk	Village of South Bend

## Location and Geography

The Village of South Bend is in the northwest portion of Cass County, directly on the Platte River and less than a mile south of the County line. The Village covers an area of 0.13 square miles. There are two waterways near the town. The largest is the Platte River, less than a mile east of town, which flows south. The smaller waterway is the Fountain Creek, a tributary of the Platte, which flows east into the main stem.

**Figure STB.1: Village of South Bend**



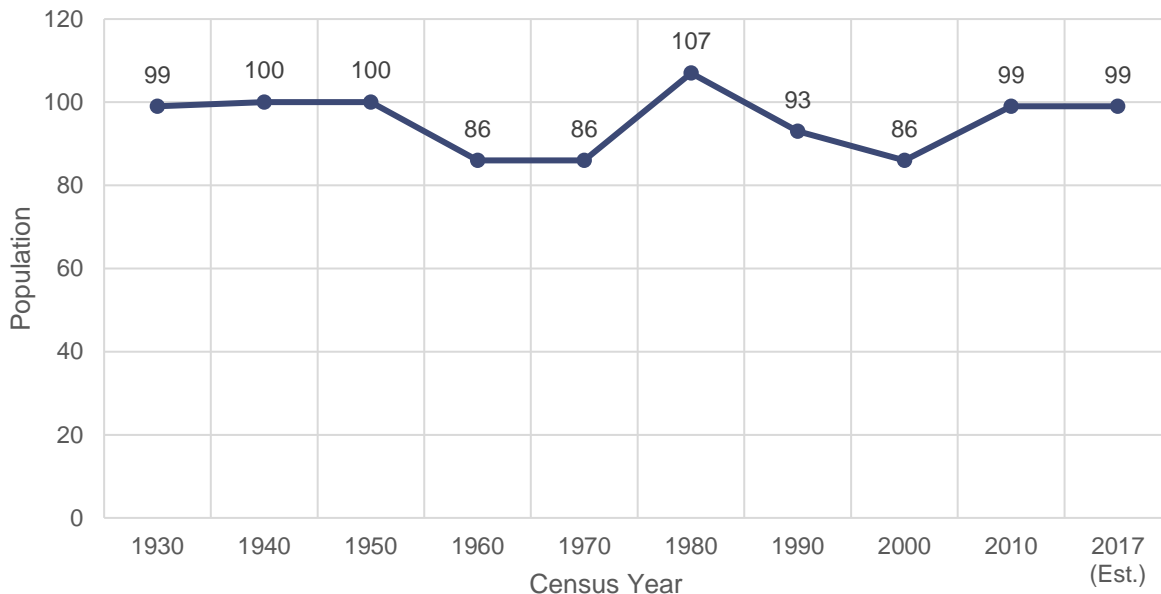
## Transportation

The Village of South Bend has one major transportation corridor directly located in the Village limits, Nebraska Highway 66, which runs east-and-west through the village before turning south. This corridor averages 1,175 vehicles per day.<sup>186</sup> There is a Burlington-Northern-Santa Fe rail line which runs northwest-to-southeast on the northeast side of town.<sup>187</sup> The local planning team indicated chemicals are frequently transported through the Village via semi-trucks and rail. However, no major transportation incidents have occurred recently. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

South Bend's population declined/increased from about 86 people in 2000 to 99 people in 2017, an increase of 13 people and total gain of 15%. This is important because increasing populations are associated with changing demographics which may impact hazard mitigation priorities. South Bend's population accounted for 0.38% of Cass County's population of 25,767 in 2017.<sup>188</sup>

Figure STB.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, South Bend's population was:

- **Older.** The median age of South Bend was 52.5 years old in 2017, compared with the County average of 41.9 years. South Bend's population grew younger since 2009, when the median age was 59 years old. South Bend had a smaller proportion of people under 20 years old (6%) than Cass County (26.6%).<sup>189</sup>
- **More ethnically diverse.** Since 2010, South Bend grew more ethnically diverse. In 2010, South Bend's population was 1.8% Hispanic or Latino. By 2017, South Bend's population

186 Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

187 Nebraska Department of Roads. "Nebraska Railroads." Accessed January 2019. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.

188 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

189 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of South Bend Community Profile

was 5.1% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>190</sup>

- **More likely to be below the federal poverty line.** The poverty rate in South Bend (9.4% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>191</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing(9.4%) and construction (9%) In comparison to the County, The Village of South Bend economy had:

- **Similar mix of industries.** South Bend major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (27.9%), construction (19.7%), professional/scientific/management/administrative/waste management services (14.8%), and retail (9.8%).<sup>192</sup>
- **Lower household income.** South Bend's median household income in 2017 (\$64,375) was \$3,909 lower than the County (\$68,284).<sup>193</sup>
- **More long-distance commuters.** A total of 30.7% percent of workers in South Bend commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 54.8% of workers in South Bend commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>194</sup>

### Major Employers

There are no major employers located within the Village of South Bend. The majority of residents commute to Omaha for employment.

### Housing

In comparison to Cass County, South Bend's housing stock was:

- **Less renter-occupied.** Of occupied housing units in South Bend, 10.6% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>195</sup>
- **Younger.** South Bend had a similar share of housing built prior to 1970 than Cass County (32.7% compared to 41.4%).<sup>196</sup>
- **No multifamily dwellings.** The predominant housing type in South Bend is single family detached (73.1%), with less stock than Cass County (87.7%). South Bend contains no multifamily housing with five or more units per structure. South Bend has a larger share of mobile housing (23.1%) compared to the County (3.6%).<sup>197</sup> Mobile homes are located on the west side of the Village.

The local planning team indicated current housing stock is not sufficient to meet the demands of an increasing population. However, Village housing numbers do not include the homes located along Middle Island and North Lake along the river. These areas approximately double the total housing market available for residents.

190 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

191 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

192 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

193 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

194 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

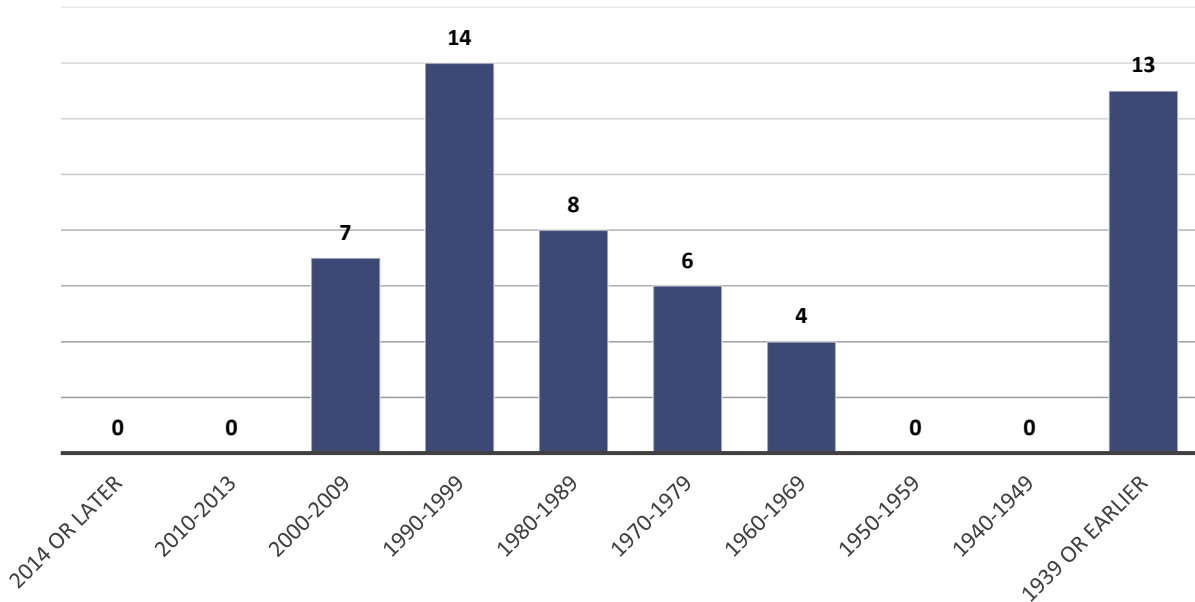
195 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

196 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

197 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure STB.3: Housing Units by Year Built**



