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County Profile

Pawnee County

**Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update**

2020

Local Planning Team

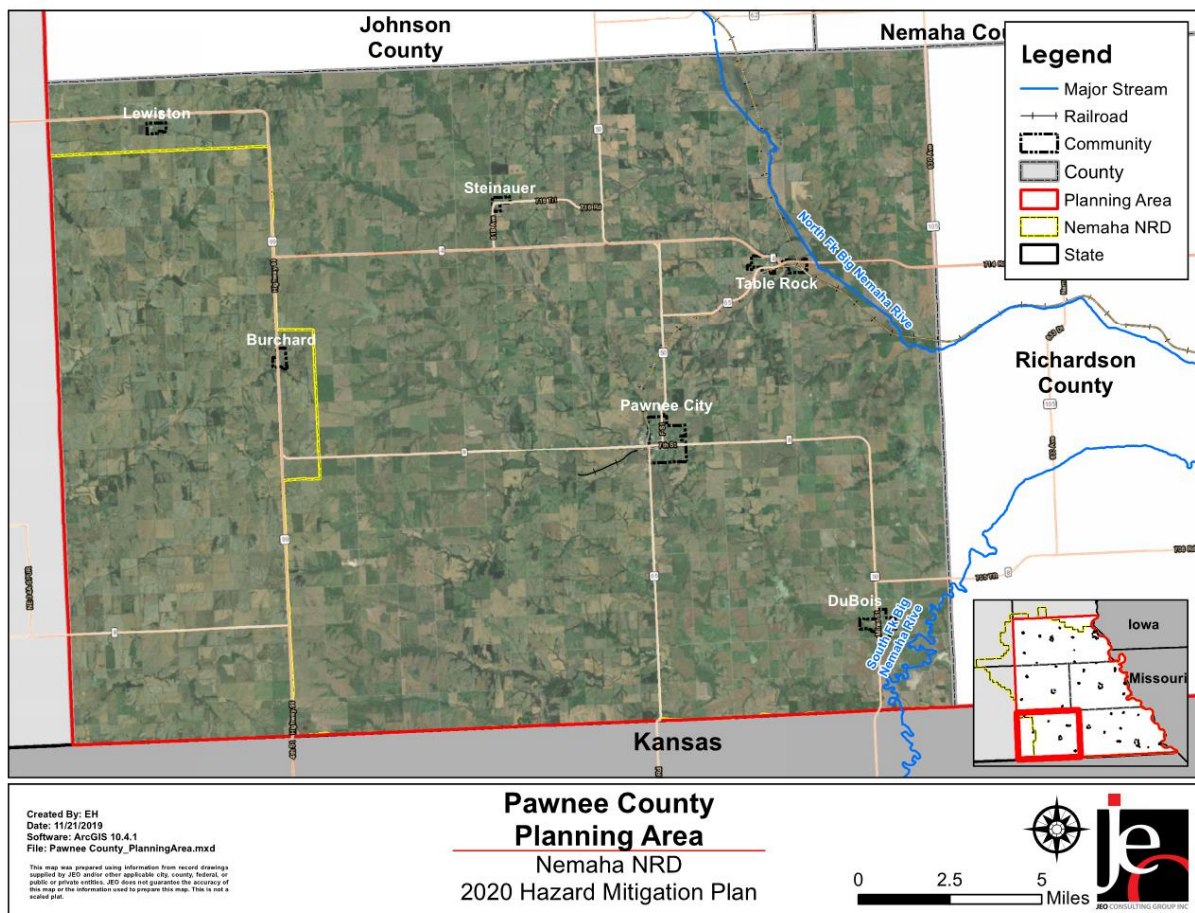
Table PCO.1: Pawnee County Local Planning Team

Name	Title	Jurisdiction
Amanda Burki	Emergency Manager	Johnson and Pawnee County
Johnathan Bailey	Pawnee County Assessor / Floodplain Manager	Pawnee County

Location and Geography

Pawnee County is located in southeastern Nebraska and is bordered by Gage, Johnson, Nemaha, and Richardson Counties. It also borders the State of Kansas to the south. The total area of Pawnee County is 433 square miles. The Big Nemaha River runs through the northeastern corner of the county. Most of the county’s land is used for agricultural production.

Figure PCO.1: Pawnee County



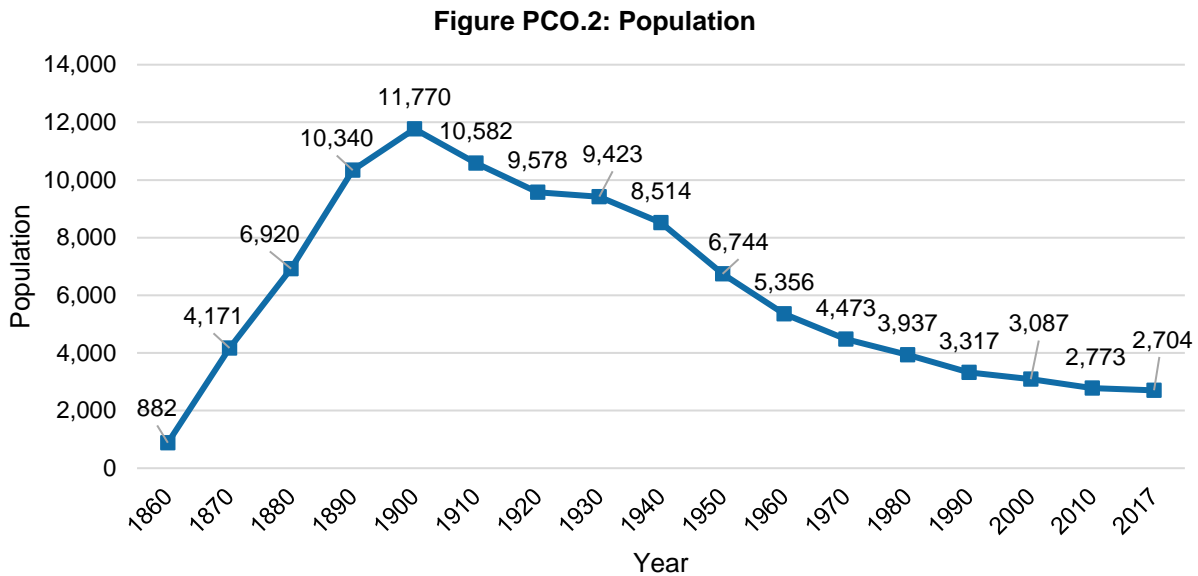
Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors and areas more at risk of transportation incidents. Pawnee County’s major transportation corridors include Nebraska State Highways 4, 8, 50, 65, 99, and 105. Two Burlington Northern Santa Fe Railway rail lines run through the county. The county also has two air landing strips located in the county in Pawnee City and Steinauer. Transportation routes of

most concern include the highways and minimum maintenance roads. The highways all regularly transport agriculture chemicals and the minimum maintenance roads are routinely closed due to flood damage.

Demographics, Employment, and Economics

The following figure displays the historical population trend from 1860 to 2017. This figure indicates that the population of Pawnee County has been decreasing since 1900 and was at 2,704 people in 2017.



Source: U.S. Census Bureau, 1860 - 2017¹

The young, elderly, minority populations, and low-income populations may be more vulnerable to certain hazards than other groups. The following table indicates that the county is older than the state, has a less diverse population, and has a higher poverty rate. The per capita income in Pawnee County is lower than the State of Nebraska. A more detailed discussion of the vulnerabilities associated with age, ethnicity, and poverty can be found in *Section Four: Risk Assessment*.

Table PCO.2: Demographics

	Pawnee County	State of Nebraska
Median age	50.1 years old	36.3 years old
Hispanic	1.8%	10.5%
Below the federal poverty line	20.5%	12.0%
Per capita income	\$27,196	\$29,866

Source: U.S. Census Bureau²

Major Employers

Major employers in the county include CJ Foods, Martin Marietta, the local schools, local communities, Pawnee County, and local co-ops. A large percentage of residents commute to Beatrice, Seneca, Kansas, and Marysville, Kansas, for employment.

¹ United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.

Table PCO.3: Business in Pawnee County

	Total Businesses	Number of Paid Employees	Annual Payroll (In Thousands)
Total for all sectors	64	506	\$17,547

Source: U.S Census Bureau²

Agriculture is important to the economic fabric of the State of Nebraska. Pawnee County’s 355 farms cover 165,417 acres of land. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute to agriculture by producing, processing and marketing farm products. These businesses generate income, employment and economic activity throughout the region.

Table PCO.4: Agricultural Inventory

	Agricultural Inventory
Number of farms with harvested cropland	355
Acres of harvested cropland	165,417

Source: USDA Census of Agriculture, 2019³

Housing

Housing age can serve as an indicator of vulnerability, as structures that are poorly maintained or that were built prior to state building codes are at greater risk to damage from hazards. The following table indicates that most of the housing in Pawnee County was built prior to 1970 (68%). The original Flood Insurance Rate Map (FIRM) was developed in July 2005. Housing built in the floodplain after the FIRM was adopted is built to a standard of 1 foot above the base flood elevation, as required by the floodplain ordinance; housing built prior to 2005 will be vulnerable to flood damage.

In the county, about 7.4% of housing units are mobile homes. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Mobile homes in the county are located in an RV campground outside of DuBois. Pawnee County has less renter-occupied but more vacant housing than the state. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards.

Table PCO.5: Housing

	Pawnee County	State of Nebraska
Housing built before 1970	68%	47.2%
Mobile and manufactured	7.4%	3.4%
Renter-occupied	19.7%	34.0%
Vacant	23.2%	9.2%

Source: U.S. Census Bureau^{4,5}

2 United States Census Bureau. “American Fact Finder: Geography Area Series County Business Patterns 2016 Business Patterns.” [database file]. <https://factfinder.census.gov>.

3 U.S. Department of Agriculture. 2019. “2017 Census of Agriculture.” <https://www.nass.usda.gov/Publications/AgCensus/2017/>.

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

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

Future Development Trends

In the last five years, a new assisted living facility was built in Pawnee City and a new grain bin was built in Burchard. New houses were built around the county but no large housing developments were constructed. According to the latest American Community Survey estimates, Pawnee County's population is declining. This could lead to a decreasing tax base, which may make implementing hazard mitigation projects more difficult. The local planning team attributed the declining population to an aging population, young people leaving, and a lack of employment options. County funds are limited to maintaining current facilities and systems with a large portion already dedicated to maintenance. However, funds have increased over recent years to reflect price increases. No housing or commercial developments are planned in the next five years.

Parcel improvements and Valuation

GIS parcel data was acquired from the County Assessor. This data was analyzed for the location, number, and value of property improvements at the parcel level. Property improvements include any built structures such as roads, buildings, and paved lots. 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 PCO.6: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
2,776	\$104,550,305	782	28.17%	\$29,074,205

Source: GIS Workshop/Pawnee County Assessor, 2019⁶

⁶ GIS Workshop/Pawnee County Assessor, 2019. [Personal correspondence].

Critical Infrastructure

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is a total of one chemical storage site in the unincorporated areas of Pawnee County. The table below lists the name and location of the site and whether it is in the floodplain.

Table PCO.7: Chemical Storage Fixed Sites

Facility Name	Address	In Floodplain (Y/N)
OPPD Substation No.966	Highway 4, Steinauer	N

Source: Nebraska Department of Environment and Energy, 2019⁷

Critical Facilities

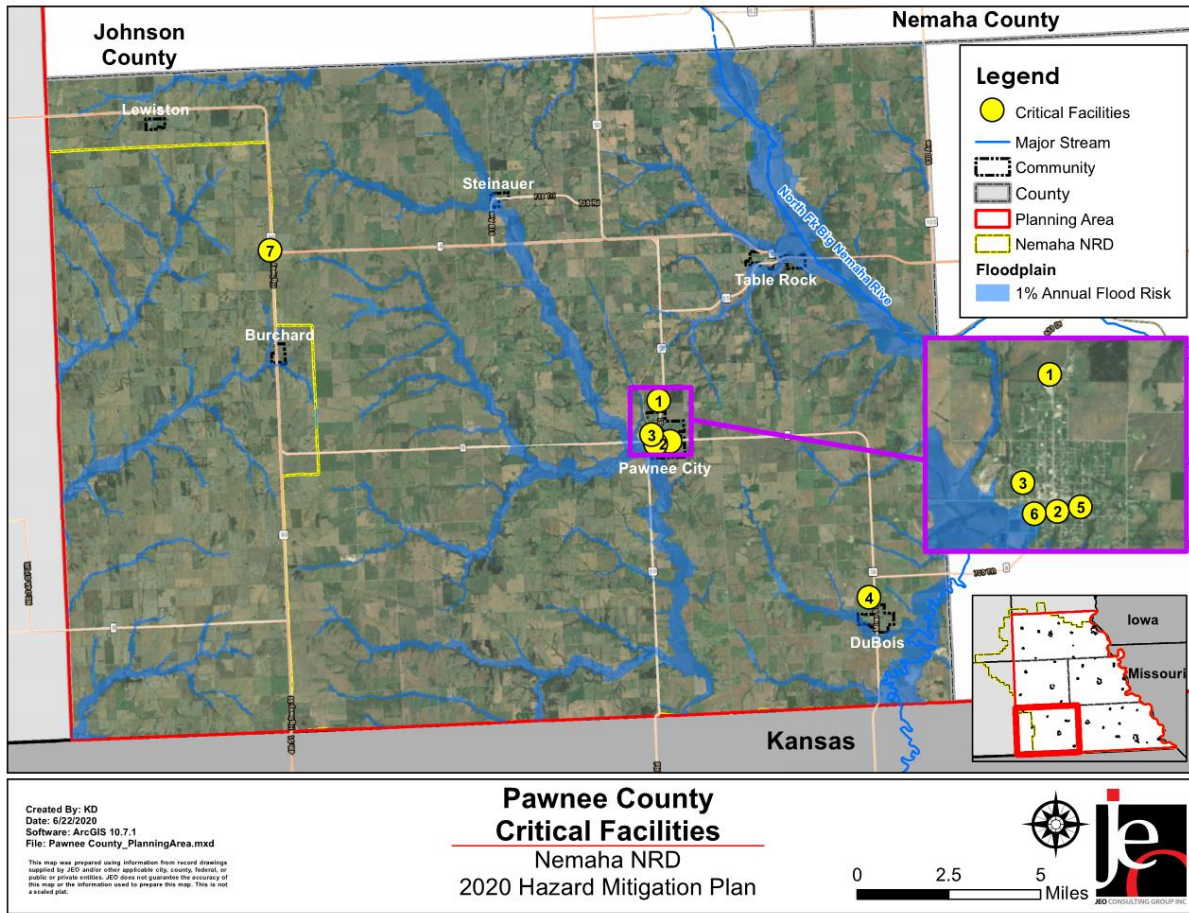
The planning team identified critical facilities necessary for Pawnee County’s disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the county.

Table PCO.8: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	CJ Foods	N	N	N
2	County Courthouse / Sheriff's Department	N	N	N
3	DOT Shop	N	N	N
4	East Tower	N	Y	N
5	Pawnee County Memorial Hospital	N	Y	N
6	Roads Department	N	N	Y
7	West Tower	N	Y	N

⁷ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2019. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

Figure PCO.3: Critical Facilities



Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. These are county-specific broad estimates.

Table PCO.9: County Hazard Loss History

Hazard Type		Count	Property Damage	Crop Damage ²
Agricultural Disease	Animal Disease ¹	3	8 animals	N/A
	Plant Disease ²	15	N/A	\$2461,206
Chemical & Radiological Spills (Fixed Site) ³		3	\$0	N/A
Chemical & Radiological Spills (Transportation) ⁴		1	\$125	N/A
Dam Failure ⁵		0	N/A	N/A
Drought and Extreme Heat	Drought ⁶	432/1,496 months	N/A	\$26,5577,787
	Extreme Heat ⁷	Avg. 7 days/year		
Earthquake ¹³		0	\$0	N/A
Flooding ⁸	Flash Flood	6	\$0	\$28,451
	Flood	4	\$101,000	

Section Seven | Pawnee County Profile

Hazard Type		Count	Property Damage	Crop Damage ²
Levee Failure ^{10, 11}		0	N/A	N/A
Severe Thunderstorms ⁸	Thunderstorm Wind Range: 50-75 kts Average: 52 kts	26	\$187,000	\$10,031,229
	Hail Range: 0.75-2 in Average: 1.1 in	62	\$0	
	Heavy Rain	4	\$0	
	Lightning	1	\$40,000	
Severe Winter Storms ⁸	Blizzard	5	\$0	\$760,145
	Extreme Cold/Wind chill	4	\$0	
	Heavy Snow	7	\$0	
	Ice Storm	3	\$200,000	
	Winter Storm	30	\$0	
	Winter Weather	3	\$0	
Terrorism ¹²		0	\$0	N/A
Tornadoes and High Winds ⁸	High Winds Range: 42-60 kts Average: 48 kts	13	\$0	\$26,746
	Tornadoes Range: EF0-EF1 Average: EF0	4	\$0	
Wildfire ⁹		176	6,191 acres	\$0
Total		380	\$528,125	\$37,685,564

N/A: Data not available
 1 - NDA, 2014 – October 2019
 2 - USDA RMA, 2000 – November 2019
 3 - NRC, 1990 - November 2019
 4 - PHSMA, 1971 - November 2019
 5 - Stanford NPDP, 1911 - 2018
 6 - NOAA, 1895 - August 2019

7 - NOAA Regional Climate Center, 1897 - September 2019
 8 - NCEI, 1996 - September 2019
 9 - NFS, 2010 - 2018
 10 - USACE NLD, 1900 - 2019
 11 - USACE, 2019
 12 – Global Terrorism Database, 1970-2018
 13 – USGS, 1900- November 2019

The following table provides a summary of hazards that have or have the potential to affect each participating jurisdiction in Pawnee County. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the 12 hazards profiled in this plan. The evaluation process was based on data collected and summarized in Table PCO.9; previous impacts or the potential for impacts to infrastructure, critical facilities, people, and the economy; and the proximity to certain hazards such as dams.

Table PCO.10: Pawnee County and Community Hazard Matrix

Hazard	Ag. Disease	Chemical – Fixed Site	Chemical - Transportation	Dam Failure	Drought and Extreme Heat	Earthquakes	Flooding	Levee Failure	Severe Thunderstorms	Severe Winter Storms	Terrorism	Tornadoes and High Winds	Wildfires
Pawnee County	X	X	X	X	X		X		X	X	X	X	X
Village of Burchard	X	X	X		X		X		X	X	X	X	X
Village of DuBois	X	X	X	X	X		X		X	X	X	X	X
City of Pawnee City	X	X	X	X	X		X		X	X	X	X	X
Village of Steinauer	X	X			X		X		X	X	X	X	X
Village of Table Rock	X		X		X		X		X	X	X	X	X
Humboldt Table Rock Steinauer Schools		X	X	X	X		X		X	X	X	X	X
Table Rock Fire District		X	X		X		X		X	X	X	X	X

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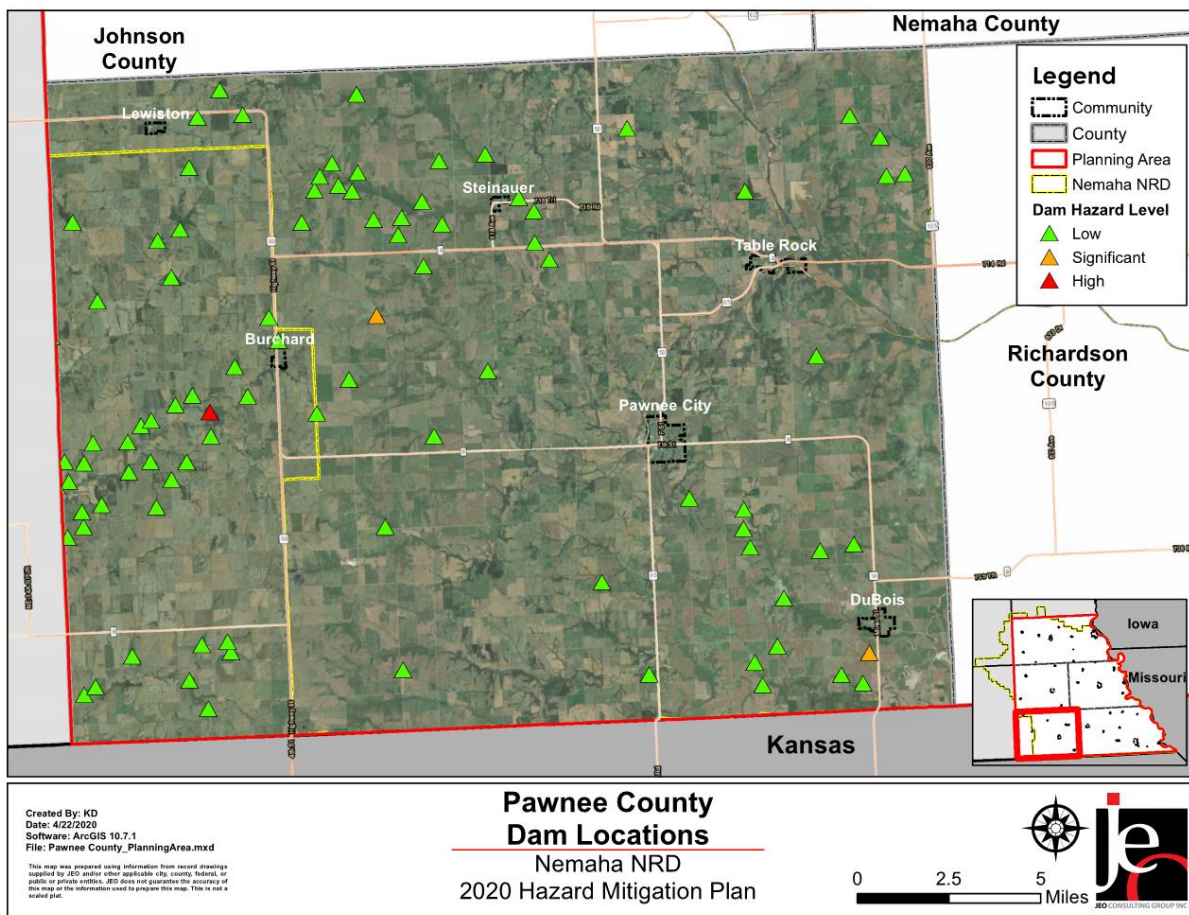
County Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the county. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the county’s capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Dam Failure

Although not identified by the local planning team as a hazard of top concern, there is one high hazard dam located in the county. The figure below shows the location of all the dams in the county. Dam inundation maps are not shown due to security concerns. There have been no historical dam failures impacting the county.

Figure PCO.4



Drought and Extreme Heat

In 2012 and 2017 the county lost a significant number of crops due to drought and extreme heat. Wells (community and residential) dry up across the county even during small drought periods. The biggest issue regarding drought is that the county does not have the power to control irrigation or consumption. That authority comes from the NRD and the local jurisdictions. This can lead to conflict if communities and residents have different response protocols. Drought monitoring is left

up to individuals and local jurisdictions. There is no county-wide drought response plan, but some communities may have local response ordinances in place.

Flooding

The most recent flooding events occurred in 2011, 2015, and 2019. Damage in the county typically consists of bridge, highway, and culvert damage. Pawnee County relies on contractors to repair damages as they do not have the materials or personnel needed. The local planning team estimated that the 2019 flood caused \$1,000,000 in damages. Bridges were damaged and several county roads were closed for a period of time. The Village of DuBois saw damage to residences from flooding. Drainage issues are typically a greater concern in the county than riverine flooding.

Severe Thunderstorms

Past damages from severe thunderstorms include flooding from heavy rains, tree damage, hail damage, loss of power, and lightning hitting communication towers. NCEI data shows that Pawnee County experienced 91 severe thunderstorm events. In the event of power loss, emergency management and other county departments have double storage backup in-house and in Lincoln for critical records.

Severe Winter Storms

In 2009 the county experienced a very large snowstorm. It caused widespread power outages, freezing pipes, stranded vehicles, and road closures. The County Roads Department does not clear snow at night due to safety issues. This can make morning travel difficult if the winter storm occurred at night. Snow fences are not used on county roads, which can lead to large drifts which damage snow removal equipment.

Tornadoes and High Winds

The local planning team estimates that high wind events occur three to four times a year. No damage to houses has occurred, but crops, trees, farm equipment, and power lines have all been damaged in the past. Power outages are a regular occurrence with high winds. The county typically has very little notification of storms occurring as they are located far away from the closest National Weather Service in Valley. County departments and fire departments coordinate very well to spot storms and notify the public. Mutual aid agreements are in place with surrounding communities, counties, and fire departments. The RV park southwest of Burchard has a safe room for individuals staying there.

Governance

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

- County Clerk
- County Assessor
- County Treasurer
- County Attorney
- District Health Department
- Emergency Manager
- Highway Superintendent
- Planning & Zoning
- Sheriff

Capability Assessment

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

Table PCO.11: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	ISO with Fire Departments
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	Yes
	Local Staff Who Can Assess County's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	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
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	StormReady Certification	No

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

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

Plan Integration

Pawnee County has several plans and regulations which relate to or directly discuss hazards and hazard mitigation. The comprehensive plan was last updated in 2019 and contains goals aimed at safe growth, directs development away from the floodplain, limits density in areas adjacent to known hazardous areas, encourages infill, encourages clustering of development, encourages elevation of structures in the floodplain, directs development away from chemical storage facilities, and encourages the preservation of open space. Pawnee County’s zoning ordinance, floodplain ordinance, and subdivision regulations discourage development in the floodplain, prohibit filling of wetlands, discourage development near chemical storage sites, encourage maintaining open space within the floodplain, consider the wildland urban interface, limit population density in the floodplain, include well setback requirements, restrict the subdivision of land within the floodplain, and allow for clustering of subdivisions. The building codes require elevation of structures in the floodplain, require mechanical systems in the floodplain be elevated, require sewer backflow valves in the floodplain, and encourage the use of hail- and fire-resistant building materials. Pawnee County also has a local emergency operations plan, which was last updated in 2019. It provides local officials with information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, and resource management. The plan is updated regularly and is distributed to community officials and fire departments. No other examples of plan integration were identified. The county will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Continued and New Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking with remote activation options.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$5,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Emergency Management
Status	New Action. Not Started.

Mitigation Action	Backup and Emergency Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$15,000 - \$30,000+ per Generator
Funding	PCT Regional Funds, General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Emergency Management
Status	Not Started.

Mitigation Action	Bank Stabilization
Description	Bank degradation is occurring along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Highway Maintenance
Status	Ongoing. Issues are fixed as funding is available.

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This can include fire trucks, ATVs, water tanks/trucks, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles and identifying and training additional personnel for emergency response. Pawnee County would like to obtain equipment and train local fire and rescue departments up to the ability of water and rope rescue equipment.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50,000
Funding	General Fund
Timeline	1-3 Years
Priority	High
Lead Agency	Emergency Management
Status	Not Started.

Mitigation Action	Communication System
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish interoperable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$10,000+
Funding	General Fund, State Revolving Fund
Timeline	Ongoing
Priority	High
Lead Agency	Sheriff's Office
Status	Ongoing. Interoperable communications are complete. Alert sense is currently being installed.

Mitigation Action	Community Awareness and Education
Description	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, evacuation plans, etc. In addition, purchase equipment such as overhead projectors and laptops. Need public attraction incentives.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$500+
Funding	County Funds
Timeline	Ongoing
Priority	High
Lead Agency	Emergency Management
Status	Ongoing. The county hosts Stop the Bleed class and storm spotter trainings. Social media is also used to raise awareness.

Mitigation Action	Flood-Prone Property Acquisition
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	Varies
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	County Floodplain Administrator
Status	Not Started.

Mitigation Action	Flood-Prone Property Mitigation
Description	Decrease the number of structures at risk to flooding by elevating structures or filling in basements. Additionally, this can provide flood insurance benefits to those communities within the NFIP.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	County Floodplain Administrator
Status	New Action. Not Started.

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Estimated Cost	\$100 per tree
Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Highway Maintenance
Status	Ongoing. Tree/limb removal is done as needed.

Mitigation Action	Safe Rooms and Storm Shelters
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	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$4,000 - \$10,000+
Funding	Donations
Timeline	5+ Years
Priority	Low
Lead Agency	Highway Maintenance
Status	Not Started.

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. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Decreased stormwater runoff, improved retention and detention systems for managing stormwater runoff and preventing localized flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	\$100,000+
Funding	General Fund
Timeline	Ongoing
Priority	Medium
Lead Agency	Highway Maintenance
Status	Ongoing. Improvements are made as funding is available.

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	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds, Flooding
Estimated Cost	\$50 per Radio
Funding	General Fund
Timeline	1 Year
Priority	Low
Lead Agency	Emergency Management
Status	Not Started.

Removed Mitigation Actions

Mitigation Action	Maintain Good Standing in NFIP
Hazard(s) Addressed	Flooding
Reason for Removal	While the county will continue to participate and maintain compliance in the NFIP, this project can be removed as it is considered an ongoing effort.

Community Profile

Village of Burchard

**Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update**

2020

Local Planning Team

Table BRC.1: Village of Burchard Local Planning Team

Name	Title	Jurisdiction
Ron Seitz	Clerk	Village of Burchard

Location and Geography

The Village of Burchard is in west central Pawnee County and covers an area of 0.16 square miles. Burchard is located near Plum Creek to the southwest and Burchard Lake to the northeast.

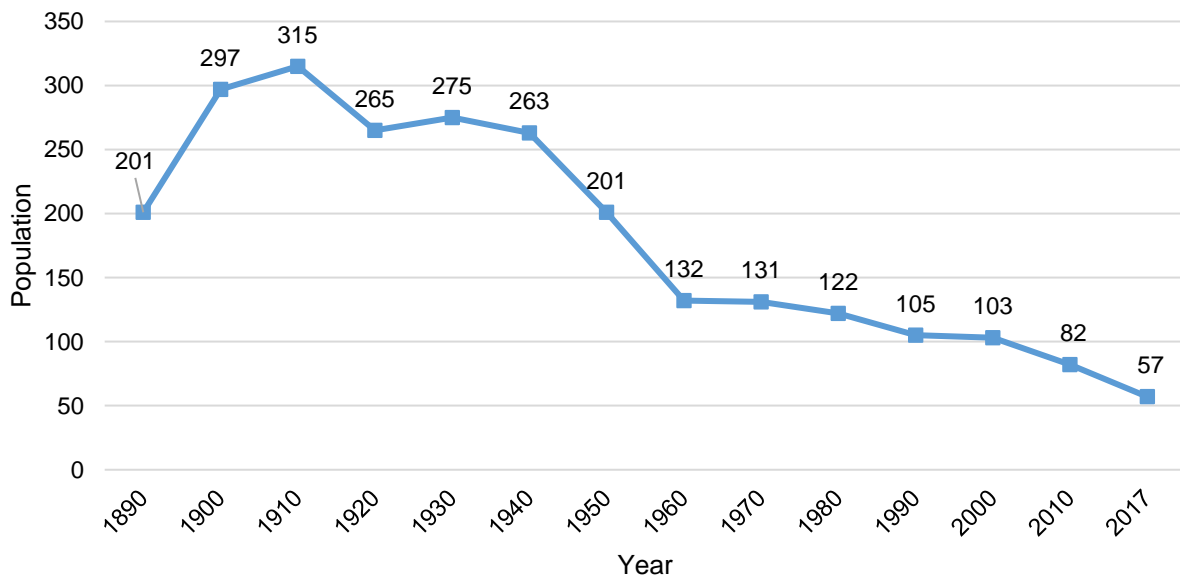
Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Burchard's major transportation corridor is State Highway 99. It is traveled by an average of 650 vehicles daily, 50 of which are trucks.⁸ There are no railroad lines which travel through the village. The local planning team identified Highway 99 and 712 Road as the transportation routes of most concern. Anhydrous ammonia and propane are regularly transported along local routes. In the event of an evacuation, elderly residents in the community would have the most difficulty.

Demographics

The Village of Burchard's population has been declining since 1960, providing a decreasing tax base that could lead to less funding for mitigation projects. Burchard's population accounted for 2.1% of Pawnee County's population in 2017.⁹

Figure BRC.1: Population



Source: U.S. Census Bureau, 1890 – 2017

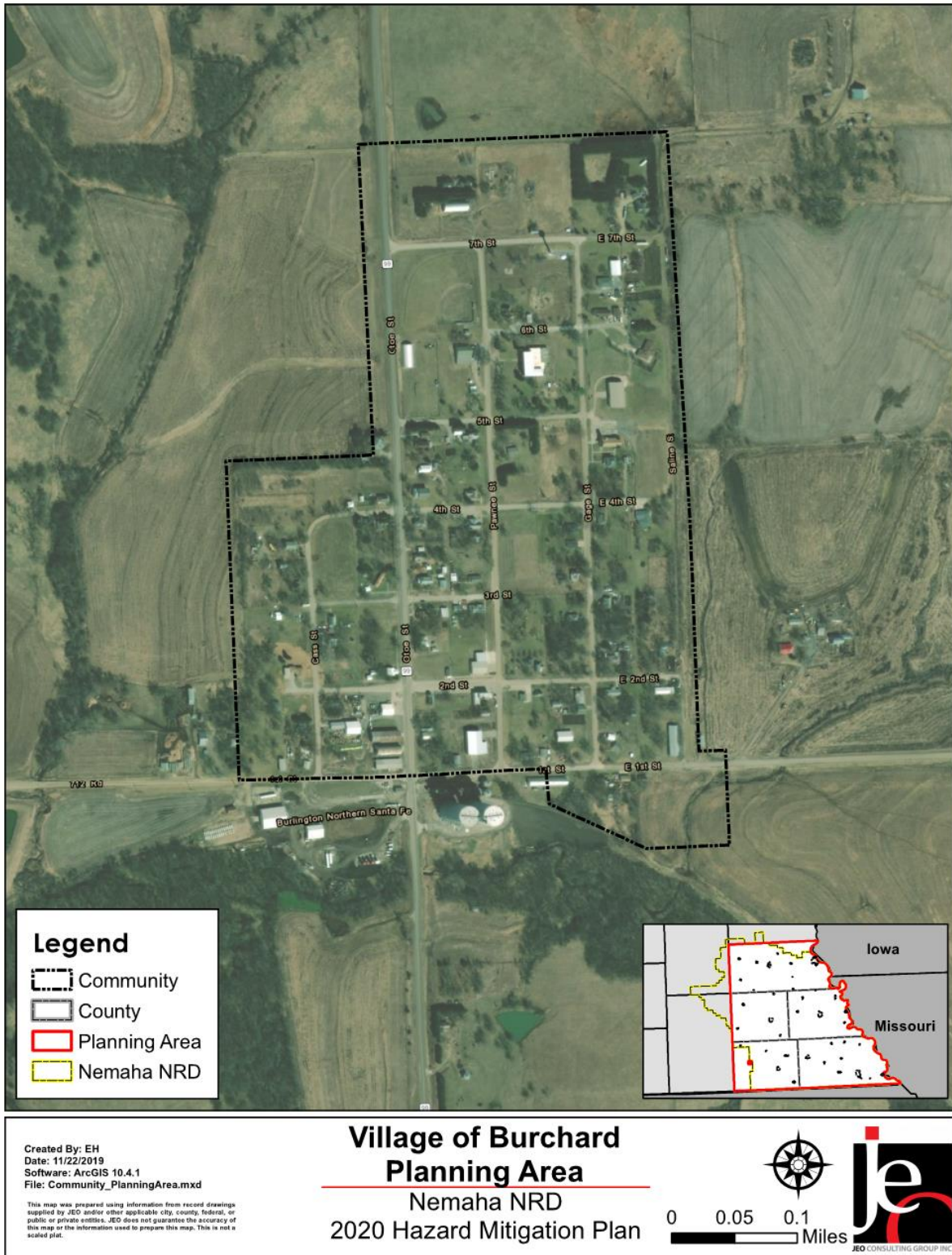
⁸ Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map].

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

⁹ United States Census Bureau. "American Fact Finder: DP05: Demographic and Housing Estimates." [database file].

<https://factfinder.census.gov/>.

Figure BRC.2: Village of Burchard



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Burchard's population was:

- **Older.** The median age of Burchard was 57.9 years old in 2017, compared with Pawnee County's median of 50.1 years. Burchard's population grew older since 2010, when the median age was 41.8 years old.⁹
- **Less ethnically diverse.** Since 2010, Burchard stayed as ethnically diverse. In both 2010 and 2017, 0% of Burchard's population was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.2% in 2010 to 1.8% in 2017.⁹
- **More likely to be below the federal poverty line.** The poverty rate in the Village of Burchard (24.6% of people living below the federal poverty line) was higher than the county's poverty rate (20.5%) in 2017.¹⁰

Employment and Economics

The Village of Burchard's economic base is a mixture of industries. In comparison to Pawnee County, Burchard's economy had:

- **Different mix of industries.** Burchard's major employment sectors, accounting for 10% or more of employment each, were: agriculture, retail trade, finance, and education.¹⁰
- **Lower per capita income.** Burchard's per capita income in 2017 (\$18,907) was about \$8,200 lower than the county (\$27,196).¹⁰
- **More long-distance commuters.** About 39.1% of workers in Burchard commuted for fewer than 15 minutes, compared with about 43.7% of workers in Pawnee County. About 34.7% of workers in Burchard commuted 30 minutes or more to work, compared to about 28.9% of county workers.¹¹

Major Employers

The Farmer's Cooperative is the largest employer in the Village of Burchard. A large percentage of residents commute to Beatrice, Pawnee City, and Tecumseh.

Housing

In comparison to Pawnee County, the Village of Burchard's housing stock was:¹²

- **Older.** Burchard had a larger share of housing built prior to 1970 than the county (72.5% compared to 68%).
- **Larger amounts of mobile and manufactured housing.** The Village of Burchard had a larger share of mobile and manufactured housing (12.5%) compared to the county (7.4%).
- **More renter-occupied.** 37% of occupied housing units in Burchard were renter-occupied compared with 19.7% of occupied housing in Pawnee County.
- **Less occupied.** Approximately 32.5% of Burchard's housing units were vacant compared to 23.2% of units in Pawnee County.

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

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

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

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community’s Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. The Village of Burchard has one mobile home located on Highway 99. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

Future Development Trends

The local planning team indicated that in the past five years, there have been additions made to the fire hall, a new mechanic shop opened, and the Farmer’s Co-op put up new corn bins. According to the U.S. Census Bureau American Community Survey estimates, Burchard’s population has declined, generally attributed to an aging population. No new housing or commercial developments are planned at this time.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

Table BRC.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
78	1,428,260	2	2.56%	2985

Source: GIS Workshop/Pawnee County Assessor, 2019¹³

¹³ GIS Workshop/Pawnee County Assessor. 2019. [Personal correspondence].

Critical Infrastructure

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 three chemical storage sites in Burchard. The table below lists the name and location of the sites and whether they are in the floodplain.

Table BRC.3: Chemical Storage Fixed Sites

Facility Name	Address	In Floodplain (Y/N)
Farmers Cooperative	402 1 st Street	N
Farmers Cooperative	110 Otoe Street	N
Farmers Cooperative	1 st Street	N

Source: Nebraska Department of Environment and Energy¹⁴

Critical Facilities

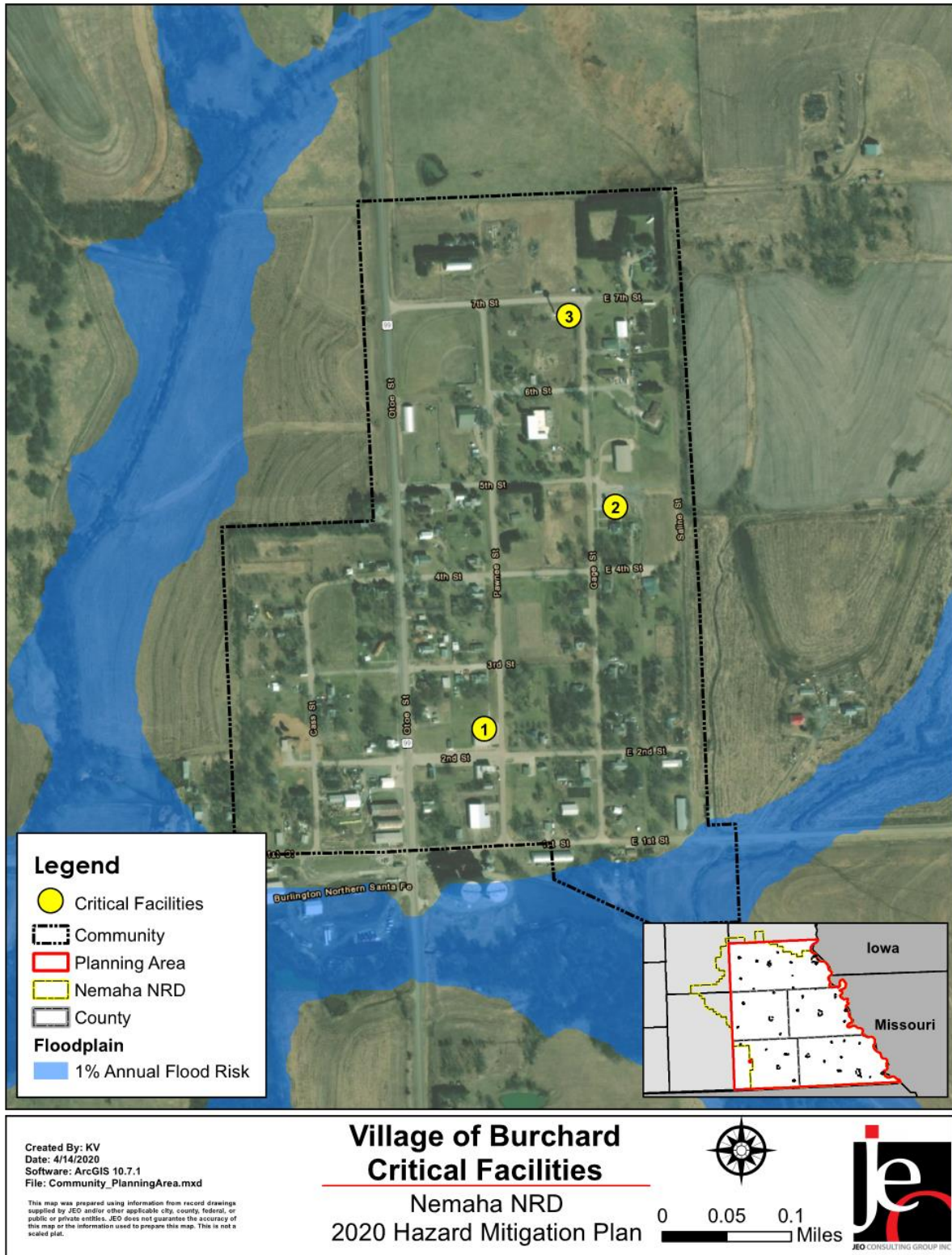
The planning team identified critical facilities necessary for the Village of Burchard's disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the community.