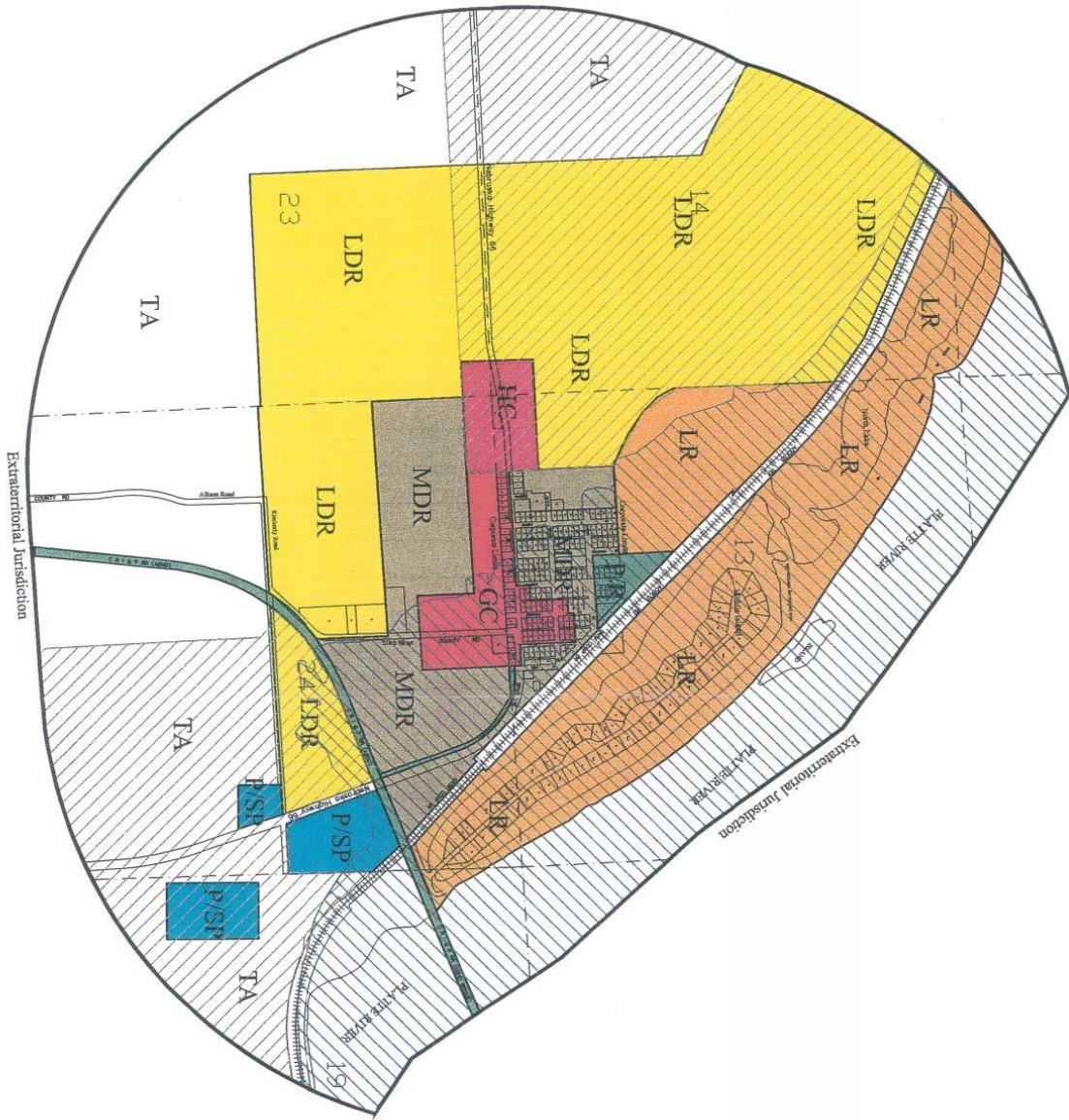
Source: U.S. Census Bureau<sup>198</sup>

### Future Development Trends

In the past five years few changes have occurred in the Village of South Bend. One home was demolished but no other changes to housing were made. Approximately two years ago the Post Office was closed. While the possibility of relocation within town has been discussed, the process has not yet been started. South Bend’s population is increasing which the local planning team attributes to young families moving to the area to raise families in a small community and the proximity to large urban centers (Omaha and Lincoln). There are currently no new housing or commercial developments planned for the next five years.

<sup>198</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure STB.4: Future Land Use Map



- FUTURE LAND USE**
- Transitional Agriculture
  - Lake Side Residential
  - Low Density Residential
  - Medium Density Residential
  - General Commercial
  - Highway Commercial
  - Conservation Overlay
  - Public / Semi-Public
  - Parks and Recreation

VILLAGE OF SOUTH BEND  
Cass County, Nebraska  
LAND USE PLAN MAP  
FIGURE 5

SCANNED: 06/11/2010 10:00 AM  
THIS MAP IS A PRELIMINARY MAP AND SHOULD NOT BE USED FOR ANY PURPOSES WITHOUT THE APPROVAL OF THE VILLAGE OF SOUTH BEND. THE VILLAGE OF SOUTH BEND IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY APPEAR IN THIS MAP. THE VILLAGE OF SOUTH BEND IS NOT RESPONSIBLE FOR ANY DAMAGES, INCLUDING CONSEQUENTIAL DAMAGES, THAT MAY BE SUFFERED BY ANY PARTY AS A RESULT OF THE USE OF THIS MAP.

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PLANNING  
CONSULTANTS

## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table STB.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
62	\$3,240,186	\$52,261	6	\$2,868,004

Source: Nebraska Department of Revenue, Property Assessment Division<sup>199</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites in South Bend.<sup>200</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

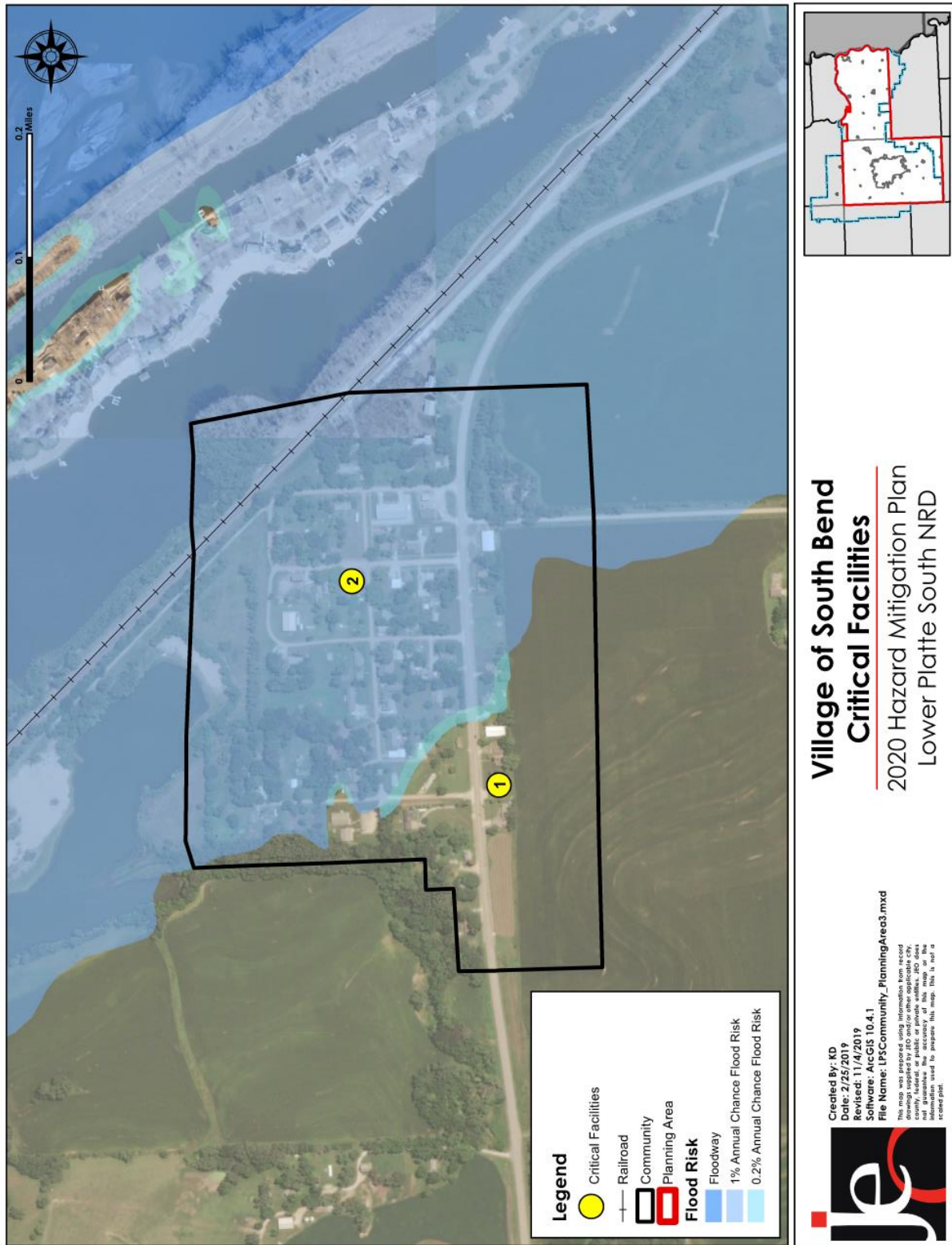
**Table STB.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Siren	N	N	N
2	Village Office	N	N	Y

<sup>199</sup> County Assessor. Personal correspondence, [2019].

<sup>200</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure STB.5: Critical Facilities





## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Chemical Spills (Transportation)

Chemical transportation spills are a concern for the Village of South Bend due to the immense number of semi-trucks and rail cars that pass through the area carrying chemicals. Two chemical rail spills occurred in 1998 in South Bend which released a total of 25,000 liquid gallons of hazardous chemicals and caused \$46,000 in damages. No other major chemical transportation spills have occurred since. The local planning team is especially concerned with blocked transportation routes caused by derailment as the rail line crosses the only access point to many homes along the river.