Table BRC.4: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Fire Station & Community Center	N	N	N
2	Sacred Heart Catholic Church	Y	N	N
3	Water Tower	N	N	N

¹⁴ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2019. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

Figure BRC.3: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought and Extreme Heat

Although the Village of Burchard hasn't experienced any major impacts due to drought and extreme heat, the local planning team has expressed concern over their vulnerable elderly population. With a majority of the village's population consisting of elderly individuals, extreme heat is a major concern, especially for those without air conditioning. To alleviate the risk of illness from extreme heat and drought, the village has churches and a small community building with air conditioning. To additionally help mitigate the effects of extreme heat and drought, the municipal water supply is purchased, metered, and serviced from the Rural Water District. Water quality is monitored monthly with no notable quality issue to date. There are no alternative water sources in the community except bottled water. Currently, Burchard has no drought ordinance or drought response plan.

Severe Thunderstorms

The Village of Burchard's primary concerns regarding severe thunderstorms are power outages, heavy rain events, and damaging hailstorms. No specific severe thunderstorm events have impacted Burchard, but the possibility remains a concern for the local planning team. In the event of a hailstorm, the community has buildings with hail-resistant materials and insurance against hail damage. Power outages remain a concern with very few power lines buried underground. Additionally, hazardous trees have been identified in several locations. To mitigate against the impacts of power outages and surges, the community has surge protectors on important electronic devices to protect municipal records. Other than the church, residents must rely on their own homes for shelter. The County Emergency Management offers text alerts for severe weather.

Severe Winter Storms

The Village of Burchard experienced an ice storm and a notable severe winter storm in 2012. Very few power lines are buried in the community which increases the potential risk for power outages. No critical facilities have been damaged, but potential impacts on the community could include a loss of electricity, reduced food supply from blocked roads, reduced access to medical care, and loss of heat and hot water. The village is responsible for its own snow removal services and utilizes trucks and plows.

Tornadoes and High Winds

Although there have not been any direct impacts to the Village of Burchard from tornadoes or high winds, the possibility of damage remains a concern for the local planning team. There is a warning siren in the community that is activated manually by designated individuals, but there may be parts of the community that cannot hear the siren. In addition to the warning siren, the county emergency management offers text alerts for severe weather. Other than the church, residents must rely on their own homes for shelter. Backup systems are in place in the event of

damage or loss of important municipal records. Mutual aid agreements are in place with local fire departments if there is a disaster event.

Governance

The Village of Burchard is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Secretary
- Attorney

Capability Assessment

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

Table BRC.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	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	Yes
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes

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

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

Plan Integration

Burchard does not have any formal planning documents. However, the community is an annex in the 2019 Pawnee County Local Emergency Operations Plan. It contains information regarding warning, incident command, law enforcement, fire department, emergency medical services, public works, emergency operations center, emergency public information, sheltering, public health, and damage assessment. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking with remote activation options.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$15,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	New Action. Not Started.

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	New Action. Not Started.

Mitigation Action	Drought Monitoring Plan and Procedures
Description	Develop a plan and procedures to monitor drought onset and impacts.
Hazard(s) Addressed	Drought
Estimated Cost	\$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	New Action. Not Started.

Mitigation Action	Hazardous Tree Removal
Description	Conduct tree inventory. Develop and implement tree maintenance and trimming program to remove hazardous limbs and trees.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms, Severe Winter Storms
Estimated Cost	\$100+ per tree
Funding	General Budget
Timeline	Ongoing
Priority	Medium
Lead Agency	Village Board
Status	New Action. Not Started.

Community Profile

Village of DuBois

**Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update**

2020

Local Planning Team

Table DBS.1: Village of DuBois Local Planning Team

Name	Title	Jurisdiction
Eileen Rexroth	Village Clerk and Treasurer	Village of DuBois

Location and Geography

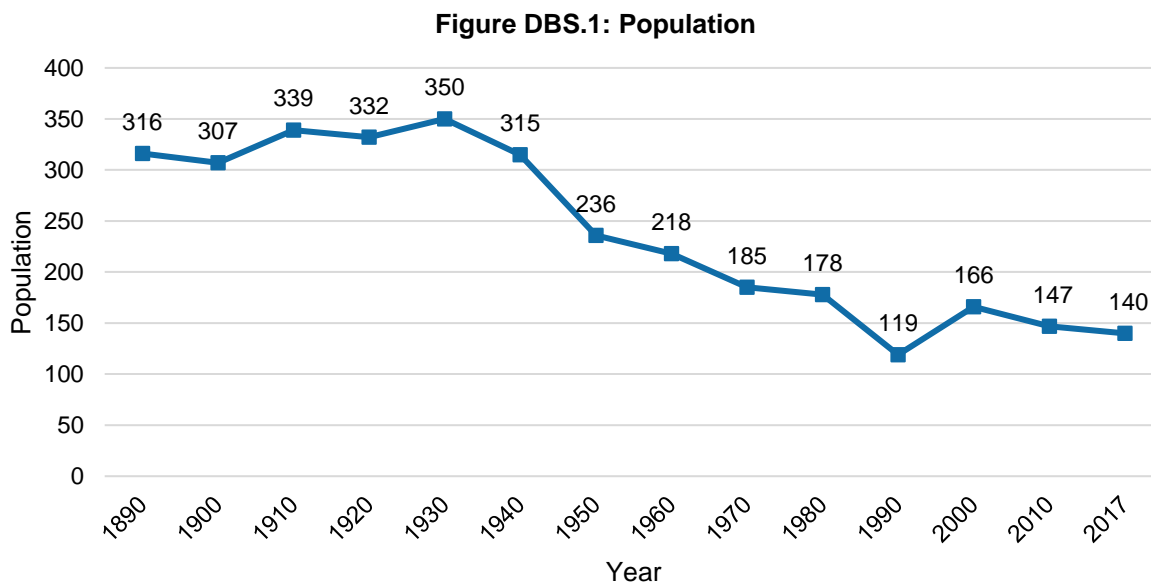
The Village of DuBois is in the southeast corner of Pawnee County and covers an area of 0.45 square miles. DuBois is located near the Lores Branch State Wildlife Management Area and the Lores Branch Creek runs along the village’s western and southern borders.

Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. DuBois’s major transportation corridor is State Highway 50. It is traveled by an average of 1,150 vehicles daily, 135 of which are trucks.¹⁵ The local planning team has identified Highway 50 as the transportation corridor of most concern because it is a major highway that connects to Highway 63 in Kansas. In the event of an evacuation, businesses and houses along Highway 50 would likely have the most difficulty.

Demographics

The Village of DuBois’s population has been declining since 2000 and was at about 140 people in 2017. A declining population may lead to a decreasing tax base which could make funding mitigation projects more difficult. DuBois’s population accounted for 4.1% of Pawnee County’s population in 2017.¹⁶

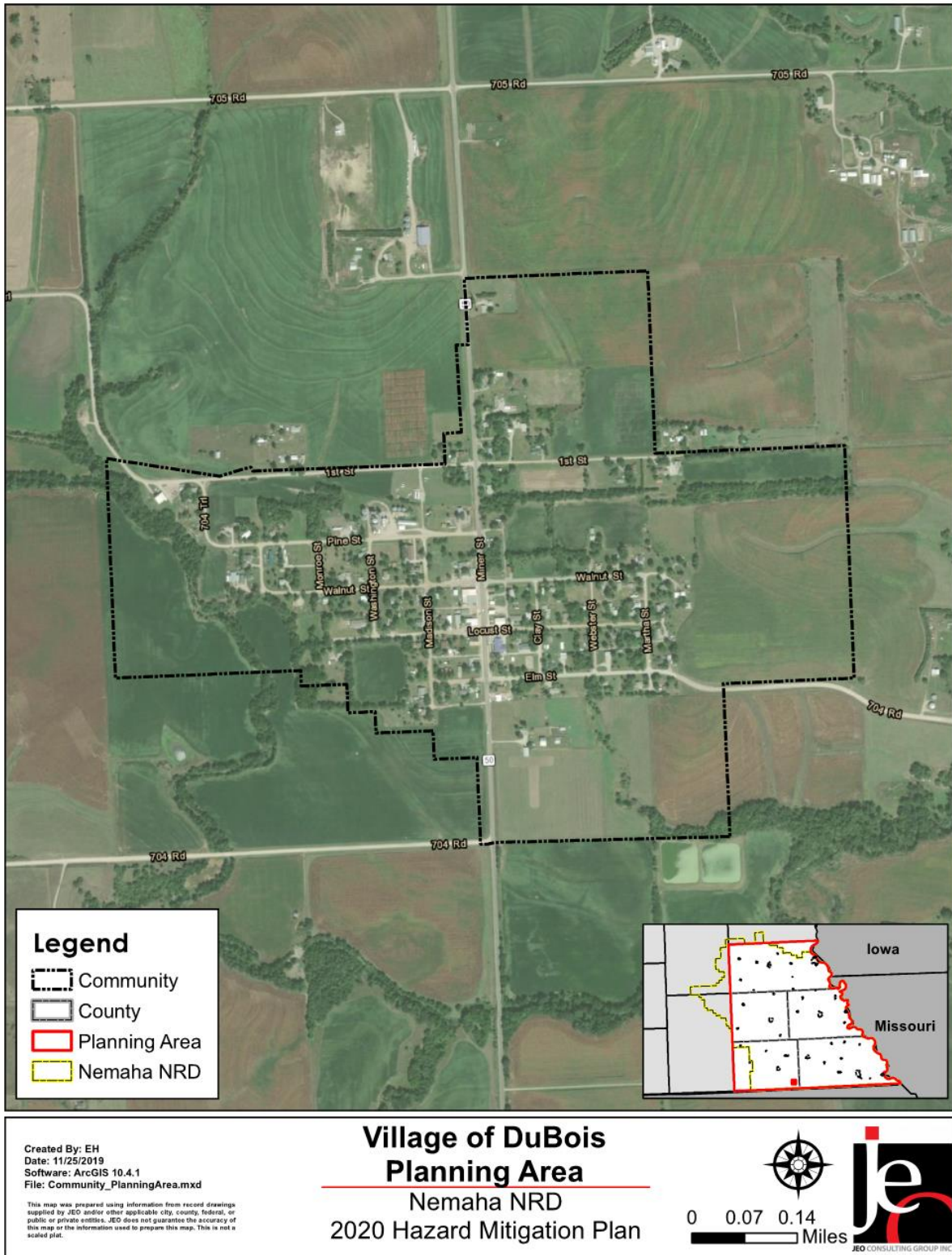


Source: U.S. Census Bureau, 1890 – 2010, Local Planning Team, 2017

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

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

Figure DBS.2: Village of DuBois



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, DuBois's population was:

- **Older.** The median age of DuBois was 56.8 years old in 2017, compared with Pawnee County's median of 50.1 years. DuBois's population grew older since 2010, when the median age was 50.5 years old.¹⁶
- **Similarly ethnically diverse.** Since 2010, DuBois became less ethnically diverse. In 2010, 8.4% of DuBois's population was Hispanic or Latino. The local planning team indicated that by 2017, about 2% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.2% in 2010 to 1.8% in 2017.¹⁶
- **Less likely to be below the federal poverty line.** The poverty rate in the Village of DuBois (4.5% of people living below the federal poverty line) was lower than the county's poverty rate (20.5%) in 2017.¹⁷

Employment and Economics

The Village of DuBois's economic base is a mixture of industries. In comparison to Pawnee County, DuBois's economy had:

- **Different mix of industries.** DuBois's major employment sectors, accounting for 10% or more of employment each, were: construction, manufacturing, trade, and education.¹⁷
- **Slightly higher per capita income.** DuBois's per capita income in 2017 (\$28,333) was about \$1,100 higher than the county (\$27,196).¹⁷
- **Fewer long-distance commuters.** About 29.1% of workers in DuBois commuted for fewer than 15 minutes, compared with about 43.7% of workers in Pawnee County. About 9.1% of workers in DuBois commuted 30 minutes or more to work, compared to about 28.9% of county workers.¹⁸

Major Employers

The State Bank of Table Rock, United States Postal Service, Friendly Oil, and Central Plains Organic Farmers are the largest employers in the village. Some residents commute to Pawnee City, as well as Bern, Kansas, and Seneca, Kansas.

Housing

In comparison to Pawnee County, the Village of DuBois's housing stock was:¹⁹

- **Newer.** DuBois had a smaller share of housing built prior to 1970 than the county (60.6% compared to 68%).
- **Similar amounts of mobile and manufactured housing.** The local planning team indicated that the Village of DuBois had a similar share of mobile and manufactured housing (8%) compared to the county (7.4%).
- **Less renter-occupied.** About 9.3% of occupied housing units in DuBois were renter-occupied compared with 19.7% of occupied housing in Pawnee County.

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

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

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

- **More occupied.** Approximately 11.5% of DuBois’s housing units were vacant compared to 23.2% of units in Pawnee County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community’s Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. The Village of DuBois has several mobile homes located along Locust Street, Pine Street, Clay Street, Miner Street, and State Highway 50. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

Future Development Trends

The local planning team indicated that over the past five years, two new houses have been built and one new business opened in March 2020. According to the U.S. Census Bureau American Community Survey estimates, the Village of DuBois population is generally declining. This decline can be attributed to the remote location of the community, which limits access to nearby facilities like groceries and pharmacy services. Municipal funds are limited to maintaining current facilities and systems, and have stayed the same over recent years. In the next five years, no housing or commercial developments are planned.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

Table DBS.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
125	\$ 3,487,925	6	4.8%	\$ 111,690

Source: GIS Workshop/Pawnee County Assessor, 2019²⁰

²⁰ GIS Workshop/Pawnee County Assessor. 2019. [Personal correspondence].

Critical Infrastructure

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 DuBois. The table below lists the name and location of the site and whether it is in the floodplain.

Table DBS.3: Chemical Storage Fixed Sites

Facility Name	Address	In Floodplain (Y/N)
Verizon Wireless DuBois Rptr	68345 DuBois, NE	N

Source: Nebraska Department of Environment and Energy²¹

Critical Facilities

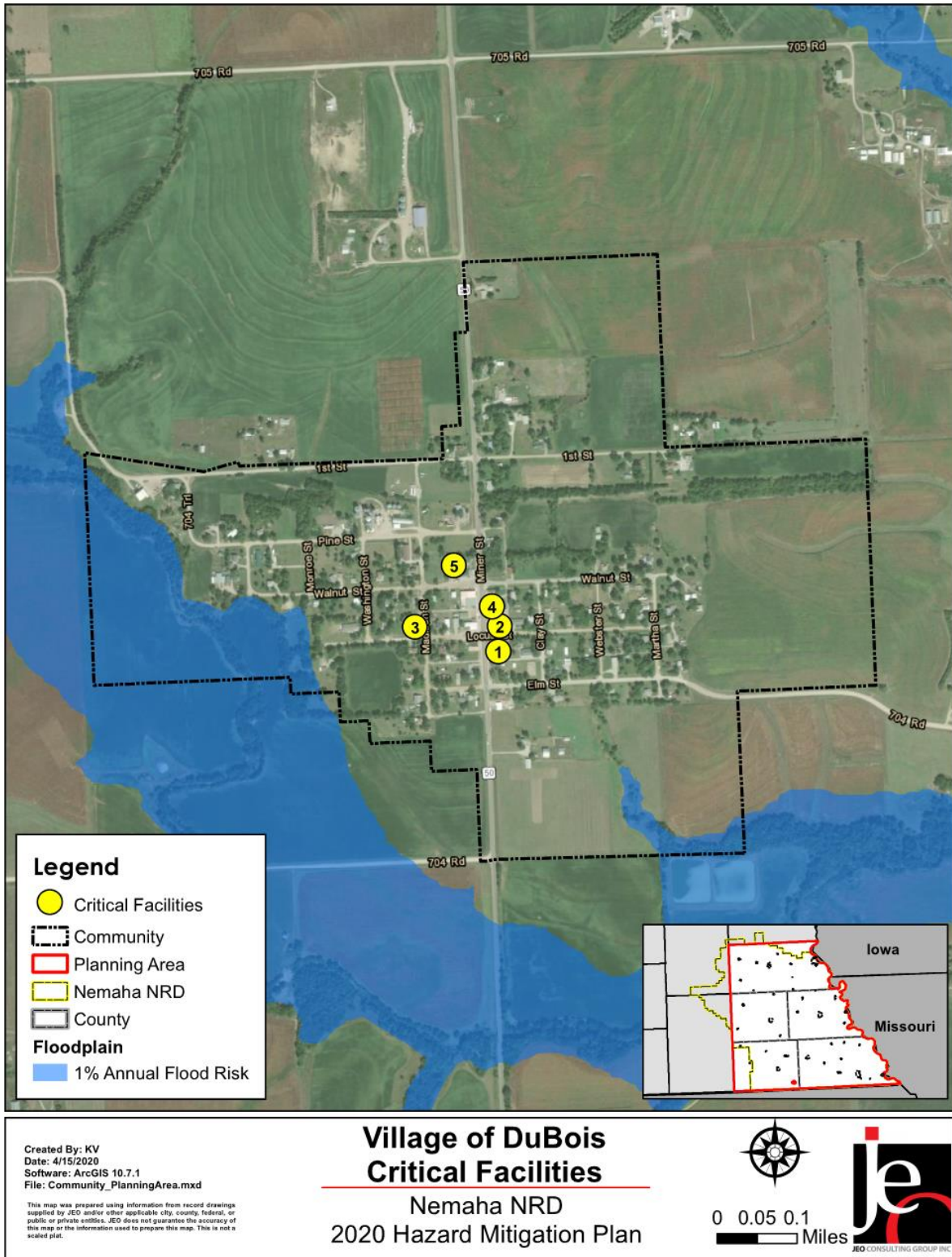
The planning team identified critical facilities necessary for the Village of DuBois's disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the community.

Table DBS.4: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Community Building	N	N	N
2	Fire Department	N	Y	N
3	United Methodist Church	N	N	N
4	Village Office	N	N	N
5	Water Tower	N	N	N

²¹ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2019. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

Figure DBS.3: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Chemical and Radiological Spills (Transportation)

Chemical transportation spills concern the village due to chemicals being transported along local routes. No chemical spill events have occurred in the community to date, but possible spills remain a precautionary concern. The transportation route of concern for potential spills is State Highway 50, which runs through the center of town. The village office, which has been identified as a critical facility in the community, is located next to Highway 50. There are several other businesses located next to Highway 50 as well. The proximity of these facilities to Highway 50 puts them at risk in the event of a transported chemical spill. The village has placed solar-powered speed signs on each end of DuBois to encourage slower speeds through the community to mitigate the risk of chemical spills on Highway 50.

Severe Thunderstorms

The village's primary concerns during a severe thunderstorm are proper street drainage, lagoon flooding, and possible lightning strikes of the water tower and warning siren. In the past there was a severe thunderstorm event where lightning struck the community warning siren twice in one year. Repairs were made and insurance was paid. While the community's critical facilities do not have hail-resistant building materials, they are insured against hail damage. Shelter options in the community are available in the village office basement and church basement. To mitigate the impacts of severe thunderstorms, the village has surge protectors on important electronic devices to protect municipal records. The fire department also has certified storm chasers.

Severe Winter Storms

In recent years the Village of DuBois has experienced significant winter storms. The local planning team identified the years 2018 and 2019 as having the most significant winter storms. In 2018, cold weather caused the water tower to freeze which broke the tower column. With insufficient equipment to deal with ice, DuBois is especially susceptible to winter storms. Maintenance staff are responsible for snow removal by utilizing a snowplow, snow blower, and maintainer. Snow removal equipment has been sufficient for DuBois so far, but overall resources could be better.