### Flooding

Flooding is a hazard of major concern due to the close proximity to the Platte River and because most of the Village is located within the 1% annual chance flood risk area. The flood event in 2011 caused a nearby stream to become plugged and created backflow into the Village. The creek and attached ditches have since been cleared out to protect the town. The March 2019 flood event led to water up to the edges of town. The local planning team indicated the rail line acts as a small measure of protection to flooding as it is located between the Village and the river. Most flood damage events are tied to high groundwater levels seeping into basements. The village's interior stormwater system is sufficient to clear heavy rain events.

### Severe Winter Storms

Severe winter storms includes hazards such as blizzards, extreme cold, and heavy snow. The local planning team is most concerned with extreme cold temperatures and loss of electricity in conjunction with severe winter storms. All power lines within the Village are above ground and are susceptible to damage from ice accumulation during winter storm events. The Village is serviced by OPPD electrical service, which has a good track record in the Village for restoring power quickly. Most residents in town also have personal backup generators and there is a overall "good neighbor" atmosphere in town to share resources. All municipal records are backed up with the clerk. Snow removal has been contracted out, but additional snow removal resources are needed for the Village.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. South Bend has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. South Bend has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Planning Commission

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table STB.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes – County
	Floodplain Management Plan	Yes
	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)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	County
	Civil Engineering	No
	Local Staff Who Can Assess Community’s Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	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	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	Yes
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)		
<i>Education &amp;</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency	No

Survey Components/Subcomponents		Yes/No
<i>Outreach Capability</i>	preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Moderate
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

The Village of Eagle has an annex to the Cass County Local Emergency Operations Plan (LEOP). The LEOP was last updated in 2014 and is currently undergoing revision. The LEOP outlines hazards of top concern, assigns specific responsibilities to communities, identifies shelter locations, and identifies evacuation protocols.

At this time no other Village plans are integrated with hazard mitigation goals or actions.

### Mitigation Strategy

#### Completed Mitigation Actions

Mitigation Action	Improve storm sewers and drainage patterns in and around the Village
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazards Address	Flooding
Status	Surrounding creek and ditches throughout the Village have been cleared out and reinforced to prevent future flooding in town. This was a joint project completed in 2017 with the Lower Platte South NRD.

### Ongoing and New Mitigation Actions

Mitigation Action	Obtain Tree City Designation
Description	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a tree maintenance program in order to maintain trees in a community to limited potential damages when a storm event occurs.
Hazard(s) Addressed	Severe Thunderstorm, Severe Winter Storms, High Winds, Tornadoes
Estimated Cost	\$0
Potential Funding	General Fund
Timeline	1 year
Priority	Medium
Lead Agency	Village Clerk
Status	This project has not yet been started

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to critical facilities.
Hazard(s) Addressed	All hazards
Estimated Cost	\$15,000-\$30,000 per generator
Potential Funding	General Fund
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Clerk
Status	A new generator is needed which will be stored at the Village Office. This generator will be used to help run local municipal efforts during periods of power outage.

### Removed Mitigation Actions

Mitigation Action	Storm Shelters
Description	Identify, design, and develop storm shelters to protect community and critical facilities
Reason for Removal	This action was identified not to be a priority for the local planning team or residents in South Bend.

Mitigation Action	Maintain Good Standing with the NFIP
Description	Maintain good standing with the National Flood Insurance Program
Reason for Removal	While the Village will continue to participate in the NFIP, this action is no longer considered a mitigation action by FEMA.

# COMMUNITY PROFILE

## VILLAGE OF UNION

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

Table UNN.1: Union Local Planning Team

NAME	TITLE	JURISDICTION
MELISSA HANSEN	Clerk	Village of Union
STEVE HEYEN	Village Maintenance	Village of Union

## Location and Geography

The Village of Union is in the southeastern corner of Cass County, approximately four miles west of the Missouri River and 16 miles south of the Platte River. The Village covers an area of 0.21 square miles. There is one major waterway near the town, the Weeping Water Creek, which flows south less than a mile west of the town.

Figure UNN.1: Village of Union





Created By: EH  
Date: 2/25/2019  
Revised: 2/25/2019  
Software: ArcGIS 10.4.1  
File Name: LPSCommunity\_PlanningArea.mxd

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

### Village of Union

2020 Hazard Mitigation Plan  
Lower Platte South NRD



## Transportation

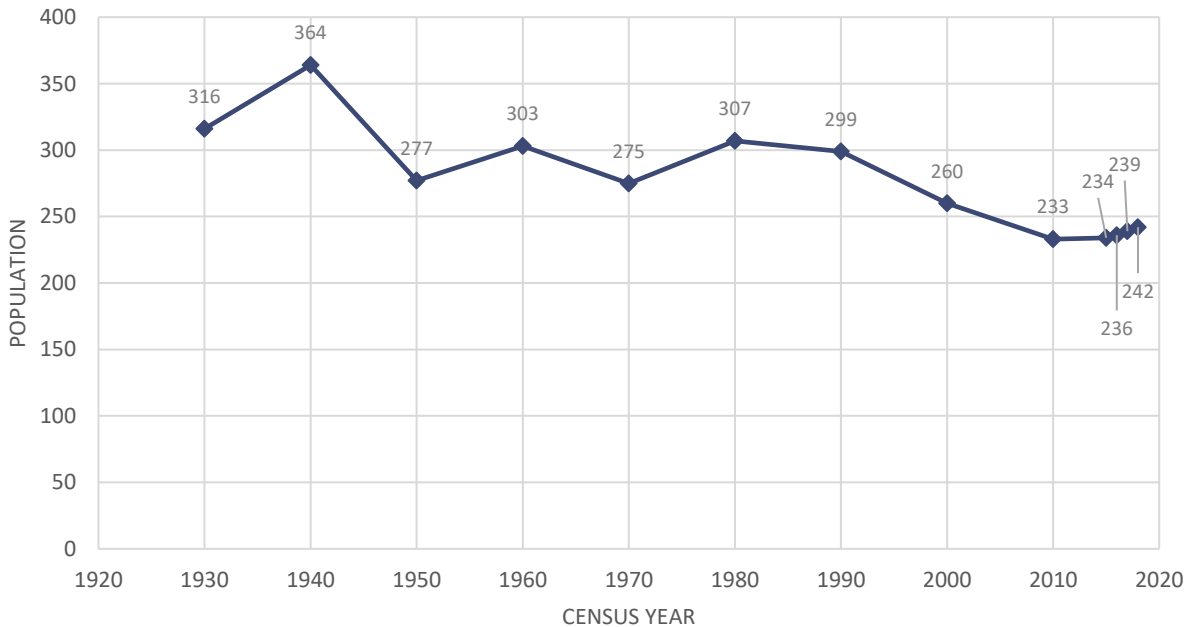
The Village of Union has two major transportation corridors. One directly located in the Village limits and the other adjacent. The first is US Highway 34 which runs east-and-west through the center of town where it becomes Main Street and averages 1,405 vehicles per day. The second corridor is US Highway 75 which runs north-and-south less than a mile east of town where it intersects with US Highway 34. This corridor averages 4,050 vehicles per day. During the March 2019 flood event in eastern Nebraska, Interstate 29 was closed to through traffic, and Highway 75 was used as a detour route, vastly increasing the volume of vehicles traveling through the area for a sustained period of time.

There are three Union Pacific (UP) rail lines that merge northwest of town. Two of these rail lines run north-and-south less than a mile west of town. These lines primarily haul agricultural and energy products. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Union’s population declined from about 260 people in 2000 to 242 people in 2017. The local planning team indicated that while the population has declined slightly it remains overall stable. This is important because declining populations are associated with decreasing tax revenues and unoccupied structures. Union’s population accounted for 0.94% of Cass County’s population of 25,767 in 2017.<sup>201</sup>

Figure UNN.2: Population 1930 – 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Union’s population was:

201 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: Village of Union Community Profile

- **Similarly aged.** The median age of Union was 43.7 years old in 2017, compared with the County average of 41.9 years. Union's population stayed similar since 2009, when the median age was 42.3 years old. Union had a similar proportion of people under 20 years old (28.4%) than Cass County (26.6%).<sup>202</sup>
- **Less ethnically diverse.** Since 2010, Union grew less ethnically diverse. In 2010, Union's population was 9.5% Hispanic or Latino. By 2017, Union's population was 1.2% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>203</sup>
- **Less likely to be below the federal poverty line.** The poverty rate in Union (0% of families living below the federal poverty line) was lower than Cass County's poverty rate (4.5%) in 2017.<sup>204</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The Village of Union economy had:

- **Diverse mix of industries.** Union major employment sectors, accounting for 10% or more of employment each, were: construction (19.4%), education/healthcare/social services (15.3%), and retail (13.9%).<sup>205</sup>
- **Lower household income.** Union's median household income in 2017 (\$32,038) was \$36,246 lower than the County (\$68,284).<sup>206</sup>
- **Fewer long-distance commuters.** A total of 17.9% percent of workers in Union commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 55.3% of workers in Union commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>207</sup>

### Major Employers

There are no major employers located directly within Union and most residents commute to Nebraska City, Lincoln, Bellevue, and Omaha for employment.