Tornadoes and High Winds

While no tornadic events have directly impacted DuBois, high winds of 93 mph occurred in 2017. No major impacts were noted during the high wind event. Important data is currently backed up on flash drives and CDs. In the event of a tornado, the village has a warning siren in place that is manually activated by the fire department. The siren's range reaches all areas of the community. Shelter options in the community are available in the village office basement and church basement.

Governance

The Village of DuBois is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Fire Department
- Street Commissioner
- Water Commissioner
- Water Operator
- Water Supervisor
- Maintenance Supervisor

Capability Assessment

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

Table DBS.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	Yes
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
Other (if any)	-	
Administrative & Technical Capability	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)	-

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

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

Plan Integration

DuBois’s capital improvements plan was last updated in 2014. It includes budgeting for maintenance of drainage structures and improving transportation drainage. The village is also an annex in the 2019 Pawnee County Local Emergency Operations Plan. It contains information regarding warning, incident command and field response, law enforcement, fire department, emergency medical services, public works, emergency operations center, emergency public information, sheltering, resources, damage assessment, and public health. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Above Ground Stormwater Drainage Improvements
Description	Stormwater systems comprising of ditches, culverts, or drainage ponds can be used to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. 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	Varies
Funding	Street Budget
Timeline	Ongoing
Priority	High
Lead Agency	Village Maintenance
Status	New Action. Ongoing, improvements are made when issues are identified.

Mitigation Action	Safe Rooms and Storm Shelters
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	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$350+ per square foot
Funding	Donations
Timeline	5+ Years
Priority	Medium
Lead Agency	Clerk, Village Board
Status	New Action. Not Started.

Mitigation Action	Transportation Drainage Improvements
Description	Make improvements to roadways and drainage ways to prevent damage to key transportation routes. Consider covering of road washouts, culvert sizing headwalls, steep banks, slides, in-road springs, roadway edge armoring, low water crossings, pothole grading, weak foundations, gravel road maintenance, ditch linings, on steep grades, erosion protection, etc. All but two roads in the village are gravel.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Funding	Street Budget
Timeline	Ongoing
Priority	High
Lead Agency	Village Maintenance
Status	New Action. Ongoing. Transportation improvements are made when funding is available, and issues are identified.

Community Profile

Pawnee City

**Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update**

2020

Local Planning Team

Table PWC.1: City of Pawnee City Local Planning Team

Name	Title	Jurisdiction
Charlie Hatfield	Mayor	Pawnee City
John Dahlgren	Council Member	Pawnee City
Vicki Zelenka	Council Member	Pawnee City
Spencer Cumley	Foreman	Pawnee City
Tamela Curtis	Clerk/Treasurer	Pawnee City
Ruth Stephens	Administrator	Pawnee County Memorial Hospital and Rural Health Clinic

Location and Geography

The City of Pawnee City is in east-central Pawnee County and covers an area of 1.2 square miles directly east of Turkey Creek.

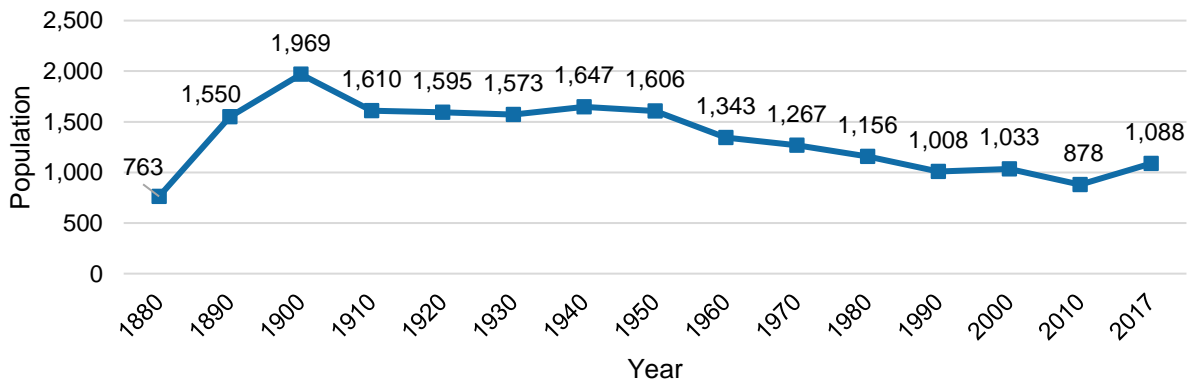
Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Pawnee City’s major transportation corridors are State Highway 8, State Highway 50, and State Highway 65. Highway 8 has an average of 1,435 vehicles a day, Highway 50 has an average of 2,115 vehicles a day, and Highway 65 has an average of 205 vehicles a day.²² The city has one Burlington Northern Santa Fe Railway line traveling western edge of the city. Transportation routes of concern include Highway 8, Highway 50, and Highway 65. Both Highway 8 and 50 transport anhydrous ammonia, farm pesticides, propane, gasoline, and paints on a regular basis. Highway 65 south of the city has been closed in the past due to flooding on Turkey Creek.

Demographics

The City of Pawnee City’s population has increased since 2010 and was at 1,088 people in 2017. An increasing population means a growing tax base, which could make funding mitigation projects easier. Pawnee City’s population accounted for 40.2% of Pawnee County’s population in 2017.²³

Figure PWC.1: Population



Source: U.S. Census Bureau, 1880 – 2017

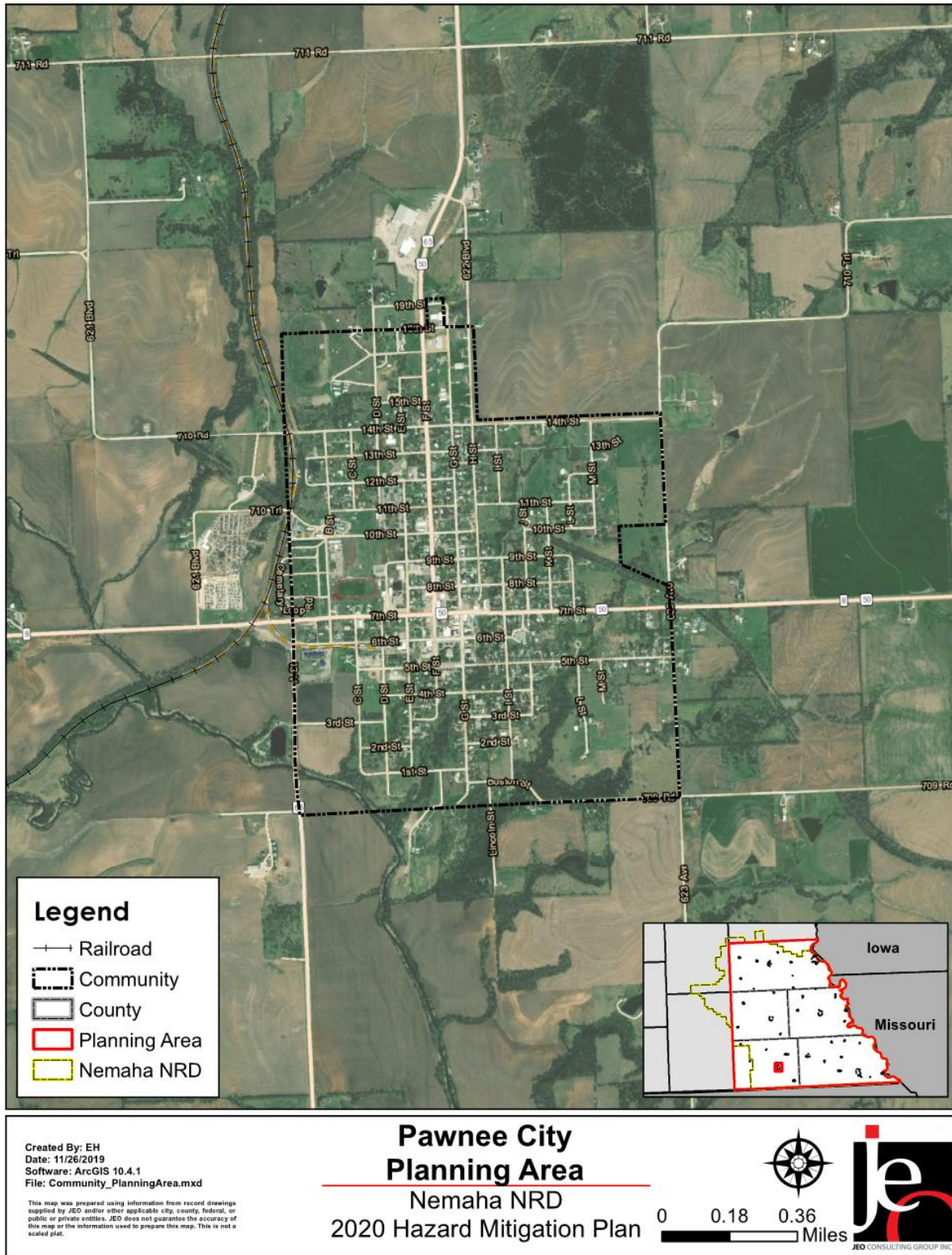
22 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map].

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

23 United States Census Bureau. "American Fact Finder: DP05: Demographic and Housing Estimates." [database file].

<https://factfinder.census.gov/>.

Figure PWC.2: City of Pawnee City



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Pawnee City's population was:

- **Younger.** The median age of Pawnee City was 47.7 years old in 2017, compared with Pawnee County's median of 50.1 years. Pawnee City's population grew younger since 2010, when the median age was 52 years old.²³
- **More ethnically diverse.** Since 2010, Pawnee City grew more ethnically diverse. In 2010, 0.9% of Pawnee City's population was Hispanic or Latino. By 2017, about 2.9% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.2% in 2010 to 1.8% in 2017.²³
- **More likely to be below the federal poverty line.** The poverty rate in Pawnee City (29.1% of people living below the federal poverty line) was higher than the county's poverty rate (20.5%) in 2017.²⁴

Employment and Economics

The City of Pawnee City's economic base is a mixture of industries. In comparison to Pawnee County, Pawnee City's economy had:

- **Similar mix of industries.** Pawnee City's major employment sectors, accounting for 10% or more of employment each, were: manufacturing, retail trade, education, and arts.²⁴
- **Lower per capita income.** Pawnee City's per capita income in 2017 (\$20,330) was about \$6,900 lower than the county (\$27,196).²⁴
- **Similar amount of long-distance commuters.** About 54.9% of workers in Pawnee City commuted for fewer than 15 minutes, compared with about 43.7% of workers in Pawnee County. About 28.6% of workers in Pawnee City commuted 30 minutes or more to work, compared to about 28.9% of county workers.²⁵

Major Employers

Major employers in the community include CJ Food, Pawnee County, Pawnee City, Pawnee Public Schools, the nursing home, and Pawnee County Hospital. The local planning team estimated that approximately 40% of workers commute to communities like Tecumseh, Auburn, Beatrice, Bern, Marysville, and Seneca.

Housing

In comparison to Pawnee County, the City of Pawnee City's housing stock was:²⁶

- **Older.** Pawnee City had a larger share of housing built prior to 1970 than the county (72.4% compared to 68%).
- **Less mobile and manufactured housing.** The City of Pawnee City had a smaller share of mobile and manufactured housing (3.2%) compared to the county (7.4%).
- **More renter-occupied.** About 28.7% of occupied housing units in Pawnee City were renter-occupied compared with 19.7% of occupied housing in Pawnee County.
- **More occupied.** Approximately 16.5% of Pawnee City's housing units were vacant compared to 23.2% of units in Pawnee County.

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

25 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected 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/>.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community’s Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Mobile homes in the community are located in the city’s northeast corner and on 9th and 8th Streets along L Street. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

Future Development Trends

In the last five years four new houses have been built. A new Dollar General, carwash, laundromat, city office, restaurant, law office, and assisted living facility was built. In addition, CJ Food expanded, and the corner stone building is currently being remodeled. According to the latest American Community Survey estimates, Pawnee City’s population is increasing. The local planning team indicated that the growth is due to employment opportunities, low-cost housing, and a great public school district. The city’s budget is limited to maintain current facilities unless grant funding is available. A large portion of funds are already dedicated to building a new fire hall, street repairs, water system updates, and a new mechanical sewer plant. Municipal funds have been increasing over recent years. In the next five years, no housing is planned; however, a new community building, day care, and fire hall are planned.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

Table PWC.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
598	\$21,941,300	31	5.18%	\$785,790

Source: GIS Workshop/Pawnee County Assessor, 2019²⁷

Critical Infrastructure

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 four chemical storage sites in Pawnee City. The table below lists the name and location of the sites and whether they are in the floodplain.

²⁷ GIS Workshop/Pawnee County Assessor. 2019. [Personal correspondence].

Table P.WC.3: Chemical Storage Fixed Sites

Facility Name	Address	In Floodplain (Y/N)
C J Foods Inc	71045 Highway 50	N
NDOT Pawnee City Yard	900 B Street	N
Farmers Cooperative	B Street	N
Pawnee Fertilizer Inc	62191 709 th Road	N

Source: Nebraska Department of Environment and Energy²⁸

Critical Facilities

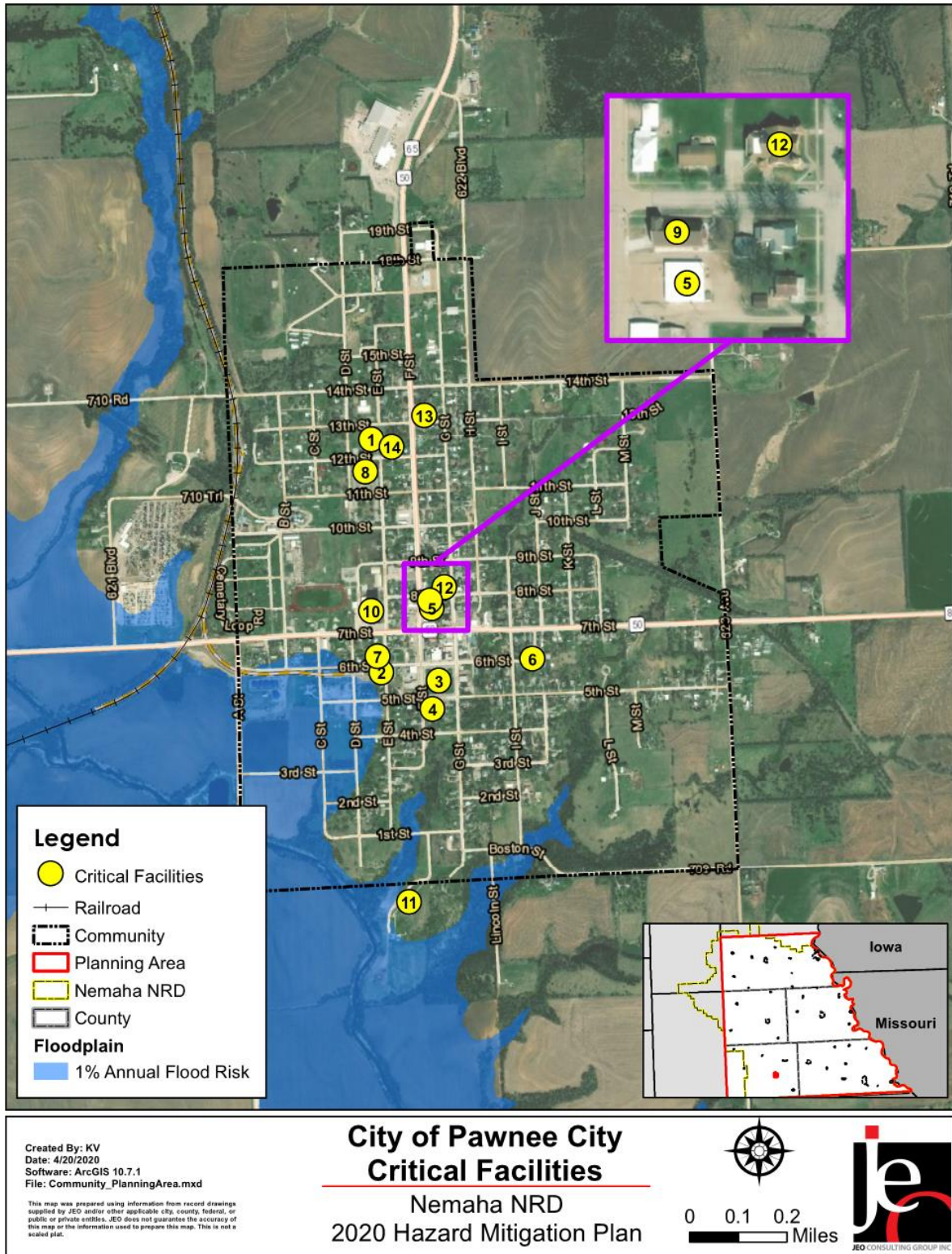
Critical facilities were identified during the 2015 planning process and revised for this plan update. The planning team identified critical facilities necessary for the City of Pawnee City's disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the community.

Table PWC.4: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Assisted Living & Premier Estates	N	N	N
2	City Offices	N	N	N
3	Courthouse	N	N	N
4	Faith Baptist Church	Y	N	N
5	Fire Hall	N	Y	N
6	Hospital	N	Y	N
7	NPPD Substation	N	N	N
8	Pawnee Village Housing	N	N	N
9	Presbyterian Church	Y	N	N
10	School	Y	N	N
11	Sewer Plant	N	Y	N
12	United Methodist Church	Y	N	N
13	Water Tower	N	N	N
14	Zion Lutheran Church	Y	N	N

28 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed November 2019. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

Figure PWC.3: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Chemical and Radiological Spills (Fixed Site)

This hazard was specifically chosen by the representatives from Pawnee City but not by the hospital representative. The two main fixed chemical site concerns are the anhydrous ammonia storage site one mile from the community and the fertilizer plant on 6th and B Streets. No large fixed site spills have occurred locally. No critical facilities are located near the fixed sites but there are residential homes near the fertilizer plant. If a large spill were to occur, the Pawnee City Volunteer Fire Department would be the first to respond. The department has protective gear and has been trained in spill response.

Chemical and Radiological Spills (Transportation)

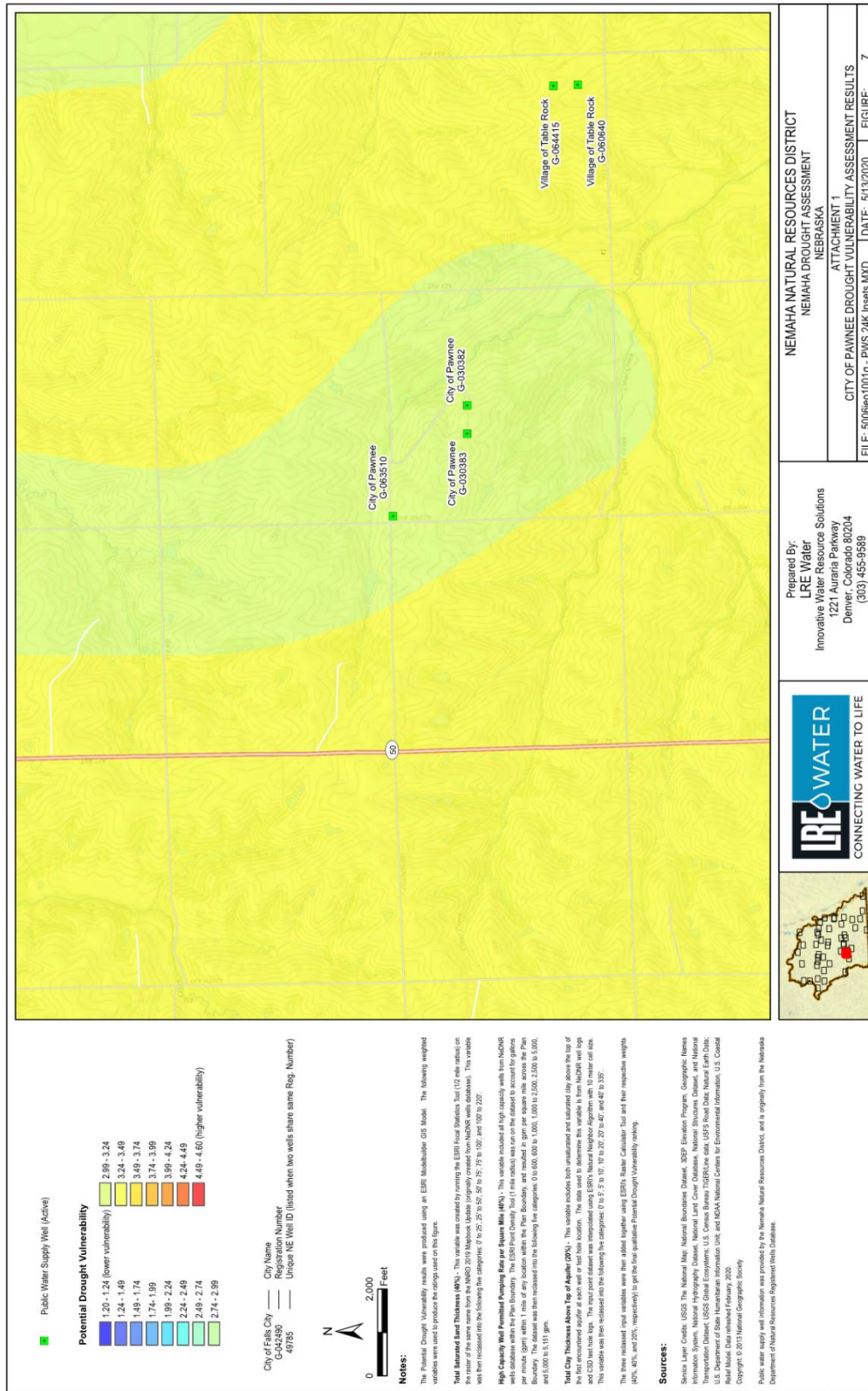
Chemicals are regularly transported along Highway 8 and Highway 50. Trucks also transport fertilizer through town to and from the fertilizer plant. Anhydrous ammonia and fertilizer are the two most common chemicals which are transported. The hospital's primary concern related to this hazard is public safety due to exposure to chemicals. Anhydrous ammonia spills have occurred in the past. The hospital is located along main transportation routes which regularly carry farm chemicals.