### Housing

In comparison to Cass County, Union's housing stock was:

- **Fewer renter-occupied.** Of occupied housing units in Union, 15.5% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>208</sup>
- **Older.** Union had a higher percentage of housing built prior to 1970 than Cass County (55.3% compared to 41.4%).<sup>209</sup>
- **No multifamily dwellings.** The predominant housing type in Union is single family detached (78.7%), with less stock than Cass County (87.7%). Union contains no multifamily housing with five or more units per structure. Union has a larger share of mobile housing (11.7%) compared to the County (3.6%).<sup>210</sup> However, the local planning team indicated several mobile homes are used for commercial purposes; thus, these statistics may be artificially inflated. Mobile homes are located throughout the Village.

202 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

203 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

204 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

205 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

206 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

207 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

208 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

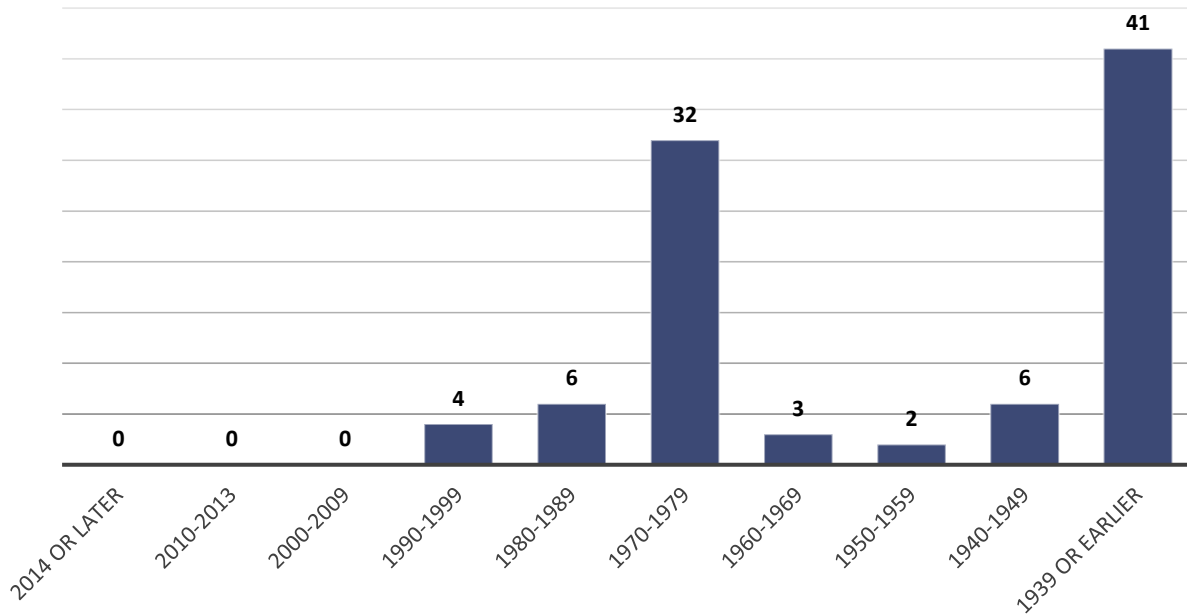
209 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

210 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.



This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure UNN.3: Housing Units by Year Built**



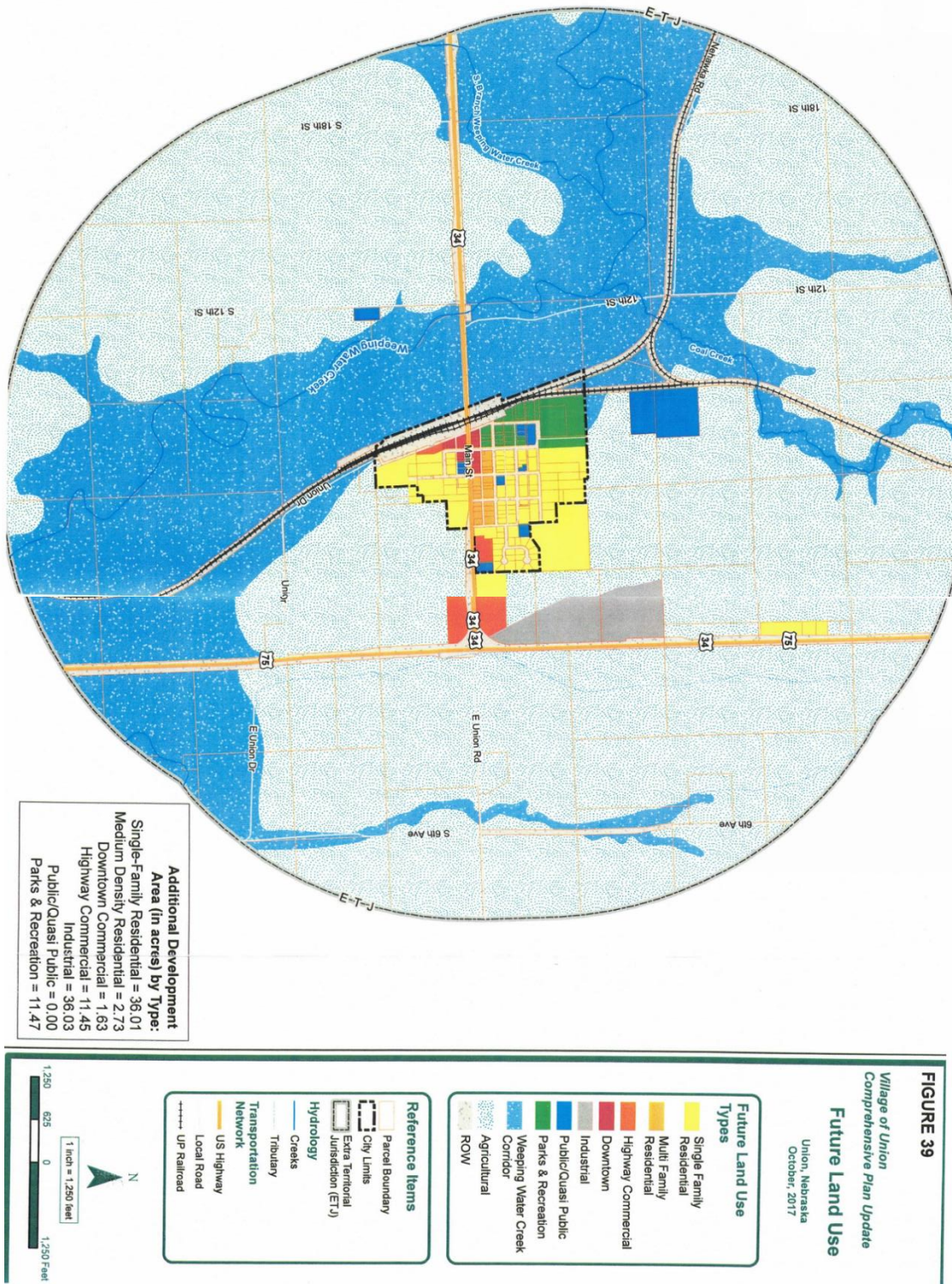
Source: U.S. Census Bureau<sup>211</sup>

### Future Development Trends

Changes in the past five years include the demolition of several buildings and the Comprehensive Plan has been updated. There are no new housing or commercial developments planned in the next five years. The Village of Union has a declining population trend which the local planning team attributed to an aging population and several residents relocating. While some families have moved to the area in the past two years, immigration has not caught up with overall population decline.

<sup>211</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

Figure UNN.4: Future Land Use Map



## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table UNN.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
133	\$6,914,156	\$51,986	10	\$226,565

Source: Nebraska Department of Revenue, Property Assessment Division<sup>212</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites inside the Union community boundary.<sup>213</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