Drought and Extreme Heat

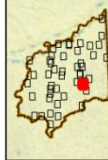
The city's primary concern related to drought is not having enough water for residents. During past drought events, the city's three wells have run low and water restrictions have had to be implemented. The city has three different stages of water restrictions depending on the water supply. Last restrictions were implemented in 2011 to 2012. The city measures the water level in the wells on a weekly basis. Water quality is checked monthly and no water quality issues are currently present. The hospital's primary concern is an increase in patients with heat-related illnesses and dehydration. Cooling centers in the city include the three churches, library, and school.

As part of the HMP process, a qualitative analysis of the public water supply's vulnerability to drought was conducted. The map below shows the location of the city's public water supply wells relative to potential drought vulnerability. Further analysis would need to be done to determine if additional wells are needed and where to best locate them. Additional information regarding the qualitative analysis can be found in the Drought Profile within *Section 4: Risk Assessment*.

Figure PWC.4: Public Water Supply Drought Vulnerability



Prepared By: IRE Water Innovative Water Resource Solutions 1221 Aurora Parkway Denver, Colorado 80204 (303) 455-9589	NEMAHA NATURAL RESOURCES DISTRICT NEMAHA DROUGHT ASSESSMENT NEBRASKA	
	ATTACHMENT 1 CITY OF PAWNEE DROUGHT VULNERABILITY ASSESSMENT RESULTS FILE: 5006@1001g - PWS 24K Inseas.MXD DATE: 5/13/2020 FIGURE: 7	



Severe Thunderstorms

In 2019 the city had a hailstorm that damaged roofs, crops, and buildings. City-owned buildings do not have hail-resistant building materials but are insured for hail damage. In 2017 Well #1 was struck by lightning and in 2015/2016 the electrical pumps at the sewer plant were affected by lightning strikes. Hazardous trees are located throughout the community. The power company regularly trims limbs to keep them back from power lines. Most city-owned buildings have weather radios. The hospital's main concerns are loss of power and wind damage to the building. The hospital has surge protectors on important electronic devices and a backup generator if power loss does occur.

Severe Winter Storms

The city has experienced several heavy snowstorms and several ice storms in recent years. In 2011 electricity went out during an 11-inch snow and in 2009 an ice storm caused power loss for four weeks. Snow removal is done by the city using snowplows, front-wheel loader, Bobcat Skidster, and tractor. These resources are typically sufficient for most winter storms the city experiences.

Tornadoes and High Winds

Past high wind events in 2016 and 2018 have damaged the fairgrounds, trees, roofs, and vehicles. No damage has occurred to the hospital or other critical facilities, but power loss has occurred. In 2014 there was a tornado south of the city which damaged trees, trailers, and gas pumps. The local planning team indicated that very few power lines are buried in the community, making the city much more susceptible to power loss. In the event of power loss, the hospital backs up important records and the city uses fireproof safes and flash drives to backup records regularly. There are no safe rooms in the community, so residents use basements, the school, churches, or the public library for shelter. Pawnee City has three tornado sirens which can be activated by the fire department. Should a disaster occur, the hospital has mutual aid agreements with other hospitals in the area and the fire department has agreements in place.

Governance

The City of Pawnee City is governed by a five-member city council; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Mayor
- Sheriff's Department
- Fire Department
- Sewage Plant Operator
- Street Superintendent
- Shop Foreman
- Water Committee
- Parks & Recreation
- Planning and Zoning
- Engineer
- Cemetery Board
- Library Board
- Pawnee City Development Corporation
- Airport Authority

Capability Assessment

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

Table PWC.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	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)	-
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	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)	-
Fiscal Capability	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)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No

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

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

Plan Integration

Pawnee City’s comprehensive plan was last updated in 2016. The plan contains goals aimed at safe growth, directs development away from the floodplain, directs development away from chemical storage facilities, directs development away from major transportation routes, encourages the elevation of structures located in the floodplain, and identifies areas that need emergency shelters. The zoning ordinance and subdivision regulations are currently being updated and the floodplain regulations were last updated in 2017. These documents discourage development in the floodplain, identify floodplain areas as parks or open space, prohibit filling of wetlands, discourage development near chemical storage sites, and allows for subdivision density transfers. Building codes for the city follow the state building codes for Nebraska. The wellhead protection plan was updated in 2012. It identifies specific areas with possible groundwater contamination, has a water conservation plan, and a drought management plan in place. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Continued and New Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Install a fixed generator at Well #3 in case of power outages. Install switches on Wells #1 and #2 so portable generator can be hooked up.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$22,500+
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Water Department
Status	New Action. Not Started.

Mitigation Action	Expand Water Storage Capacity
Description	Identify and expand water storage capabilities to ensure sufficient water supplies to mitigation against water supply emergencies.
Hazard(s) Addressed	Drought
Estimated Cost	\$30,000+
Funding	CDBG
Timeline	2-5 Years
Priority	Medium
Lead Agency	City Council, Water Commissioner
Status	Not Started.

Mitigation Action	First Aid Training
Description	Promote first aid training for all residents.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$100 per person
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	City Council, Hospital
Status	Not Started.

Mitigation Action	Safe Rooms and Storm Shelters
Description	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas. City is interested in residential safe room program. Possible locations include the city ball field and near the city pond.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$4,000 - \$10,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Mayor, City Council
Status	Not Started.

Removed Mitigation Actions

Mitigation Action	Maintain Good Standing in the NFIP
Hazard(s) Addressed	Flooding
Reason for Removal	While the city will continue to participate and maintain compliance in the NFIP, this project can be removed as it is considered an ongoing effort.

Community Profile

Village of Steinauer

Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table STN.1: Village of Steinauer Local Planning Team

Name	Title	Jurisdiction
Byford Schmit	Chairman	Village of Steinauer
Bob Steinauer	Board Member	Village of Steinauer
Suzanne Borchert	Clerk	Village of Steinauer

Location and Geography

The Village of Steinauer is in northern Pawnee County and covers an area of 0.1 square miles. Turkey Creek runs along the western and southern border of the village.

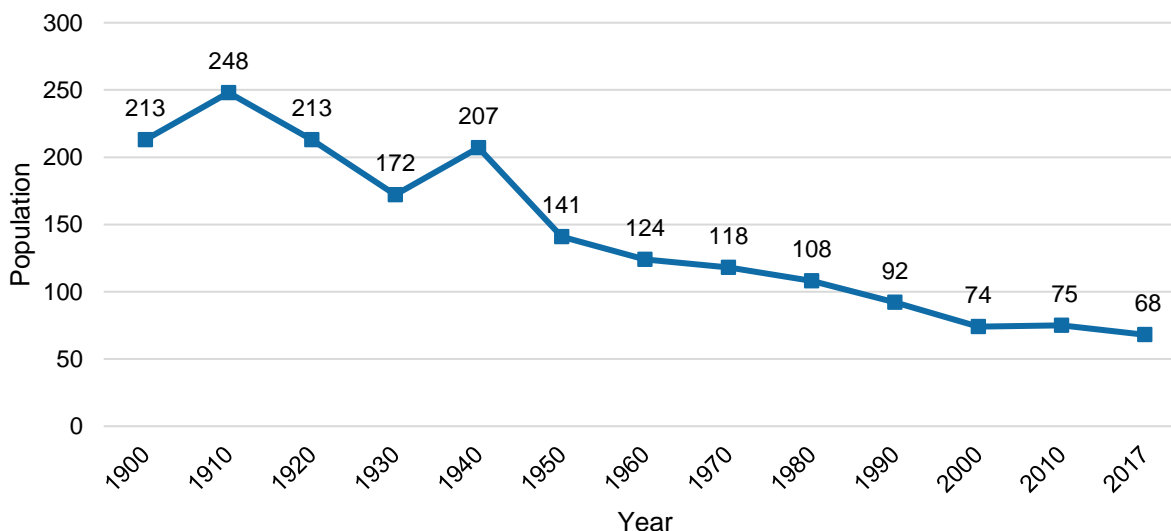
Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Steinauer’s major transportation corridor is the spur of State Highway 67B. It is traveled by an average of 280 vehicles daily, ten of which are trucks.²⁹ The village does not have any railway lines traveling through the community. Transportation routes of most concern are county roads north and south of the village as they are routinely closed due to flooding issues.

Demographics

The Village of Steinauer’s population has been stable at around 68 to 75 people since 2000, providing a stable tax base that could fund mitigation projects. Steinauer’s population accounted for 2.5% of Pawnee County’s population in 2017.³⁰

Figure STN.1: Population



Source: U.S. Census Bureau, 1900 – 2017

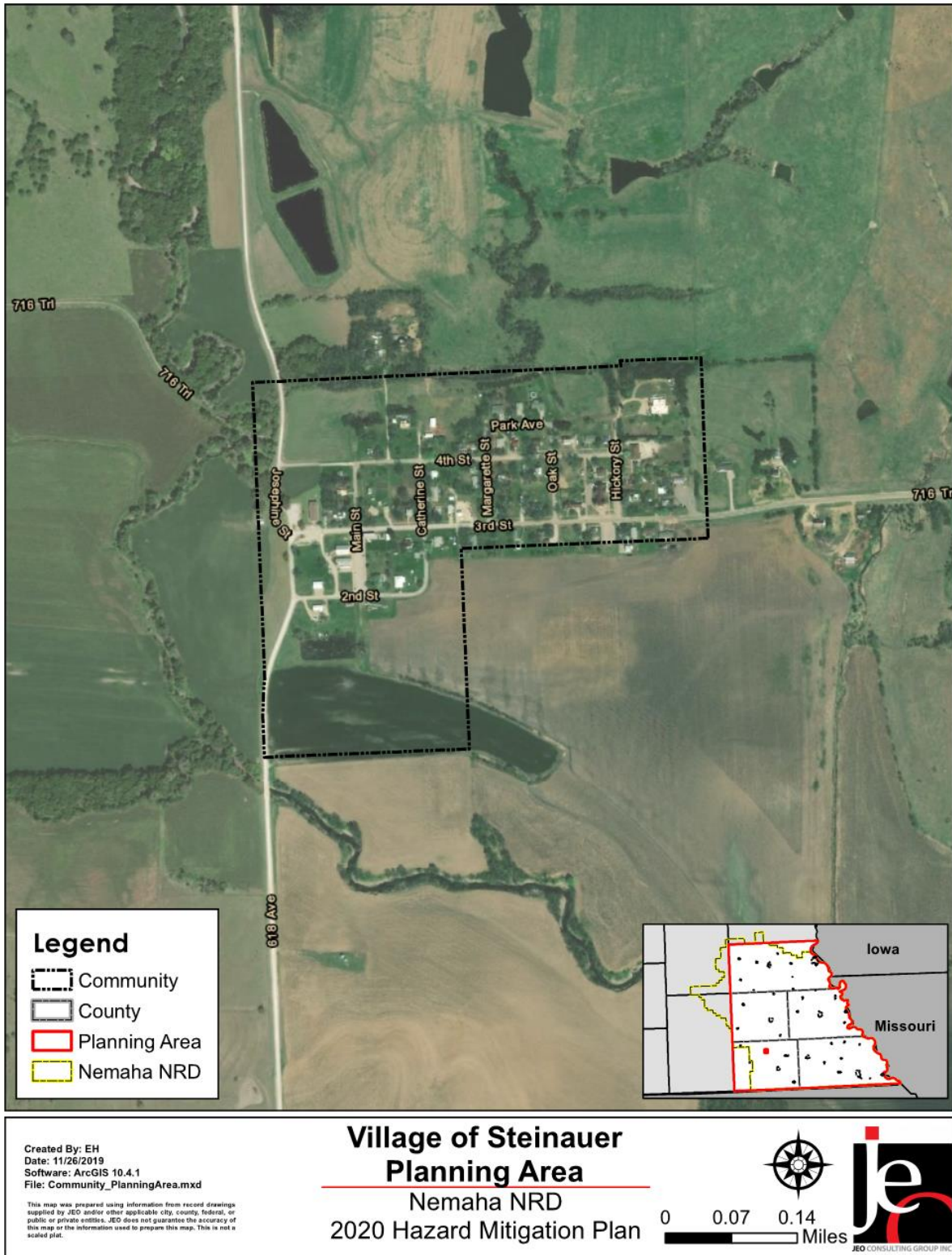
29 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map].

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

30 United States Census Bureau. "American Fact Finder: DP05: Demographic and Housing Estimates." [database file].

<https://factfinder.census.gov/>.

Figure STN.2: Village of Steinauer



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Steinauer's population was:

- **Younger.** The median age of Steinauer was 47.5 years old in 2017, compared with Pawnee County's median of 50.1 years. Steinauer's population grew younger since 2010, when the median age was 58.6 years old.³⁰
- **Less ethnically diverse.** Since 2010, Steinauer stayed as ethnically diverse. In 2010 and 2017, 0% of Steinauer's population was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.2% in 2010 to 1.8% in 2017.³⁰
- **Less likely to be below the federal poverty line.** The poverty rate in the Village of Steinauer (13.2% of people living below the federal poverty line) was lower than the county's poverty rate (20.5%) in 2017.³¹

Employment and Economics

The Village of Steinauer's economic base is a primarily made up of two industries. In comparison to Pawnee County, Steinauer's economy had:

- **Different mix of industries.** Steinauer's major employment sectors, accounting for 10% or more of employment each, were: education and other services.³¹
- **Similar per capita income.** Steinauer's per capita income in 2017 (\$27,172) was similar the county (\$27,196).³¹
- **More long-distance commuters.** About 20% of workers in Steinauer commuted for fewer than 15 minutes, compared with about 43.7% of workers in Pawnee County. About 36% of workers in Steinauer commuted 30 minutes or more to work, compared to about 28.9% of county workers.³²

Major Employers

The Village of Steinauer does not have any major employers. A large percentage of residents commute to Lincoln, Beatrice, Tecumseh, and Pawnee City for employment.

Housing

In comparison to Pawnee County, the Village of Steinauer's housing stock was:³³

- **Older.** Steinauer had a larger share of housing built prior to 1970 than the county (95% compared to 68%).
- **Less mobile and manufactured housing.** The Village of Steinauer had a smaller share of mobile and manufactured housing (0%) compared to the county (7.4%).
- **Less renter-occupied.** About 3% of occupied housing units in Steinauer were renter-occupied compared with 19.7% of occupied housing in Pawnee County.
- **More occupied.** Approximately 17.5% of Steinauer's housing units were vacant compared to 23.2% of units in Pawnee County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's

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

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

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

Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

Future Development Trends

In the past five years, no new housing was built but some old houses were demolished. No commercial buildings were added. Municipal funds are sufficient to pursue smaller new capital projects, but typically go towards maintaining current facilities. Funds have slightly increased over recent years. In the next five years the local planning team does not anticipate any new housing or businesses being built.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

Table STN.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
73	\$1,394,915	20	27.39%	\$249,885

Source: GIS Workshop/Pawnee County Assessor, 2019³⁴

³⁴ GIS Workshop/Pawnee County Assessor, 2019. [Personal correspondence].

Critical Infrastructure

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is a total of one chemical storage site in Steinauer. The table below lists the name and location of the site and whether it is in the floodplain.

Table STN.3: Chemical Storage Fixed Sites

Facility Name	Address	In Floodplain (Y/N)
OPPD Substation No.966	Highway 4	N

Source: Nebraska Department of Environment and Energy³⁵

Critical Facilities

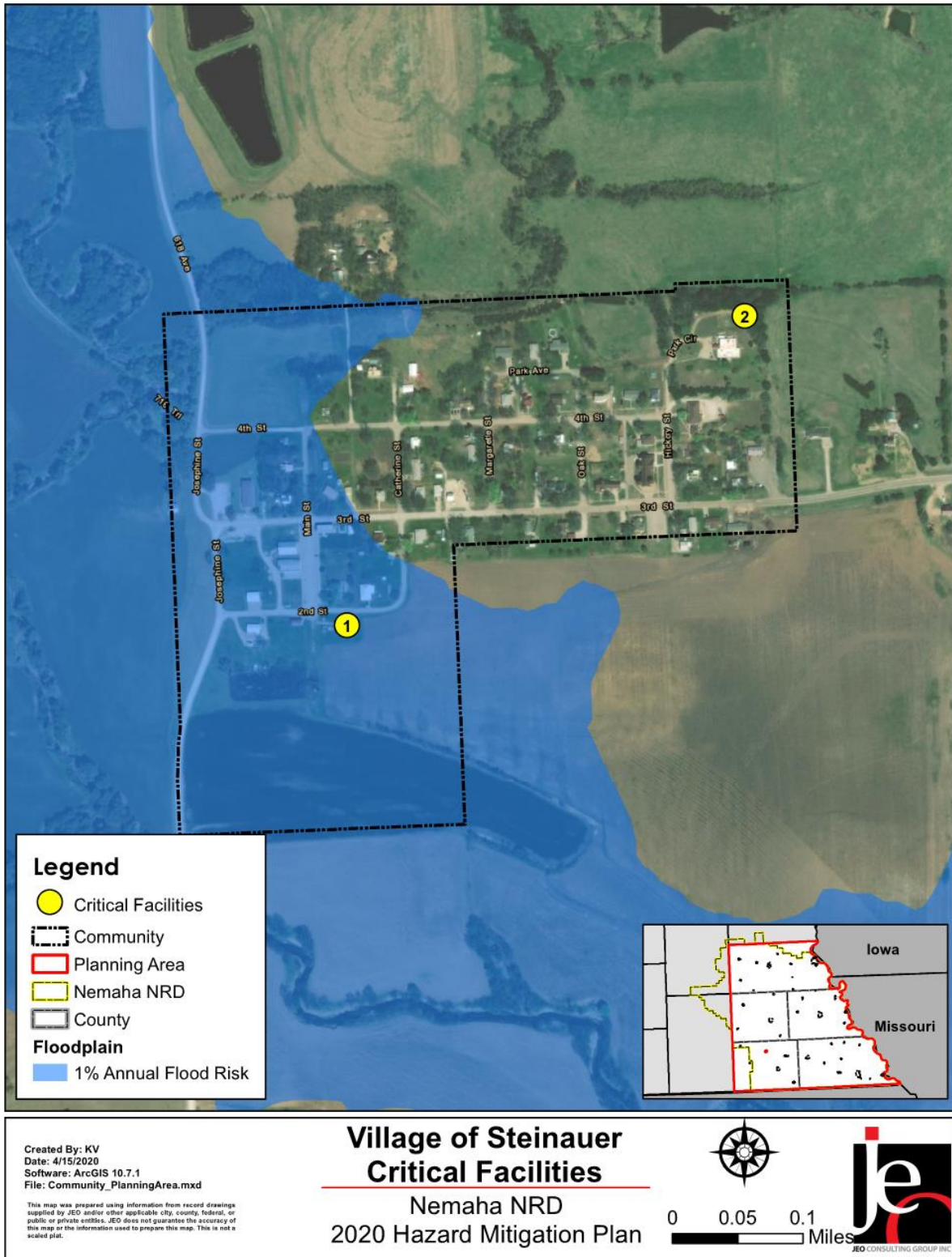
Critical facilities were identified during the 2015 planning process and revised for this plan update. The planning team identified critical facilities necessary for the Village of Steinauer’s disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the community.

Table STN.4: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Lift Station	N	N	Y
2	Water Tower	N	N	N

³⁵ Nebraska Department of Environment and Energy. “Search Tier II Data.” Accessed November 2019. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

Figure STN.3: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought and Extreme Heat

Primary concerns regarding drought and extreme heat are having sufficient water quantity and dry vegetation leading to grass fires. Past drought events have caused water restrictions that were mandated by rural water authorities. The village's water supply comes from Pawnee County Rural Water and water use is monitored through village water meters. Currently there are no water quality issues. Tests are done on a monthly or bi-monthly basis as needed. Drought is identified using data from the internet and briefings from Emergency Management. Steinauer does not have a drought ordinance or response plan, as Pawnee County Rural Water makes those decisions. There are no cooling centers in the village, but the volunteer fire department and EMTs are available if needed.

As part of the HMP process, a qualitative analysis of the public water supply's vulnerability to drought was conducted. The map below shows the location of the village's public water supply wells relative to potential drought vulnerability. Further analysis would need to be done to determine if additional wells are needed and where to best locate them. Additional information regarding the qualitative analysis can be found in the Drought Profile within *Section 4: Risk Assessment*.

Flooding

In 2019 Turkey Creek went out of its banks and closed roads for 36 hours on the south and north roads at the west end of the village. Homes and critical facilities were not damaged from the event. Roads also required additional gravel, as the floodwater washed rock off the roads. The floodplain is located on the western side of the community and comes from Turkey Creek. In the past the wastewater lagoons had been damaged by flooding. They have since been moved out of the floodplain.

Severe Thunderstorms

The village's primary concerns regarding severe thunderstorms include lightning strikes, downed trees, and downed power lines. The local planning team indicated that none of the power lines in the village are buried leaving them susceptible winds and downed trees causing power outages. The village also identified several hazardous trees located near power lines. Municipal records are paper copy only and are not backed up as there is no computer system for the village. The fire department receives county text alerts for severe weather, but no facilities have weather radios. Critical facilities have some hail-resistant building materials and they are also insured against hail damage.

Severe Winter Storms

In 2018 the village experienced several large snowfalls that did not result in any damage but caused dangerous driving conditions. Other past impacts include downed power lines and trees. Snow removal in the village is hired out to an individual with a pickup and blade. A tractor with a blade is also available for larger snow events. These resources are sufficient as residents are able to help if needed.

Tornadoes and High Winds

NCEI data shows that a tornado in 2018 occurred 2.8 miles east of Steinauer. No damages to structures occurred but some tree branches were downed. The local planning team also indicated that past high wind events have caused downed trees and limbs. No critical facilities have been damaged in the past. Warning sirens in the village are activated manually or by County Emergency Management. A new siren was installed in 2019. There are no certified safe rooms in the community so residents seeking shelter must use basements or interior rooms. In the event of a disaster, mutual aid agreements are in place with neighboring fire departments.

Governance

The Village of Steinauer is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk
- Treasurer
- Attorney
- Fire Department
- Street Commissioner
- Water Commissioner
- Engineer

Capability Assessment

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

Table STN.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No

Survey Components/Subcomponents		Yes/No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)		
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

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

Plan Integration

Steinauer has two planning documents which relate to hazard mitigation. The floodplain ordinance outlines new construction requirements for structures in the floodplain. The village is also an annex to the 2019 Pawnee County Local Emergency Operations Plan. It contains information regarding warning, incident command, law enforcement, fire department, emergency medical services, public works, emergency operations center, emergency public information, sheltering, resources, damage assessment, public health, and financial accountability. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Completed Mitigation Actions

Mitigation Action	Alert Siren
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Status	An alert siren was but in the center of the village in 2019.

Continued and New Mitigation Actions

Mitigation Action	Above Ground Stormwater System and Drainage Improvements
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include upsizing culverts and tubes. 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+
Funding	Village Funds
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board
Status	Ongoing. Improvements are done as needed.

Mitigation Action	Roadway Repairs
Description	Make major repairs to Third Street that could be used as an evacuation route out of the village.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$100,000+
Funding	Village Funds, CDBG
Timeline	Ongoing
Priority	Low
Lead Agency	Village Board
Status	Ongoing. The road is repaired as needed.

Removed Mitigation Actions

Mitigation Action	Civil Service Improvements
Hazard(s) Addressed	All Hazards
Reason for Removal	Any equipment needed for rescue and response is handled by the county or rural fire department.

Mitigation Action	Floodplain Regulations
Hazard(s) Addressed	Flooding
Reason for Removal	The village currently has no plans to update their floodplain regulations. The village regularly reviews their regulations and ordinances and updates them as needed. They will continue to enforce all local regulations.

Mitigation Action	Maintain Good Standing in NFIP
Hazard(s) Addressed	Flooding
Reason for Removal	While the village will continue to participate and maintain compliance in the NFIP, this project can be removed as it is considered an ongoing effort.

Mitigation Action	Weather Radios
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds, Flooding
Reason for Removal	There is no location that someone is at on a regular basis or regular hours.

Community Profile

Village of Table Rock

Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table TBR.1: Village of Table Rock Local Planning Team

Name	Title	Jurisdiction
Kenny Edwards	Board Member	Village of Table Rock
Ben Laun	Board Chairperson	Village of Table Rock

Location and Geography

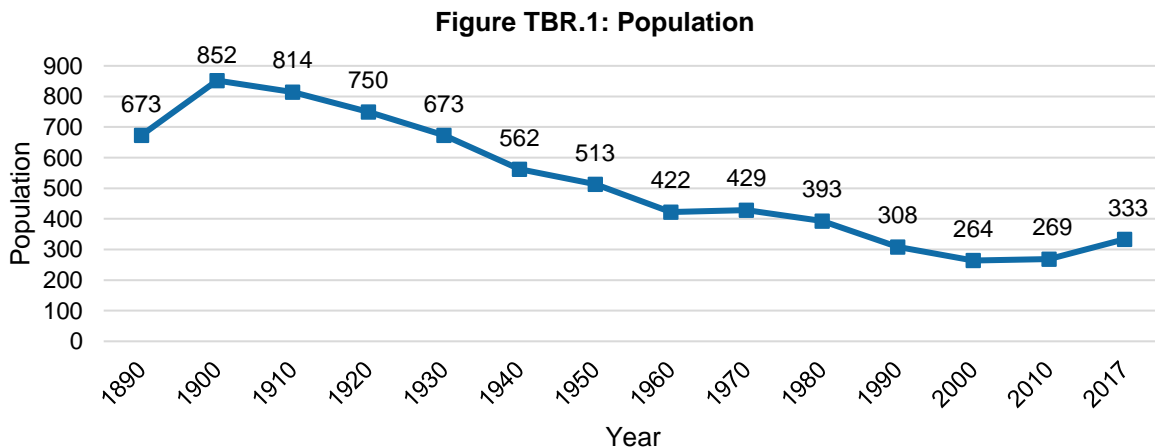
The Village of Table Rock is in northeastern Pawnee County and covers an area of 0.6 square miles. Table Rock is located near Table Rock State Wildlife Management Area. The Big Nemaha River is located on the eastern border of the village.

Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Table Rock’s major transportation corridors are State Highway 4 and State Highway 65. Highway 4 averages 1,120 vehicles a day and Highway 65 averages 680 vehicles a day.³⁶ The village has two Burlington Northern Santa Fe Railway lines traveling on the southern, eastern, and northern edges of the village. The local planning team has identified Highways 4 and 65 as the major transportation corridors of most concern. Additional transportation corridors of concern in the village are Houston Street, 6th Street, and Luzerne Street. Fertilizer, propane, and anhydrous ammonia are regularly transported along local routes. The planning team identified mining refuse as possibly being transported in the future. During flooding events, Railroad Drive and Nebraska Street on the south side of the village are routinely closed. Residents on the west side of Table Rock may have the most difficulty evacuating due to the lack of major through streets.

Demographics

The Village of Table Rock’s population has been increasing since 2000 and was at 333 people in 2017. An increasing population means a growing tax base, which may make funding mitigation projects easier. Table Rock’s population accounted for 12.3% of Pawnee County’s population in 2017.³⁷



Source: U.S. Census Bureau, 1890 – 2017

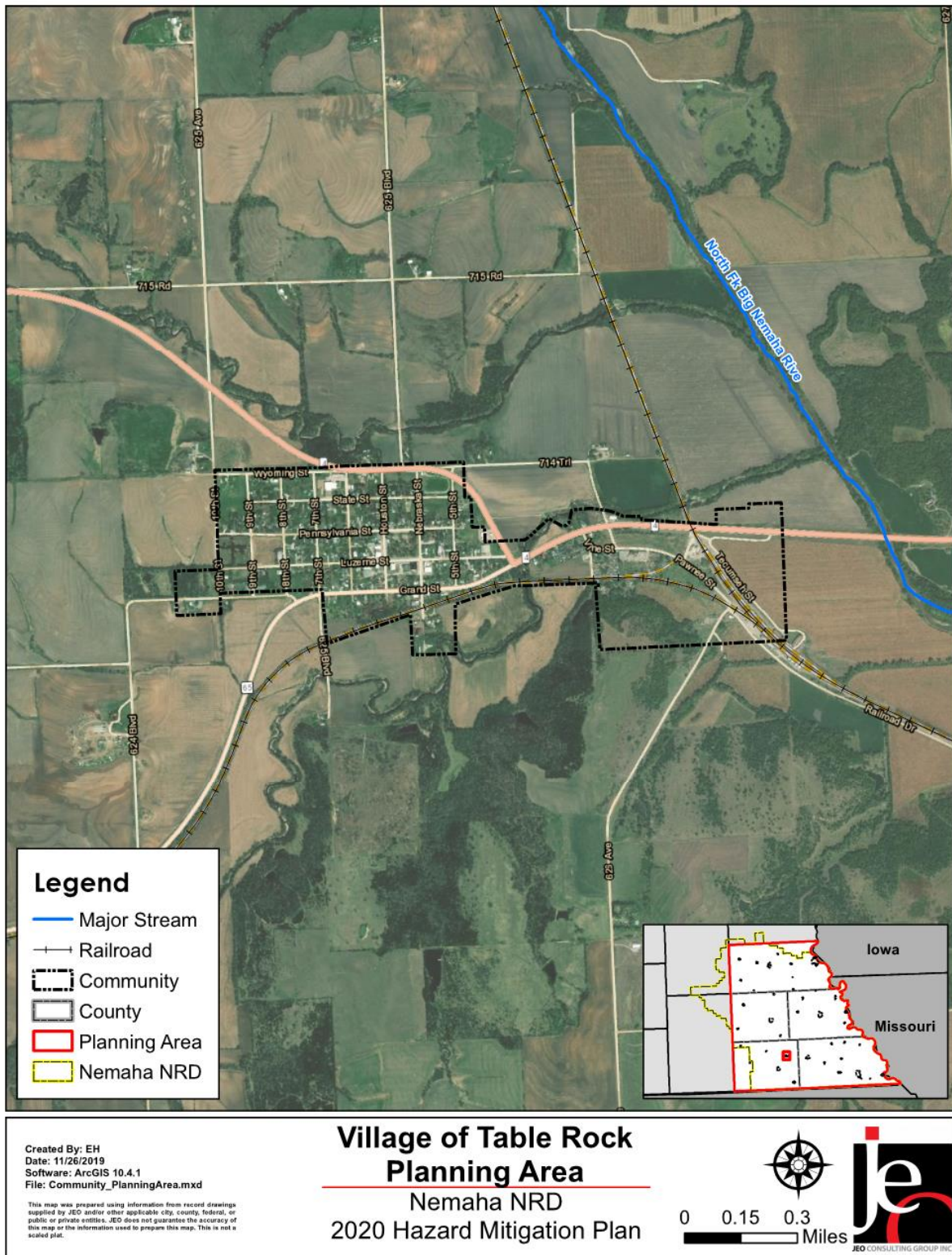
36 Nebraska Department of Roads. 2018. “Interactive Statewide Traffic Counts Map.” [map].

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

37 United States Census Bureau. “American Fact Finder: DP05: Demographic and Housing Estimates.” [database file].

<https://factfinder.census.gov/>.

Figure TBR.2: Village of Table Rock



Created By: EH
 Date: 11/26/2019
 Software: ArcGIS 10.4.1
 File: Community_PlanningArea.mxd
 This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plan.

**Village of Table Rock
 Planning Area**
 Nemaha NRD
 2020 Hazard Mitigation Plan

0 0.15 0.3 Miles

The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Table Rock's population was:

- **Younger.** The median age of Table Rock was 46.4 years old in 2017, compared with Pawnee County's median of 50.1 years. Table Rock's population grew younger since 2010, when the median age was 54.4 years old.³⁷
- **Less ethnically diverse.** Since 2010, Table Rock stayed as ethnically diverse. In 2010 and 2017, 0% of Table Rock's population was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.2% in 2010 to 1.8% in 2017.³⁷
- **As likely to be below the federal poverty line.** The poverty rate in the Village of Table Rock (21% of people living below the federal poverty line) was slightly higher than the county's poverty rate (20.5%) in 2017.³⁸

Employment and Economics

The Village of Table Rock's economic base is a mixture of industries. In comparison to Pawnee County, Table Rock's economy had:

- **Similar mix of industries.** Table Rock's major employment sectors, accounting for 10% or more of employment each, were: manufacturing, transportation, and education.³⁸
- **Lower per capita income.** Table Rock's per capita income in 2017 (\$26,481) was about \$700 lower than the county (\$27,196).³⁸
- **Fewer long-distance commuters.** About 45.7% of workers in Table Rock commuted for fewer than 15 minutes, compared with about 43.7% of workers in Pawnee County. About 19.1% of workers in Table Rock commuted 30 minutes or more to work, compared to about 28.9% of county workers.³⁹

Major Employers

The railroad, Binder Brother's Lumber, the Roundup Bar and Grill, and Den's Country Meats are the largest employers in the village. A large percentage of residents also commute to Tecumseh, Pawnee City, and Humboldt.

Housing

In comparison to Pawnee County, the Village of Table Rock's housing stock was:⁴⁰

- **Older.** Table Rock had a larger share of housing built prior to 1970 than the county (72.5% compared to 68%).
- **Less mobile and manufactured housing.** The Village of Table Rock had a smaller share of mobile and manufactured housing (3.3%) compared to the county (7.4%).
- **Less renter-occupied.** About 12.6% of occupied housing units in Table Rock were renter-occupied compared with 19.7% of occupied housing in Pawnee County.
- **More occupied.** Approximately 12.6% of Table Rock's housing units were vacant compared to 23.2% of units in Pawnee County.

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

39 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected 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/>.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community’s Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. The Village of Table Rock has three mobile homes located on Pennsylvania Street and one located at Luzerne and 8th Street. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have renter’s insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

Future Development Trends

The local planning team indicated that over the past five years, three businesses have re-opened and more young families are moving to the village. According to the U.S. Census Bureau American Community Survey estimates, the Village of Table Rock’s population is generally increasing. The general increase can be attributed to a low cost of living, affordable housing, low crime rates, and new job opportunities which are attracting young families to move into the community. Municipal funds are sufficient to pursue new capital projects, but they are earmarked. A large portion is already dedicated to a new playground and sewer improvements. Anticipated industry includes the manufacturing of scarce metals with the development of the NioCorp mine which will be located near Elk Creek, Nebraska. The local planning team projects that there will be additional businesses created as a result of the mine, such as a wedding hall and event center.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

Table TBR.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Percentage of Improvements in Floodplain	Value of Improvements in Floodplain
221	\$7,108,015	43	19.45%	\$1,041,965

Source: GIS Workshop/Pawnee County Assessor, 2019⁴¹

⁴¹ GIS Workshop/Pawnee County Assessor. 2019. [Personal correspondence].

Critical Infrastructure

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 Table Rock.

Critical Facilities

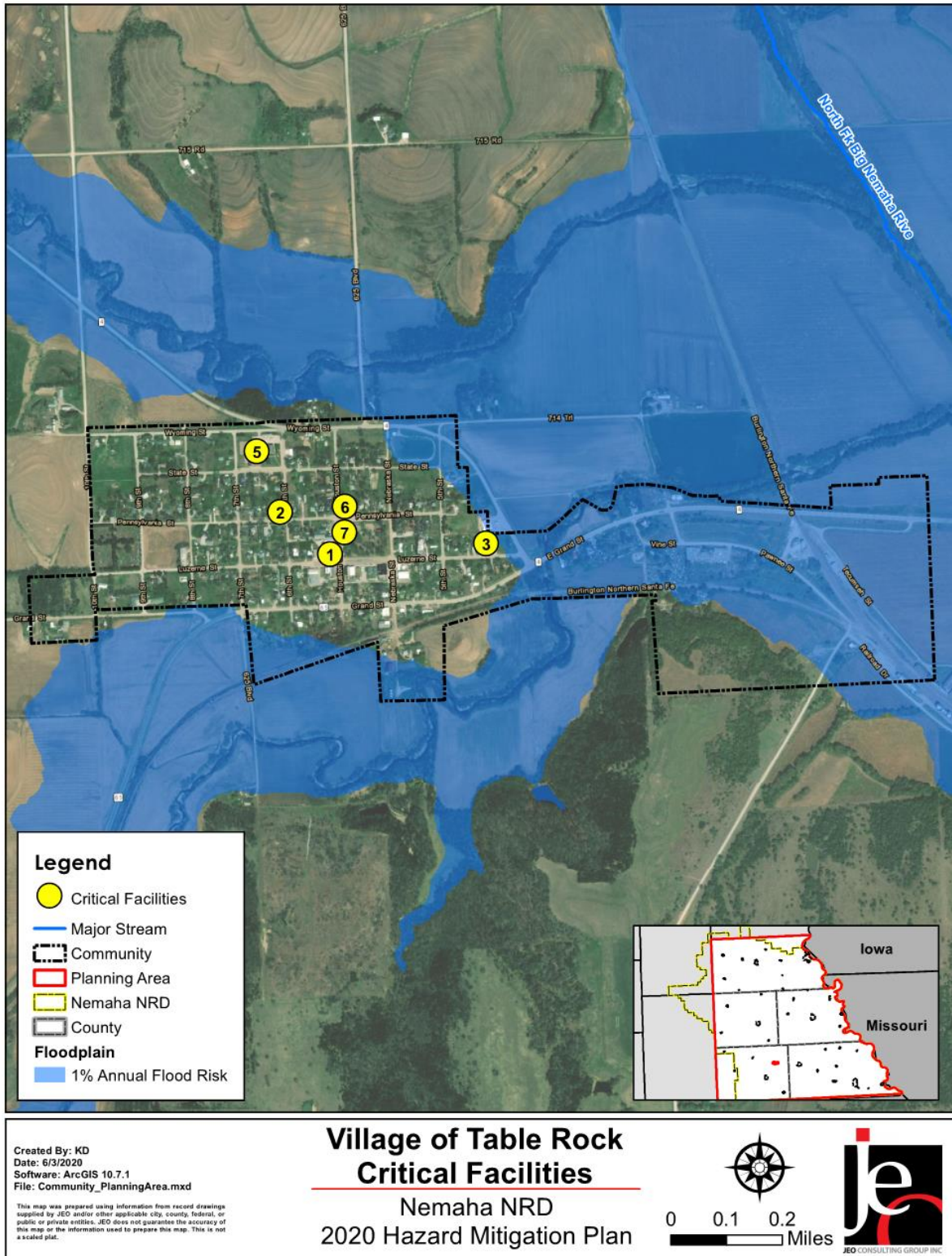
The planning team identified critical facilities necessary for the Village of Table Rock’s disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the community.

Table TBR.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Community Building	N	N	N
2	Church of Christ	N	N	N
3	Fire Department	N	Y	Y
4*	Sewer Plant	N	N	N
5	Tiger Pride	N	N	N
6	United Methodist Church	N	N	N
7	Well House	N	Y	N

*Not Mapped. Located two miles northeast of the village.

Figure TBR.3: Critical Facilities



Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Agricultural Animal and Plant Disease

An agricultural animal or plant disease outbreak could have large potential ramifications to the village's economy. Much of the village relies on the agricultural sector for employment and an outbreak could likely lead to layoffs and job loss. Agricultural disease has not impacted the community in the past. USDA and UNL Extension in Pawnee City provide education on agricultural disease to producers and community members.