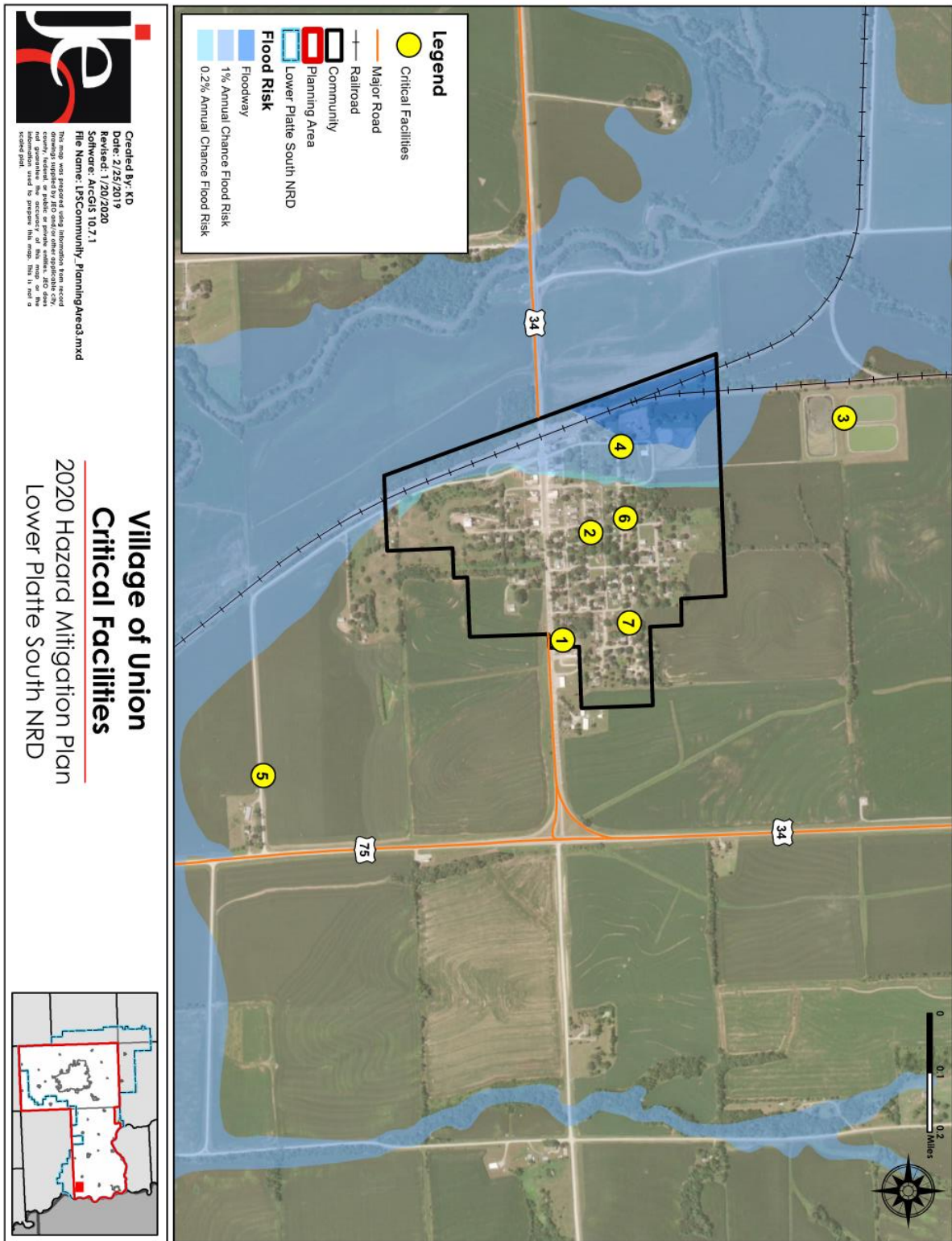
**Table UNN.3: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Fire Station/Village Office	N	N	N
2	First Baptist Church	N	N	N
3	Lagoon	N	N	N
4	Lift Station	N	Y/Mobile	Y
5	Pump House	N	Y/Mobile	N
6	Union United Methodist Church	N	N	N
7	Water Tower	N	Y/Mobile	N

<sup>212</sup> County Assessor. Personal correspondence, [2019].

<sup>213</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure UNN.5: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Drought

The primary concerns for the village related to drought are wells not having enough water and the sewer lagoons needing water pumped into them to meet regulatory requirements. Past drought events have forced the community to pump water from the wells to maintain proper level in the lagoons. Union monitors the water supply by using meters at the wells and meters on residential supplies. Water supply levels have been sufficient during past drought events, however, the local planning team indicated that high nitrates have been an issue.

### Flooding

The local planning team reported two flooding events in 1993 and 2010. In April 1993, extensive flooding occurred in the west end of the village. No damages were reported from the flood. The 2010 flood event was due to snow melt in March and April. This event caused some damages to public facilities and private properties. Areas of the community most prone to flooding are the park and near the railroad. The local planning team indicated that stormwater drainage is not an issue for the community.

### Severe Thunderstorms

In May 2004, a major thunderstorm impacted the village with 100 mph winds that uprooted and damaged trees across the community. Other severe thunderstorms since then have produced large hail that has caused damage to roofs of residences and critical facilities. Municipal records are protected with surge protectors and backed up in two locations. The local planning team indicated that they would like to purchase a small fireproof/floodproof safe to store backup copies of computer systems and thumb drives. There are hazardous trees on private properties that could damage power lines during a severe thunderstorm or high wind event. In the event of a power loss, the village has a portable generator that moves between the well house and lift station. A weather radio is located at the concession stand to warn residents of impending severe weather.

### Severe Winter Storms

The primary concerns related to severe winter storms is wear on equipment and snow melt damaging roads. The last significant severe winter storm occurred in 2010 when the village was unable to keep streets clear with the high snowfall amounts in December and January. Snow removal is performed by Village Maintenance using a truck with snowblade and a tractor. These resources are typically sufficient for a normal snowfall. If a large snowfall occurs, community members also assist in snow removal from the streets. The village does not have designated snow routes and does not use snow fences.

### Tornadoes

There have been no recorded tornado events by the NCEI or local planning team. In the event of power loss, municipal records are backed up on a portable drive every month. Union has one warning siren that is activated manually on the pole. The community had another siren, but it is down causing some community members to have issues hearing the siren. There is no community

## Section Seven: Village of Union Community Profile

safe room, but the residents can go to the Baptist Church for shelter. If a tornado were to affect the village, mutual aid agreements are in place with Murray and Nehawka Fire and Rescue.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Union has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Union has five Village board members and the following offices that may help implement mitigation actions.

- Board Chair
- Clerk
- Sewer Plant Operator/Maintenance
- Utilities Commissioner
- Volunteer Fire Department
- Street Superintendent
- Village Trustees

### Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table UNN.4: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	County
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes

Survey Components/Subcomponents		Yes/No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	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	No
Other (if any)		
<i>Education &amp; Outreach Capability</i>	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
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Limited
Does your jurisdiction have the staff/expertise to implement projects?	Limited
Does your jurisdiction have the community support to implement projects?	Limited
Does your jurisdiction staff have the time to devote to hazard mitigation?	Limited

### Plan Integration

Union’s Comprehensive Plan was last updated in 2017. The primary hazard discussed in the plan is flooding. Flood related components include directing development away from the flood and encouraging the preservation of open space. The plan also contains objectives aimed at safe growth.

The Zoning Ordinance for the village was last updated in 2014. It discourages development in the floodplain, prohibits development within the floodways, identifies floodplain areas as open space, requires more than one-foot elevation above Base Flood Elevation, and limits density in the

## Section Seven: Village of Union Community Profile

floodplain. Union's Emergency Operations Plan is an annex to the 2014 Cass County plan. The plan identifies hazards of greatest concern, locations of emergency shelters, critical evacuation routes, and assigns individual responsibilities.

### Mitigation Strategy

#### Completed Mitigation Actions

Mitigation Action	Utilize low impact development practices and green infrastructure to reduce flood risk
Description	Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding
Status	This action was accomplished in 2018 through the "Keep Cass County Beautiful" initiative which improved development and stormwater flow in Unity Park (A St. and 1 <sup>st</sup> )

#### Ongoing and New Mitigation Actions

Mitigation Action	Alert Siren
Description	Evaluate and improve current warning alert systems.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$25,000+
Potential Funding	General Fund, HMGP, PDM
Timeline	1 year
Priority	High
Lead Agency	Fire Department, Village Maintenance, Village Clerk
Status	This is a new mitigation action. The current warning system is outdated and non-functional. A new system is needed to service the entire Village. Two sirens are needed in town with remote activation available at the Fire Hall/Village Office.

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to critical facilities
Hazard(s) Addressed	All Hazards
Estimated Cost	\$15,000-\$30,000 per generator
Potential Funding	General Funds
Timeline	2-5 years
Priority	Medium
Lead Agency	Village Maintenance, Village Clerk
Status	Partnerships with other agencies are currently being explored for funding and siting of generators. Generators are needed at the lift station and water tower in particular.

Mitigation Action	Backup Storage
Description	Purchase and secure a fire and flood proof safe for municipal record storage
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000
Potential Funding	General Funds
Timeline	2-5 years
Priority	Low
Lead Agency	Village Clerk
Status	This is a new mitigation action.



**Removed Mitigation Actions**

Mitigation Action	Improve storm sewers and drainage patterns in and around the Village
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding.
Reason for Removal	The local planning team indicated that the current stormwater system is sufficient to meet local needs.

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# COMMUNITY PROFILE

## CITY OF WEeping WATER

Lower Platte South Natural Resources District  
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