Drought and Extreme Heat

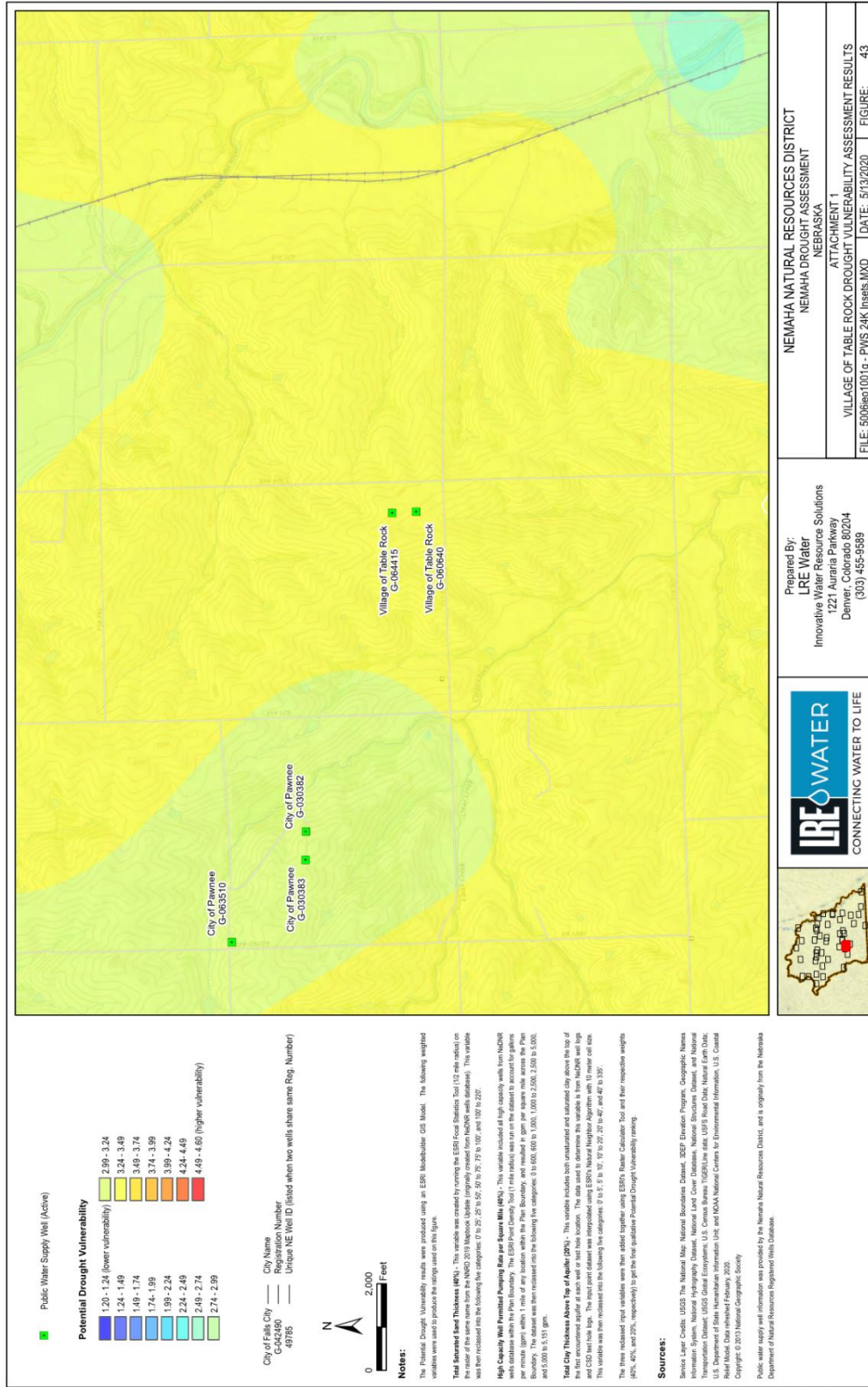
The village is concerned with broken water lines disrupting the water supply due to dry ground shifting. During a drought in 2016, one of the two main water lines broke because of increased usage, which limited the village to one water line. The village board implemented water restrictions so to not potentially cause more damage and lose the other line. Table Rock has one well which pumps 255 gallons per minute and has a 75,000-gallon elevated water tank. Water quantity is computer monitored with static readings monthly during the summer and quarterly during the winter. It also has a low-level alarm. Water quality is tested monthly and no issues have been reported in the past. Drought is identified using the National Weather Service and the village has a drought ordinance and drought response plan in place.

As part of the HMP process, a qualitative analysis of the public water supply's vulnerability to drought was conducted. The maps below show the location of the village's public water supply wells relative to potential drought vulnerability. Further analysis would need to be done to determine if additional wells are needed and where to best locate them. Additional information regarding the qualitative analysis can be found in the Drought Profile within *Section 4: Risk Assessment*.

Severe Thunderstorms

The primary concerns regarding severe thunderstorm events are downed power lines, downed trees, and disruption in the utility services. Over the years Table Rock has had many trees destroyed, power outages, lightning strikes that turned off the sewer plant, and downed power lines due to various storms. In 2019 the village lost half-phase, which caused damage to many televisions sets and refrigerators. No power lines are buried leading to an increased risk of power outages. The local planning team indicated that hazardous trees are located along the right-of-ways. The village performs regular tree trimming to reduce the number of hazardous trees and limbs. In the event of power loss and power surges, electronics have surge protectors and important municipal records are backed up on hard drives. Village critical facilities are protected by hail-resistant building materials and are insured against most hazards.

Figure TBR.4: Public Water Supply Drought Vulnerability



	Prepared By: IRE Water Innovative Water Resource Solutions 1721 Aurora Parkway Denver, Colorado 80204 (303) 455-9589	NEMAHA NATURAL RESOURCES DISTRICT NEMAHA DROUGHT ASSESSMENT NEBRASKA ATTACHMENT 1 VILLAGE OF TABLE ROCK DROUGHT VULNERABILITY ASSESSMENT RESULTS FILE: 5008pct1001g - PWS 24K Insets.MXD DATE: 5/13/2020 FIGURE: 43

Severe Winter Storms

In 2009 an ice storm caused tree limbs to freeze and break, totaling several cars. In 2014 power was lost to the well house and sewer plant. Then in 2019, a snowstorm dropped 14 inches of snow necessitating over \$5,000 in street repair. In 2020 a storm drain collapsed due to erosion, moisture, and changes in temperatures and cost \$7,500 to repair. Other potential impacts include limited mobility and travel, power outages, internet disruption, and downed utilities. With no grocery store in the community, hazardous road conditions can make it difficult for families and the elderly to get food. Snow removal is handled by village maintenance and one other contracted snowplow. Equipment includes a truck with a snowblade and a tractor. Resources are sufficient for any snow under six inches but are insufficient for snows over six inches. The village also salts streets to improve road conditions as needed.

Tornadoes and High Winds

On March 8, 2020, a high wind event moved through the village and ripped an enclosed staircase away from a downtown building and caused over \$20,000 in damages. This event will likely lead to the building being demolished. In May 2019, another high wind event occurred where the south wall of a home collapsed and will also likely need to be demolished. No tornado events have occurred in the village. Warning sirens in the community can be activated manually. The Pawnee County Emergency Management also offers text alerts for those who sign up. There are no certified safe rooms and residents must use basements or churches to seek shelter. In the event of a disaster, the Table Rock Volunteer Fire Department has mutual aid agreements with surrounding fire districts.

Governance

The Village of Table Rock is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Fire Department
- Water Operator
- Engineer
- Sewage Plant Operator
- Animal Control
- Highway Superintendent
- County Law Enforcement
- Full-time Maintenance
- Snow Removal

Capability Assessment

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

Table TBR.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	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)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No

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

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

Plan Integration

Table Rock does not have a comprehensive plan or zoning regulations, but it does have floodplain regulations which set standards for new construction in the floodplain. The village is an annex in the 2019 Pawnee County Local Emergency Operations Plan. It contains information regarding warning, incident command and field response, law enforcement, fire department, emergency medical services, public works, emergency operations center, emergency public information, sheltering resources, damage assessment, and public health. In addition to the two plans listed above, Table Rock also has a Wellhead Protection Plan last updated in 2008, a drought plan, and an Operations and Management Manual. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Currently the warning siren for the village must be turned on manually by the village or fire department. The village would like to install a remote activation for access with timer module.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms, Wildfire
Estimated Cost	\$2,500
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Maintenance
Status	New Action. Not Started.

Mitigation Action	Infrastructure Hardening
Description	Replace sewer offsets and repair leaks. To prevent deterioration of sewer pipes, lining is needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$20,000 for Sewer Offsets, \$40,000 for Sewer Lining
Funding	General Fund
Timeline	1-2 Years
Priority	High
Lead Agency	Village Maintenance
Status	New Action. Not Started.

District Profile

Humboldt Table Rock Steinauer Public Schools

**Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update**

2020

Local Planning Team

Table HTS.1: Humboldt Table Rock Steinauer Public Schools Local Planning Team

Name	Title	Jurisdiction
Kari Lottman	Assistant Principal	Humboldt Table Rock Steinauer Schools
Sherri Edmundson	Superintendent	Humboldt Table Rock Steinauer Schools

Location

The Humboldt Table Rock Steinauer Public School District is located in northeastern Pawnee County and western Richardson County and consists of one school building and two bus barns. The school district provides services to students in the communities of Dawson, Humboldt, Table Rock, and Steinauer.

Transportation

Transportation information is important to hazard mitigation plans because it suggests areas more at risk of transportation incidents. Highways 4, 8, 50, 62, 67, 73, 75, 105 all travel through the school district. Highways 4 and 105 intersect near the district’s school. Nebraska Highway 4 is traveled by a total annual average of 1,445 vehicles daily, 135 of which are trucks. Nebraska Highway 105 is traveled by a total annual average of 1,495 vehicles daily, 125 of which are trucks.⁴² A Burlington Northern Santa Fe Railway rail line travels east to west through the district. The district planning team is most concerned with rural bus routes as they are most likely to be flooded during high rain events. The district owns eight buses, with approximately 100 students being bused.

Demographics

Figure HTS.2 displays the student population trend which has been declining since 2015. In the 2018-2019 school year, there were 360 students enrolled at Humboldt Table Rock Steinauer Public Schools.⁴³ The district planning team anticipates little change in enrollment in the coming years.

42 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.
 43 Nebraska Department of Education. 2019. "Nebraska Education Profile." <https://nep.education.ne.gov/>.

Figure HTS.1: Humboldt Table Rock Steinauer Public Schools

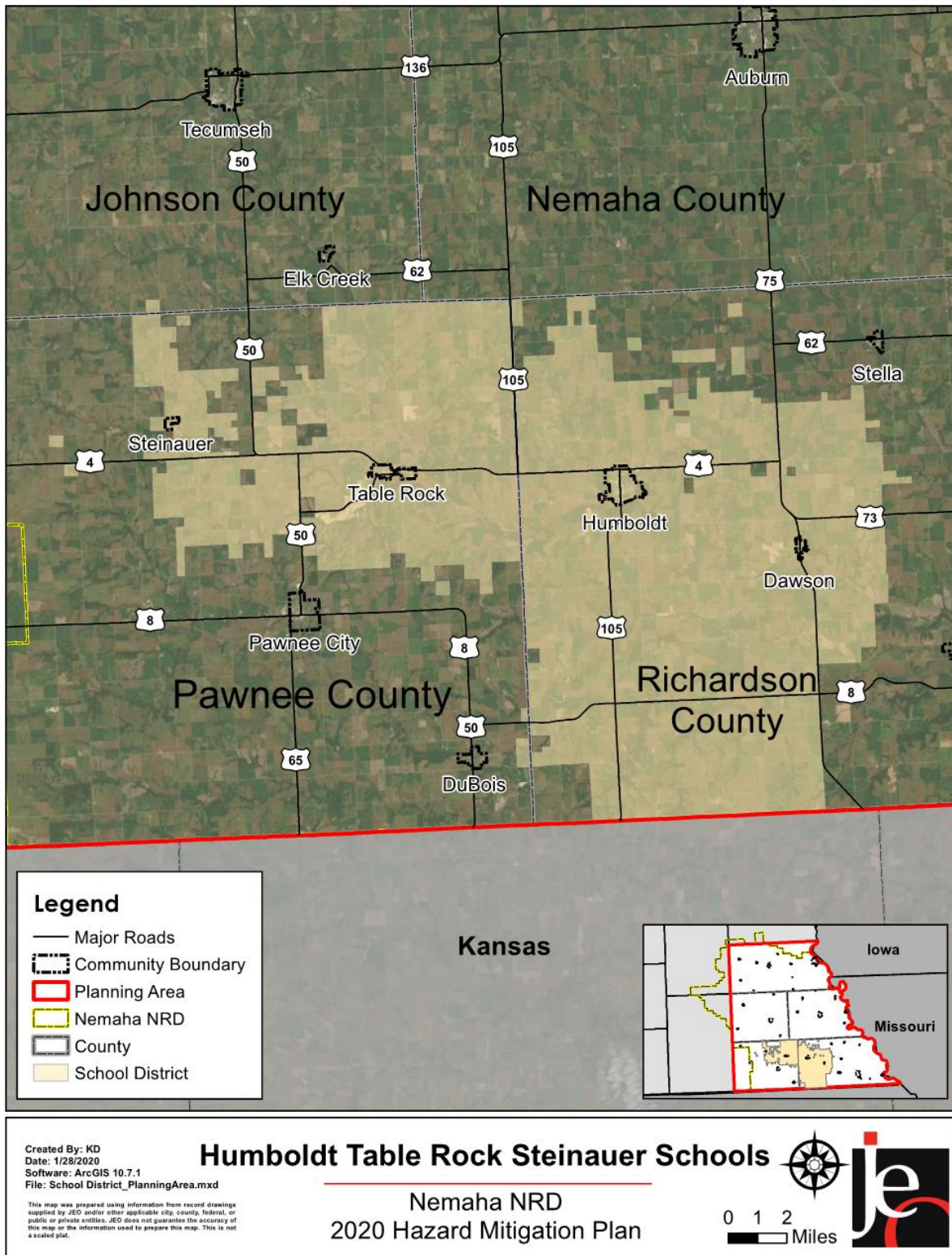
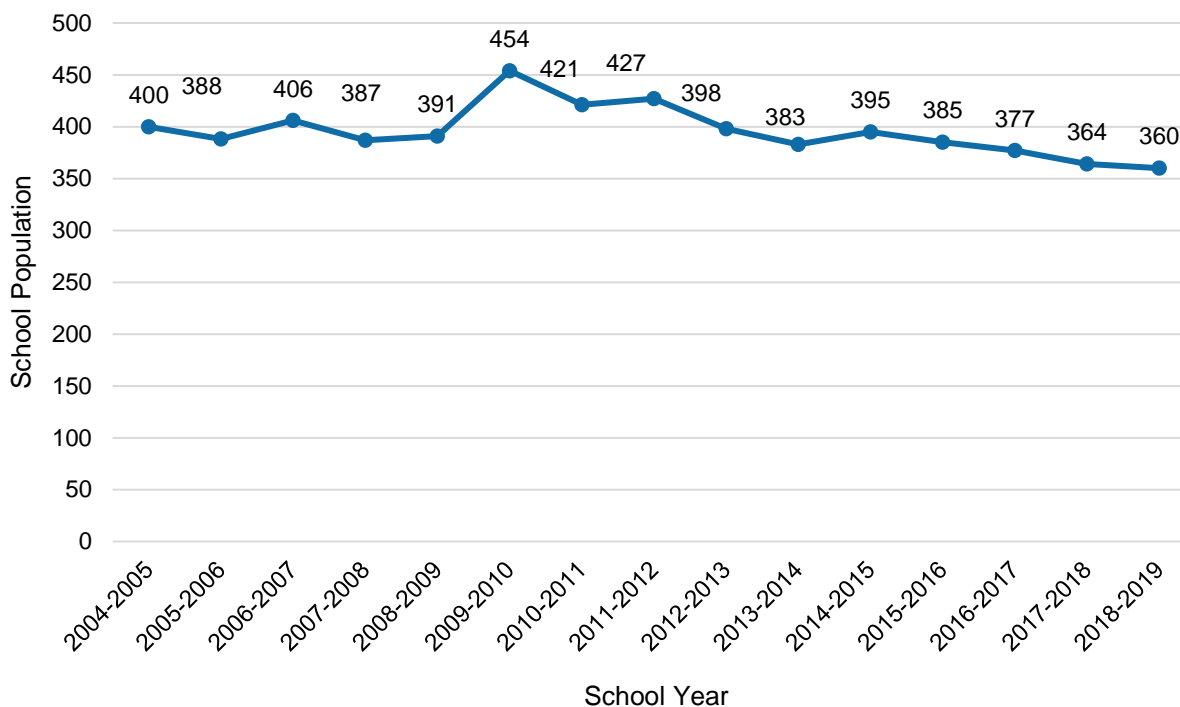


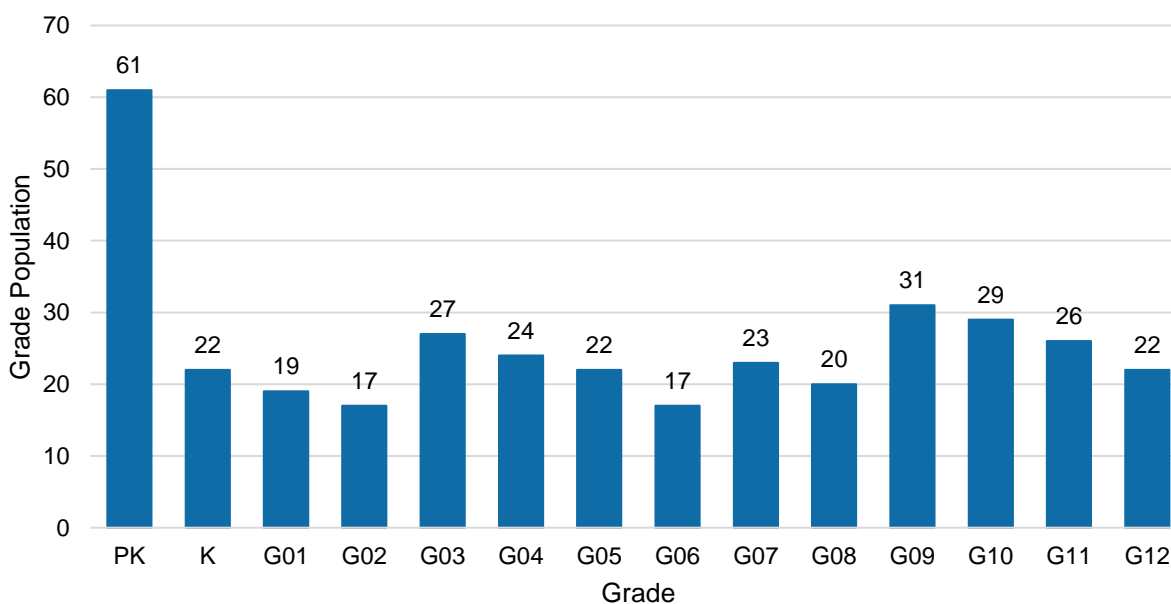
Figure HTS.2: Student Population



Source: Nebraska Department of Education, 2019

During the 2018-2019 school year, the largest number of students were in prekindergarten, 3rd, and 10th grades. The lowest population of students were in the 2nd and 6th grades. Children under 16 are especially vulnerable to hazard events because they are dependent on parents and guardians for transportation and financial support.

Figure HTS.3: Number of Students by Grade



Source: Nebraska Department of Education, 2019

According to the Nebraska Department of Education, 24% of students in the district are in a Special Education program. This is higher than the state average of 15%. About 51% of students receive either free or reduced priced meals at school. These students may be more vulnerable during a hazardous event than the rest of the student population. The district planning team indicated that a majority of students speak English with several families speaking Spanish.

Table HTS.2: Student Demographics

	School District	State of Nebraska
Free/Reduced Priced Meals	50.83%	42.21%
English Language Learners	N/A*	7.16%
Special Education Students	23.75%	15.48%

Source: Nebraska Department of Education, 2019

*Data is not given if less than ten students

Future Development Trends

Over the past five years, the school has added a three-story addition to the building. There are no plans for any additional construction at this time.

Critical Infrastructure

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 10 chemical storage sites that house hazardous materials in the Humboldt Table Rock Steinauer Public School District. Refer to the Humboldt and Richardson County profiles for more information on these sites. The school has not evacuated or locked down due to a nearby chemical release.

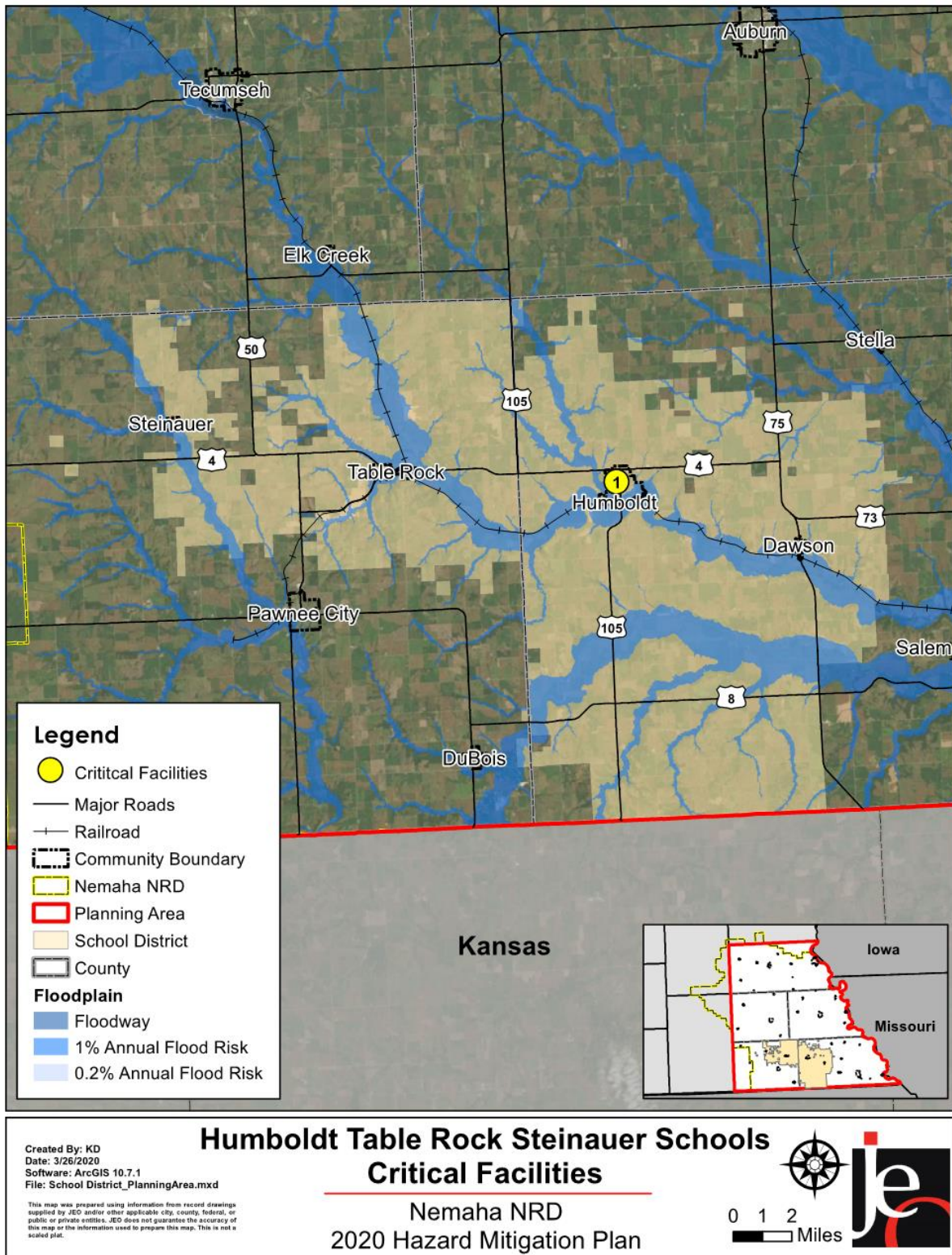
Critical Facilities

Humboldt Table Rock Steinauer Public Schools identified the following critical facilities necessary to maintain the schools' functions. The following table and figure provide a summary of the critical facilities for the district.

Table HTS.3: Critical Facilities

CF Number	Name	# of Students	# of Staff	Community Shelter (Y/N)	Safe Room (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	School Building	400	100	Y	N	N	N

HTS.4: Critical Facilities



Historical Occurrences

See the Pawnee and Richardson County profiles for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were selected by the school district's planning team from the regional hazard list as the relevant hazards for the district. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

Flooding in March 2019 affected the eastern portion of the school district. Many rivers and creeks ran over the roads leaving them impassable for buses. This required the district to reroute bus routes to avoid flooded areas. Several parents and families had to transport their children to a neutral pickup/drop off site in order for buses to be able to transport them to and from school. A couple of families had to rely on HTRS staff to transport their children because the parents worked hours that were not conducive for them to transport their children to the pickup/drop off sites. While district-owned property was not directly affected, many families lost crops and personal property. This in turn affected students' learning. Riverine flooding from the Missouri River, Big Nemaha River, and Little Nemaha River is the main concern as flooding from those rivers has caused property loss and required alternative school transportation in the past. To reduce the impacts of flooding on district property, within the last five years the exterior drainage system was improved.

Severe Thunderstorms

The school district's primary concern related to severe thunderstorms is power outage. If the power were to go out, the student management system, key cards, and phones would not work. The school building has battery backups for these systems, but that is a limited power supply that would eventually be depleted. However, there is enough backup power to communicate with parents and families about the dismissal plan. Past events have caused damage to fleet vehicles, but a new bus barn was built to provide shelter. No major damage has occurred to buildings. In case of future damage, the district has insured all of their property. The student information system does not offer automatic texts for severe weather, but texts can be sent from computers if needed. Weather radios have been installed in the buildings and televisions are available to access news updates. In the spring, the administration reviews procedures with students, staff, and families.

Severe Winter Storms

Severe winter storms occur multiple times per year in the district. Potential impacts include muddy roads affecting bus routes, power loss, stranded students and staff in the building from fast moving storms. When rural routes are closed, many students are unable to get to school or home. This can cause many school closure days or disruptions in learning for students. School power lines and power lines coming into the building are not buried which leaves them susceptible to power outages from ice, heavy snow, and high winds. The district would like to add backup power generators, as the building can be used as a public sheltering location. Snow removal on district property is handled by the custodial staff using shovels, snow blowers, and a tractor with a blade. If those resources are insufficient, the district is also able to hire local individuals to help. Snow removal on other roads are handled by the local community, county, and state. During the winter season, the administration reviews procedures with students, staff, and families.

Tornadoes and High Winds

In the spring and fall of 2019, tornadoes touched down within the boundaries of the school district. The fall tornado occurred during the school day. Students and staff took shelter and precautions. To date, tornadoes and high winds have not damaged district facilities or property. Although they are not certified safe rooms, the locker rooms and restrooms by the gym are designated sheltering locations. Restrooms are always unlocked and available to any public group using the building and the building has been used in the past as a public sheltering location. The City of Humboldt has warning sirens and the school can send an alert through the phone system to notify people in the building. This is activated with a code and password that all three administrators know and can access from any phone in the building.

Administration

The Humboldt Table Rock Steinauer Schools Board of Education, comprised of a locally elected six-member board, establishes regulations and policies to govern the school district. They appoint a superintendent to implement these regulations. The superintendent in turn appoints principals who supervises the school operations. These administrators will manage the implementation of hazard mitigation projects.

Capability Assessment

The district trains its staff about emergency procedures through professional development days and a reunification plan with Richardson County. Student and families are educated about emergency procedures through newsletters, drills, and community meetings. The district also partners with local EMS to provide education and training. The following table summarizes the district’s overall capability to implement mitigation projects.

Table HTS.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Crisis Response Plan	Yes
	Other (if any)	-
Administration & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Local staff who can assess community's vulnerability to hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	N
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	No
	Awarded grants in the past	No
	Authority to levy taxes for specific purposes such as mitigation projects	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Approved bonds in the past	Yes
	Flood Insurance	Yes
	Other (if any)	-
Education & Outreach Capability	Local school groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and	Yes

Survey Components/Subcomponents		Yes/No
	functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.)	
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	Yes
	StormReady Certification	No
	Other (if any)	-
Drills	Fire	10 / year
	Tornado	2 / year
	Intruder	1 / year
	Bus evacuation	1 / year
	Evacuation	1 / year
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial Resources Needed to Implement Mitigation Projects	Limited
Staff/Expertise to Implement Projects	Limited
Community Support to Implement Projects	Limited
Time to Devote to Hazard Mitigation	Limited

Plan Integration

The school district has a crisis response plan which is reviewed and updated on an annual basis. This plan covers a variety of hazards both natural and human-caused. It assigns specific responsibilities during an emergency, addresses shelter-in-place protocols, identifies scenarios that would require evacuation, provides sheltering locations, and identifies evacuation routes. Currently administrators are the only ones familiar with the plan, but the goal is present it to staff in the fall of 2020. The district partners with Richardson County Emergency Management to create a strategic plan, as the building is a shelter location for the community. Continuity of operations is also discussed in this plan. No other examples of plan integration were identified. The district will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. Provide portable or stationary source of backup power.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies by size
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Administration, Safety Committee
Status	New Action. Not Started.

Mitigation Action	Communication System
Description	Establish an action plan to improve communication between schools and other government agencies to better assist students and staff during and following emergencies. Establish interoperable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$10,000+
Funding	General Fund, Richardson County Funds
Timeline	1-2 Years
Priority	High
Lead Agency	Safety Committee, Richardson County Emergency Management
Status	New Action. Not Started.

Mitigation Action	Safe Rooms and Storm Shelters
Description	Design and construct storm shelters and safe rooms for the HTRS public schools campus.
Hazard(s) Addressed	Tornadoes and High Winds, Severe Thunderstorms
Estimated Cost	\$350+ per square foot
Funding	Depreciation Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Administration, Safety Committee
Status	New Action. Not Started.

District Profile

Table Rock Fire District

Nemaha Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2020

Local Planning Team

Table TRF.1: Table Rock Fire District Local Planning Team

Name	Title	Jurisdiction
Dennis Schardt	Fire Chief	Table Rock Volunteer Fire Department
Chris Rauner	Fireman	Table Rock Volunteer Fire Department

Location and Geography

The Table Rock Fire District covers the northeast portion of Pawnee County, including the Village of Table Rock. The fire district mainly addresses grass and wildfire in the region’s rural area. The district covers 38,697 acres.

Transportation

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors and areas more at risk of transportation incidents. Nebraska Highways 4, 50, and 65 all travel through the Table Rock Fire District. Nebraska Highway 4 is traveled by a total annual average of 1,150 vehicles daily, 110 of which are trucks. Nebraska Highway 50 is travel by a total annual average of 1,175 vehicles daily, 155 of which are trucks. Nebraska Highway 65 is traveled by a total annual average of 675 vehicles daily, 35 of which are trucks.⁴⁴ Two Burlington Northern Santa Fe rail lines run through the district. All three highways and Grand Street are the transportation routes of most concern due to agricultural chemicals being transported along them. During heavy rains, dirt and gravel county roads can be closed due to flooding or hazardous road conditions.

Demographics

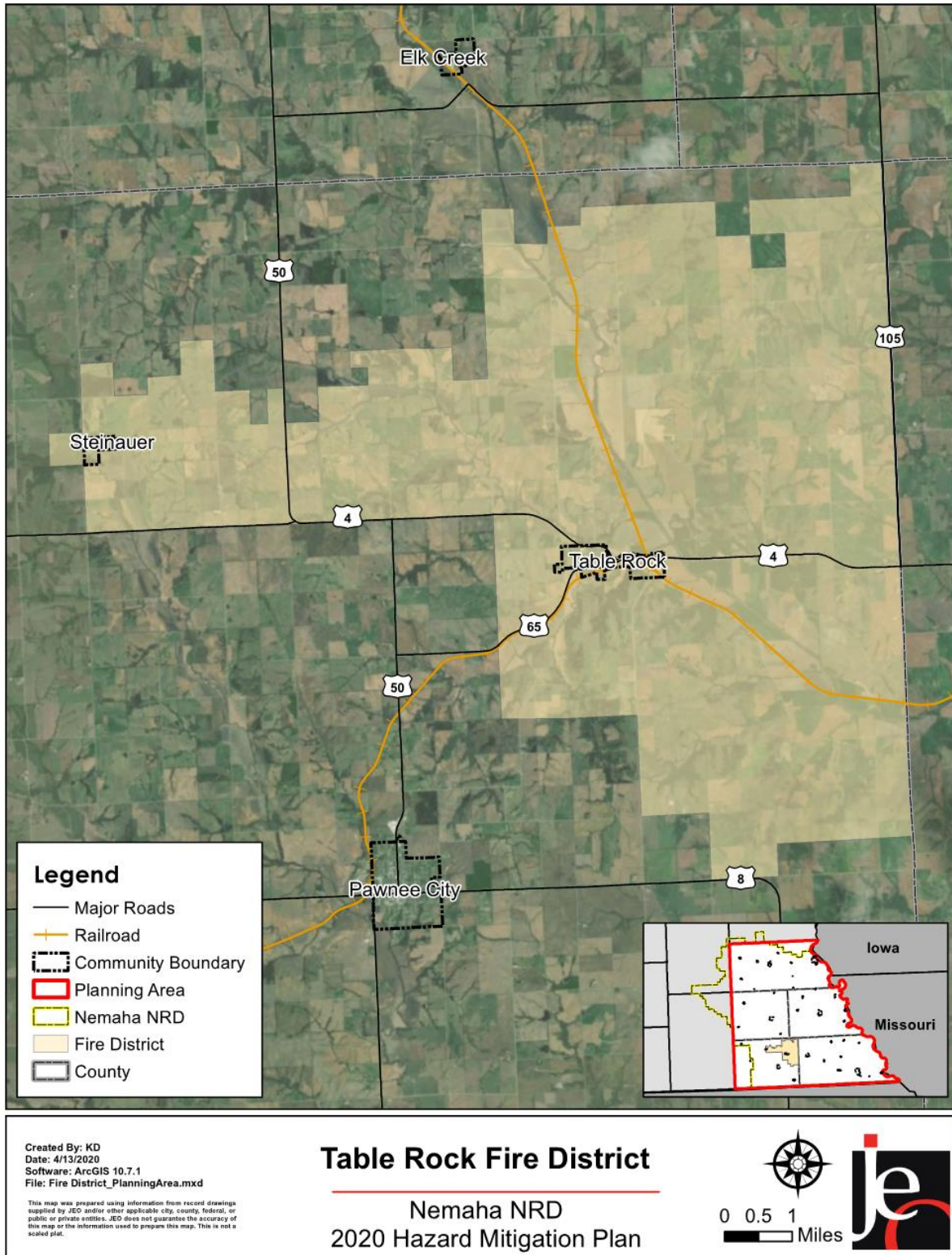
See the Village of Table Rock and the Pawnee County profiles for regional demographic information. The district serves approximately 400 people.

Future Development Trends

In the past five years there have been no changes to the district. In the next five years the local planning team does not anticipate any changes occurring.

⁴⁴ Nebraska Department of Roads. 2018. “Interactive Statewide Traffic Counts Map.” [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

Figure TRF.1: Table Rock Fire District



Critical Infrastructure

Chemical Storage Fixed Sites

Information on chemical storage sites can be found in the Village of Table Rock and Pawnee County profiles.

Critical Facilities

The planning team identified critical facilities necessary for the fire district’s disaster response and continuity of operations. The following table and figure provide a summary of the critical facilities for the Table Rock Fire District.

Table TRF.2: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	In Floodplain (Y/N)
1	Table Rock Fire Department	N	N	N

Historical Occurrences

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

Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the district. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district’s capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought and Extreme Heat

The primary concern regarding drought and extreme heat is they can lead to an increased number of grass and wildfires. Lowered water reservoirs and ponds have impacted water resources for fighting fires during past drought events. The primary water supply comes from the Village of Table Rock with nearby bodies of water supplementing when needed. There are no drought ordinances or response plans in the fire district or Village of Table Rock. The department helps to assist vulnerable populations who are at higher risk of illness during an extreme heat event by providing medical response.

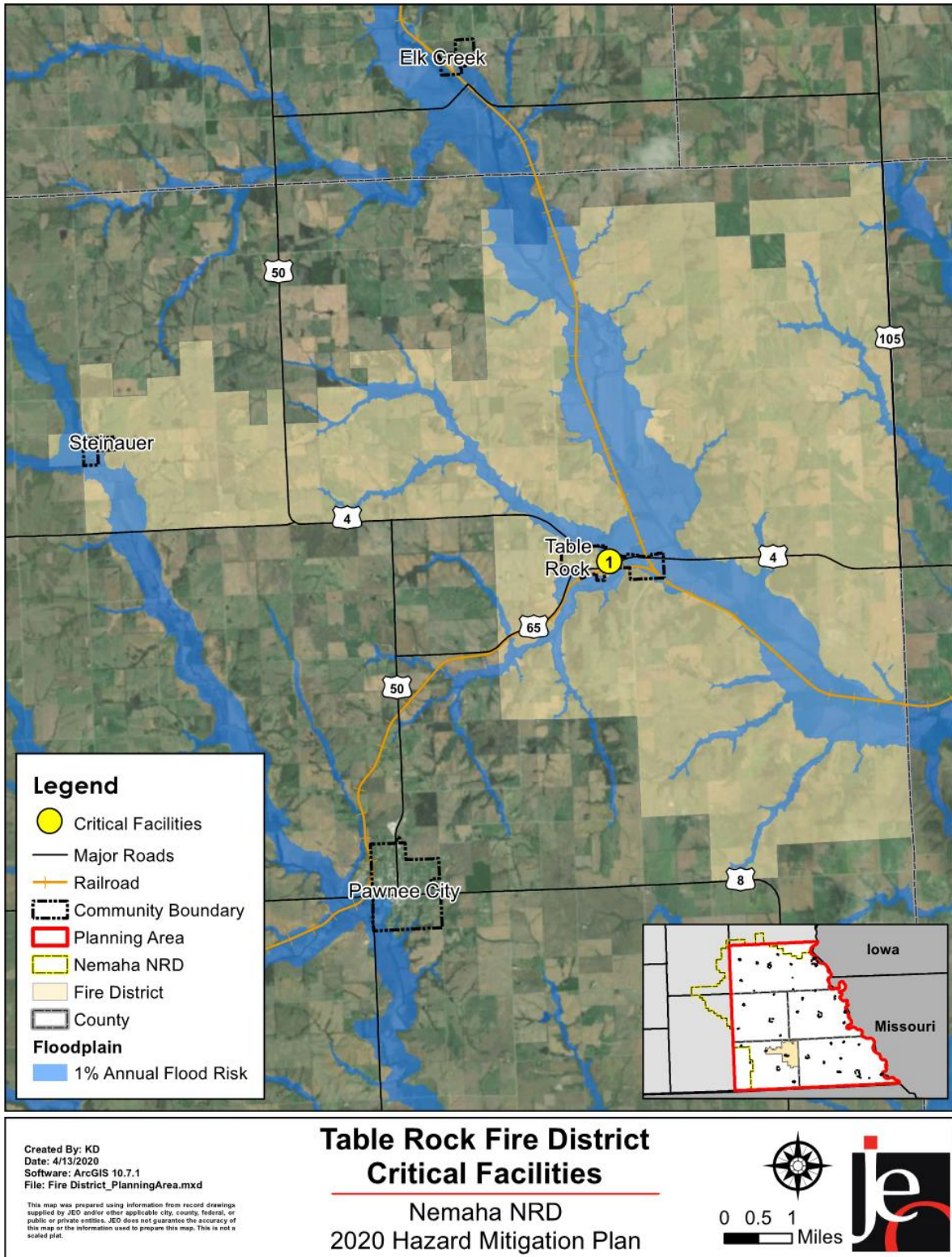
Severe Thunderstorms

Impacts on transportation to and from fire emergencies is the primary concern regarding severe thunderstorm events. In March 2019, heavy rain caused road closures across the district which impacted response times. In the event of a severe thunderstorm, the fire hall is insured against hail damage and surge protectors are used on important electronic devices. The Pawnee County Emergency Management offers text alerts for severe weather.

Severe Winter Storms

In the winter of 2010, large amounts of snow caused several roadways to be impassable. This impacted travel to and from fire emergencies. Snow removal is handled by the State of Nebraska, Pawnee County Road Department, and the local villages. Equipment used includes truck plows, salt, sand, motor graders, and tractors. The fire hall does not have a backup generator which leaves the department vulnerable to power loss from downed trees and power lines.

Figure TRF.2: Critical Facilities



Wildfire

The fire district is the primary responder to wildfires, however, the planning team indicated that wildfires are rare due to lower amounts of Conservation Reserve Program land. In recent years, no wildfires have impacted the district. Equipment available includes two grass rigs, one emergency rig, one tanker, and one pumper truck. The department is staffed by all local volunteers. There is no Wildland-Urban Interface code, but the district does conduct some controlled burning. Community education includes talking to the Head Start kids during fire safety week.

Staffing

The Table Rock Fire District is supervised by a fire chief and a five-member rural board who will oversee the implementation of hazard mitigation projects. Other offices are listed below.

- Assistant Fire Chief
- Treasurer
- Secretary

Capability Assessment

Due to the unique structure of fire districts, the typical capability assessment table was not used. The following table summarizes the district’s overall capabilities. The Table Rock Fire District will continue to utilize existing relationships with local, county, state, and federal agencies in the implementation of mitigation projects. The fire district has applied for and won grants in the past.

Table TRF.3: Overall Capability Assessment

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

Plan Integration

No examples of plan integration were identified by the Table Rock Fire District. The district will seek out and evaluate any opportunities to integrate the results of the current HMP into future planning mechanisms and updates.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. Provide a generator for the fire hall.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$30,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Rural Fire Board, Fire Chief
Status	New Action. Not Started.

Mitigation Action	Civil Service Improvements
Description	Update and add new and improved equipment to help aid the effectiveness and timeliness of emergency responses.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Rural Fire Board, Fire Chief
Status	New Action. Ongoing, equipment is updated as needed and funding is available.