## Local Planning Team

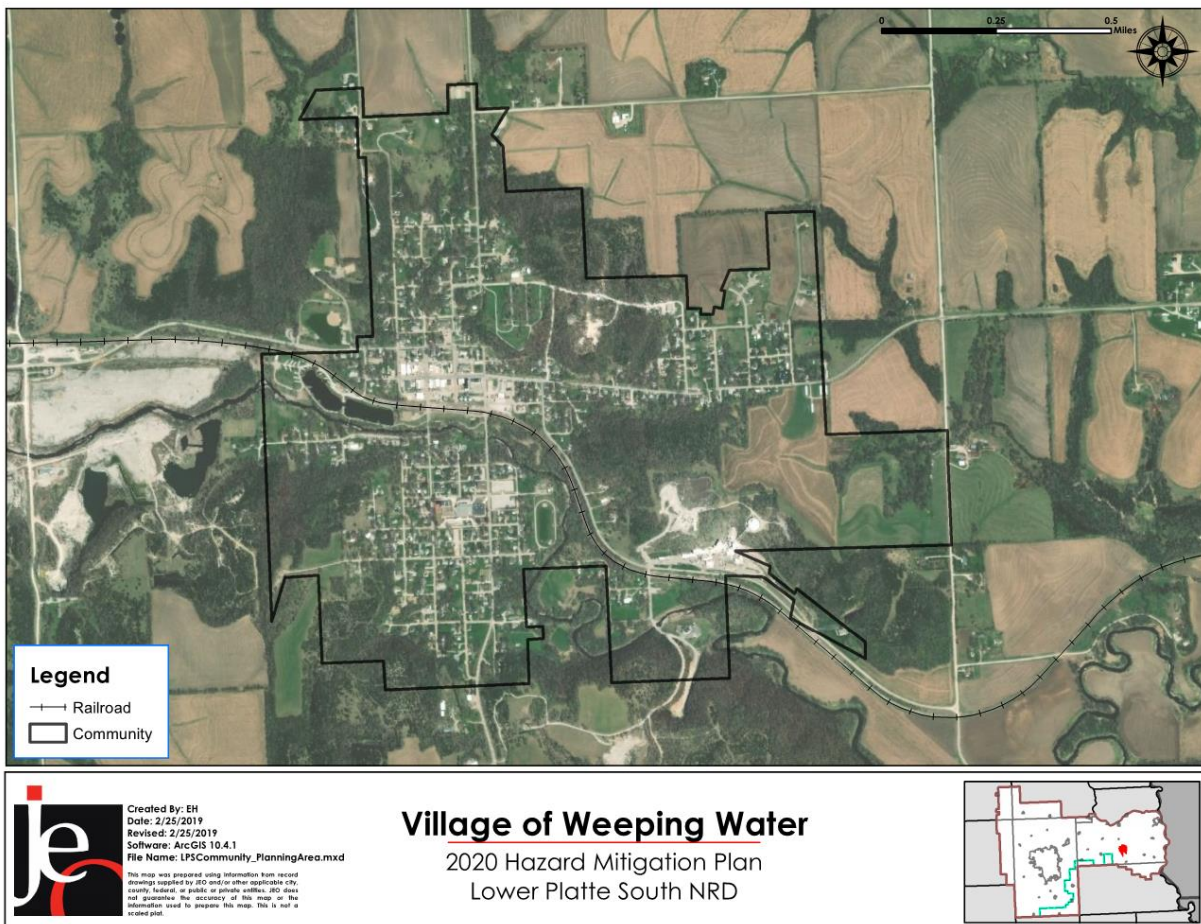
Table WPW.1: Weeping Water Local Planning Team

NAME	TITLE	JURISDICTION
MICHAEL BARRETT	Mayor	City of Weeping Water
RAY FREW	Council President	City of Weeping Water
LINDA FLEMING	City Clerk	City of Weeping Water

## Location and Geography

The City of Weeping Water is in the central portion of Cass County, approximately 15 miles west of the Missouri River and 10 miles south of the Platte River. The City covers an area of 0.97 square miles. There are two major waterways near the town. The largest is the Weeping Water Creek which flows east-and-west through the center of town and is the main stem for the tributary South Cedar Creek north of town. These bodies of water form a confluence three miles east of town.

Figure WPW.1: City of Weeping Water



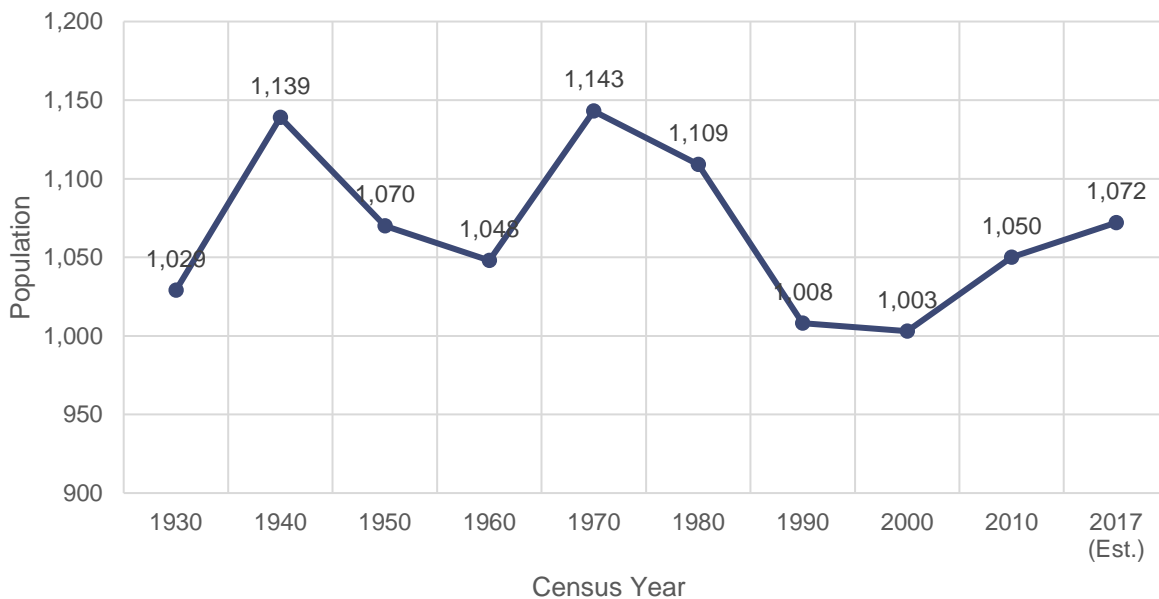
## Transportation

The City of Weeping Water has one major transportation corridor, Nebraska Highway 50 which runs north-and-south about two miles west of town and is connected by a spur road, Nebraska Highway 50. This corridor averages 3,585 vehicles per day and the spur road averages 995.<sup>214</sup> The local planning team indicated the spur road is used frequently and is of major importance for the community. There are two rail lines to the west which merge and run east through the center of town. These are owned by Union Pacific (UP) and haul agricultural and energy commodities.<sup>215</sup> Hazardous chemicals are frequently transported along these routes and include muriatic acid, ammonium nitrate, fuel oil, calcium chloride, sulfuric acid, or others. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Demographics

Weeping Water's population increased from about 1,003 people in 2000 to 1,072 people in 2017, an increase of 69 people and total gain of 6.9%. This is important because shifting internal demographics in a relatively stable population may impact hazard mitigation priorities. Weeping Water's population accounted for 4.2% of Cass County's population of 25,767 in 2017.<sup>216</sup>

Figure WPW.2: Population 1930 - 2017



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to Cass County, Weeping Water's population was:

- Older.** The median age of Weeping Water was 46.8 years old in 2017, compared with the County average of 41.9 years. Weeping Water's population grew younger since 2009, when the median age was 38.1 years old. Weeping Water had a smaller proportion of people under 20 years old (22.1%) than Cass County (26.6%).<sup>217</sup>

214 Nebraska Department of Transportation. "Statewide Traffic Flow Map." Accessed December 2018. <https://dot.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>.

215 Nebraska Department of Roads. "Nebraska Railroads." Accessed December 2018. <http://opportunity.nebraska.gov/files/businessdevelopment/winery/NebraskaRailMap.pdf>.

216 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

217 United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

## Section Seven: City of Weeping Water Community Profile

- **More ethnically diverse.** Since 2010, Weeping Water grew more ethnically diverse. In 2010, Weeping Water's population was 0% Hispanic or Latino. By 2017, Weeping Water's population was 0.2% Hispanic or Latino. During that time, the Hispanic or Latino population in Cass County grew from 2.3% in 2010 to 3.1% in 2017.<sup>218</sup>
- **More likely to be below the federal poverty line.** The poverty rate in Weeping Water (7.2% of families living below the federal poverty line) was higher than Cass County's poverty rate (4.5%) in 2017.<sup>219</sup>

### Employment and Economics

The major economic base of Cass County is a mixture of education/healthcare/social services (22.2%), retail (13.5%), finance/insurance/real estate/rental/leasing (9.4%) and construction (9%) In comparison to the County, The City of Weeping Water economy had:

- **Diverse mix of industries.** Weeping Water major employment sectors, accounting for 10% or more of employment each, were: education/healthcare/social services (22.8%), manufacturing (12.8%), and transportation/warehousing/utilities (11.2%).<sup>220</sup>
- **Lower household income.** Weeping Water's median household income in 2017 (\$57,813) was \$10,471 lower than the County (\$68,284).<sup>221</sup>
- **Similar commuter.** A total of 37.7% percent of workers in Weeping Water commuted for fewer than 15 minutes, compared with 24.6% of workers in Cass County. An additional 41.5% of workers in Weeping Water commute 30 minutes or more to work, compared to 44.9% of the County workers.<sup>222</sup>

### Major Employers

Major employers within the City of Weeping Water include PSC Phosphate/Nutrien plant, Rerford Limestone, Martin Mareta, and Iowa Lime Company. A large percentage of residents commute to Lincoln and Omaha for employment.

### Housing

In comparison to Cass County, Weeping Water's housing stock was:

- **More renter-occupied.** Of occupied housing units in Weeping Water, 22.2% are renter-occupied compared with 18.2% of renter housing in Cass County.<sup>223</sup>
- **Older.** Weeping Water had a similar share of housing built prior to 1970 than Cass County (62.6% compared to 41.4%).<sup>224</sup>
- **Fewer multifamily dwellings.** The predominant housing type in Weeping Water is single family detached (83.6%), with less stock than Cass County (87.7%). Weeping Water contains fewer multifamily housing with five or more units per structure compared to Cass County (1% compared to 3.6%). However, Weeping Water has a larger share of 3- and 4-unit structures than the County (11% for the City compared to 2.1% for the County). Weeping Water has a smaller share of mobile housing (1%) compared to the County (3.6%).<sup>225</sup> Mobile homes are located throughout the City.

This housing information is relevant to hazard mitigation as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities

218 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

219 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

220 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

221 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

222 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

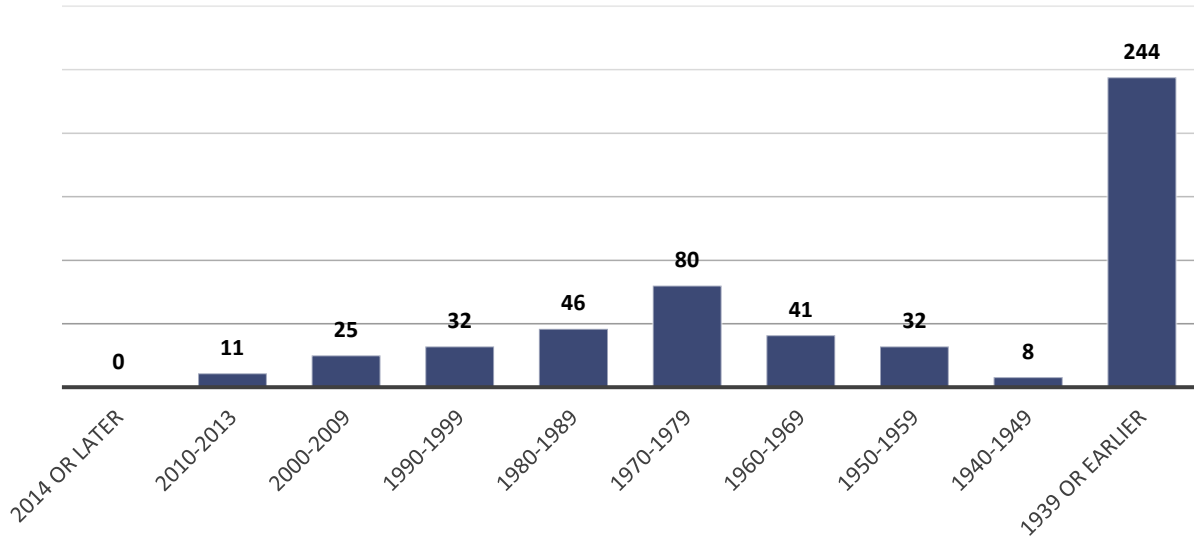
223 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

224 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

225 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

**Figure WPW.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>226</sup>

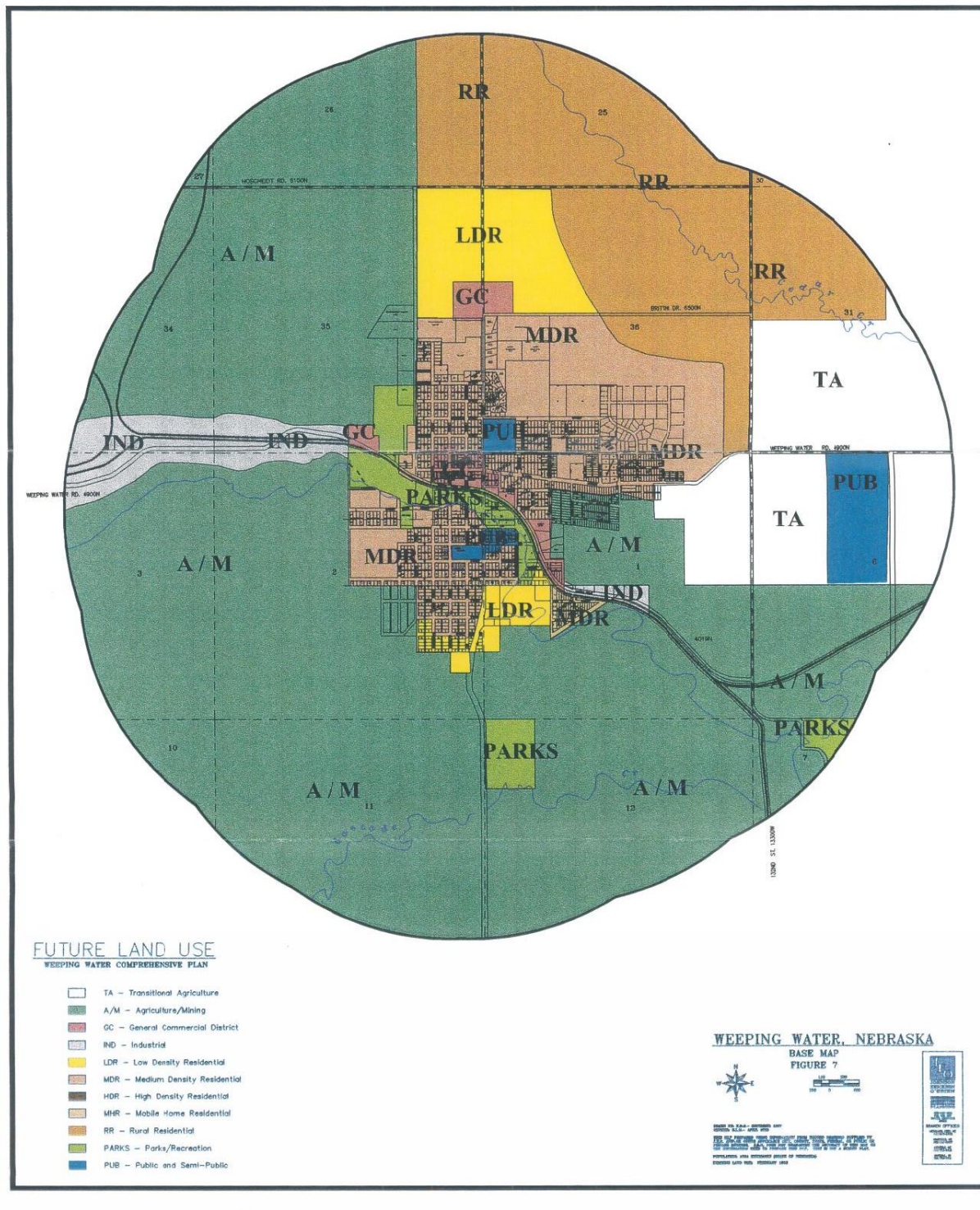
### Future Development Trends

The City of Weeping Water has had several changes occur over the past five years, including a new business, Dollar General, open at 156<sup>th</sup> St and Weeping Water Road and a new housing development. The new housing development has had nearly all available lots purchases over the past five years. An additional phase II development is in the planning process to occur over the next five years. Other commercial businesses that may be opening in the next five years include a beauty shop and restaurant. The population of the City is relatively stable, which the local planning team attributes to several limestone quarries in the area employing a significant amount of the local population.

<sup>226</sup> United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.

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Figure WPW.4: Future Land Use Map (1999)





## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table WPW.2: Structural Inventory/Parcel Improvements**

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
530	\$53,051,880	\$100,098	91	\$8,117,974

Source: Nebraska Department of Revenue, Property Assessment Division<sup>227</sup>

## Critical Infrastructure/Key Resources

### Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are three chemical storage sites in Weeping Water.

**Table WPW.3: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	IN FLOODPLAIN (Y/N)
PCS PHOSPHATE COMPANY INC	701 S Garfield St	N
KECKLER OIL COMPANY INC	310 W Eldora Ave	Y
WEeping WATER SWIMMING POOL	311 W River St	Y

Source: Nebraska Department of Environmental Quality 2017<sup>228</sup>

### 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. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

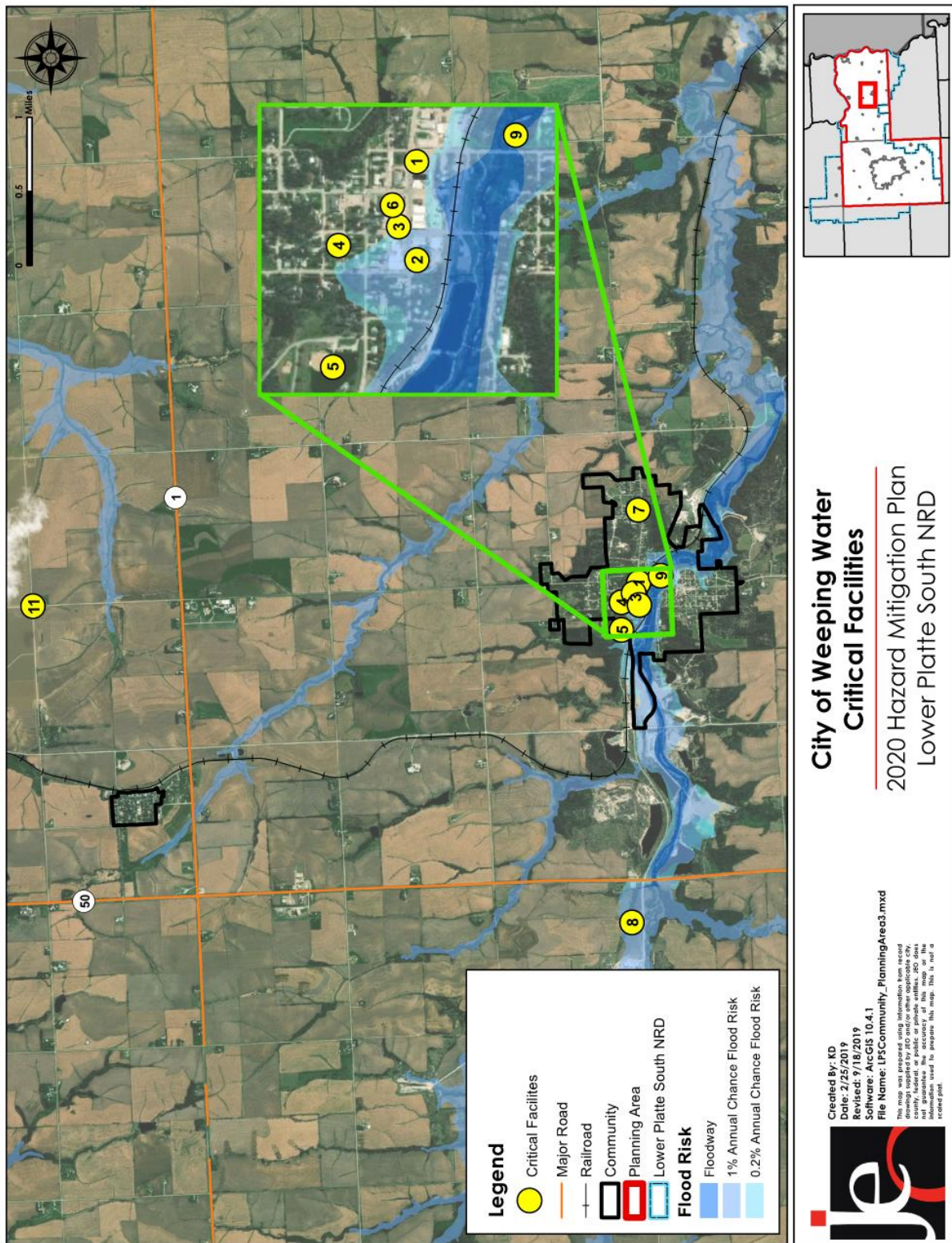
**Table WPW.4: Critical Facilities**

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Community Building, Public Library, City Hall, & Gibson Hall	N	N	N
2	Fire and Rescue Station	N	Y	Y
3	Grocery Store	N	N	N
4	Medical Center	N	N	N
5	Memorial Field / Helicopter Landing Zone	N	N	N
6	Siren (Main)	N	N	N
7	Siren (Secondary)	N	N	Y
8	Wastewater Treatment Plant	N	Y	Y
9	Water Reservoir	N	N	Y
10	Water Tower	N	Y	N
11	Water Wells	N	N	N

<sup>227</sup> County Assessor. Personal correspondence, [2019].

<sup>228</sup> Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed December 2018. <https://deq-iis.ne.gov/tier2/search.faces>.

Figure WPW.5: Critical Facilities



## Historical Occurrences

See the Cass County community profile for historical hazard events.

## Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Flooding

Flooding is a major hazard of concern for the City of Weeping Water due to the creek which runs through the center of town. The local planning team stated there have not been flooding issues in town over the past five years, however the creek has been outside of its banks on several occasions. Flooding in September 2010 and June 2008 did cause significant damage to private and public property along Weeping Water Creek. In particular, the Water/Wastewater Treatment Plant has experienced damage from flood events in the past. The local planning team indicated primary concerns are for flash flooding in the City.

### Severe Thunderstorms

Severe thunderstorms can cause significant damage to critical facilities from a combination of heavy rain, strong winds, lightning strikes, and hail. A severe thunderstorm in 2016 caused significant hail damage in the City and approximately 50 homes throughout town sustained roof damage. The primary concern regarding severe thunderstorms for the City of Weeping Water is power outages. Critical municipal records are protected by surge protectors, and the city office, water wells, and treatment plant all have backup generators. The majority of power lines in the City are above ground.

### Severe Winter Storms

Concerns about severe winter storms revolve around potential property damages and power loss. The winters of 2018-2019 and 2009-2010 had significant amounts of snow which caused damage to local roads. The City Maintenance Department and outside contractors remove snow from local streets, which during winters with heavy snow fall can strain the local budget and available resources. Major concerns regarding severe winter storms include the cost of repairs to local roads and purchasing necessary equipment, wear and tear on municipal equipment, and blocked access due to snow piles and drifts. The City does have designated snow routes but do not use snow fences.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Weeping Water has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Weeping Water has five City Council members and the following offices that may help implement mitigation actions.

- Mayor
- Council President
- Clerk
- Maintenance Superintendent
- Sewer/Water/Maintenance/Operations Manager
- Street Superintendent

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- Economic Development Director
- Volunteer Fire Department

### Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

**Table WPW.5: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<i>Planning &amp; Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	Yes
	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)		
<i>Administrative &amp; Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
Other (if any)		
<i>Fiscal Capability</i>	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	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)	
<i>Education &amp; Outreach Capability</i>	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)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	No

OVERALL CAPABILITY	LIMITED/MODERATE/HIGH
Does your jurisdiction have the financial resources needed to implement mitigation projects?	Moderate
Does your jurisdiction have the staff/expertise to implement projects?	Moderate
Does your jurisdiction have the community support to implement projects?	High
Does your jurisdiction staff have the time to devote to hazard mitigation?	Moderate

## Plan Integration

Weeping Water has an annex to the Cass County Local Emergency Operations Plan (LEOP), last updated in 2014. The LEOP is currently being updated with an estimated completion date of late 2019. The LEOP incorporates hazard mitigation through the following: addresses hazards of top concern; assigns specific responsibilities to individual communities; identifies scenarios that would require evacuation; identifies sheltering locations; and provides clear assignment of responsibility during an emergency. Copies of the LEOP are held with the Mayor, City Council, Maintenance Superintendent, City Clerk, and Water/Wastewater Operator.

Weeping Water’s Zoning Ordinance was last updated in 1999. The zoning ordinance discourages development in the floodplain, limits density in the floodplain, requires elevation of structures in the floodplain, and identifies floodplain areas as parks or open space. The City’s Building Code follows the 2012 International Building Code. The code requires elevation of structures in the floodplain, requires mechanical systems to be elevated, requires sewer backflow valves, allows raingardens in residential areas, and encourages the use of permeable surfaces.

The City’s Comprehensive Plan, last updated in 1999, directs development away from the floodplain and encourages the elevation of structures in the floodplain. There is currently not a timeline on a plan update, however it is a goal for the local planning team.

Weeping Water’s Wellhead Protection Plan was approved in 2005. There are signs in the community to alert community members of the area, the zoning ordinance includes well setback requirements, and Weeping Water is part of the Nebraska Water/Wastewater Agency Response Network (NEWARN) program.

## Mitigation Strategy

### Ongoing and New Mitigation Actions

Mitigation Action	Continuity Planning
Description	Continuity planning helps to ensure that services can be maintained during and after a disaster.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0, Staff Time
Potential Funding	General Funds
Timeline	Ongoing
Priority	High
Lead Agency	City of Weeping Water
Status	This project has not yet been started.

Mitigation Action	Participate in the Community Rating System
Description	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts. Participation in CRS can help reduce flood insurance premiums.
Hazard(s) Addressed	Flooding
Estimated Cost	\$0, Staff Time
Potential Funding	General Funds
Timeline	5+ years
Priority	High
Lead Agency	City of Weeping Water – Floodplain Manager
Status	The application process has been started, however it has not yet been completed.

Mitigation Action	Preserve Natural and Beneficial Functions
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds, and preserving open space in the floodplain.
Hazard(s) Addressed	Flooding
Estimated Cost	\$5,000+
Potential Funding	General Funds, PDM, HMGP, FMA
Timeline	2-5 years
Priority	High
Lead Agency	City of Weeping Water, LPSNRD
Status	This project has not yet been started.

<b>Mitigation Action</b>	<b>Promote the Use of Higher Codes and Standards</b>
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Funds
Timeline	5+ years
Priority	Medium
Lead Agency	City of Weeping Water – Planning Commission
Status	This project has not yet been started.

<b>Mitigation Action</b>	<b>Stormwater System and Drainage Improvements</b>
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. These improvements can serve to more effectively convey runoff, preventing interior localized flooding. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$100,000+
Potential Funding	General Funds, PDM, HMGP, CDBG
Timeline	2-5 years
Priority	High
Lead Agency	City of Weeping Water
Status	This project has not yet been started.

<b>Mitigation Action</b>	<b>Utilize Low-Impact Development and Green Infrastructure</b>
Description	Low impact development practices and green infrastructure can reduce runoff and result in a reduction in stormwater related flooding
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by need
Potential Funding	General Funds, PDM, HMGP
Timeline	Ongoing
Priority	High
Lead Agency	City of Weeping Water, LPSNRD
Status	This project has not yet been started.

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Mitigation Action	Vulnerable Population Assistance Database
Description	Develop a database of vulnerable populations and supporting organizations. Work with stakeholders to develop a database of vulnerable populations and organizations which support them.
Hazard(s) Addressed	All hazards
Estimated Cost	\$0
Potential Funding	General Funds
Timeline	2-5 years
Priority	Low
Lead Agency	City of Weeping Water, Weeping Water Public Schools
Status	This project has not yet been started.