

Kimball County Appendix

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County Profile

Kimball County

**South Platte NRD
Hazard Mitigation Plan 2022**

Local Planning Team

Table KCO.1: Kimball County Local Planning Team

Name	Title	Jurisdiction
Sheila Newell	Zoning Administrator	Kimball County
Justin Perry	Planning Commission Member	Kimball County

Location, Geography, and Climate

Kimball County is located in western Nebraska and is bordered by Banner and Cheyenne Counties in Nebraska, Logan and Weld Counties in Colorado, and Laramie County in Wyoming. The total area of Kimball County is 952 square miles. Major waterways within the county include Lodgepole Creek and Sand Draw. Most of Kimball County lies in the plains topographic region, with the vast majority of the county's land characterized by agricultural fields or grazing land.

Climate

The table below compares climate indicators with those of the entire state. Climate data is helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events may be more likely which could impact vulnerable populations.

Table KCO.2: Kimball County Climate Normals

	Kimball County	State of Nebraska
July Normal High Temp ¹	85.6 °F	88.0 °F
January Normal Low Temp ¹	14.3 °F	12.0 °F
Annual Normal Precipitation ²	16.9 inches	30.3 inches
Annual Normal Snowfall ²	29.8 inches	25.9 inches

Source: NCEI 1981-2010 Climate Normals¹, High Plains Regional Climate Center, 1981-2010²
Precipitation includes all rain and melted snow and ice.

Transportation

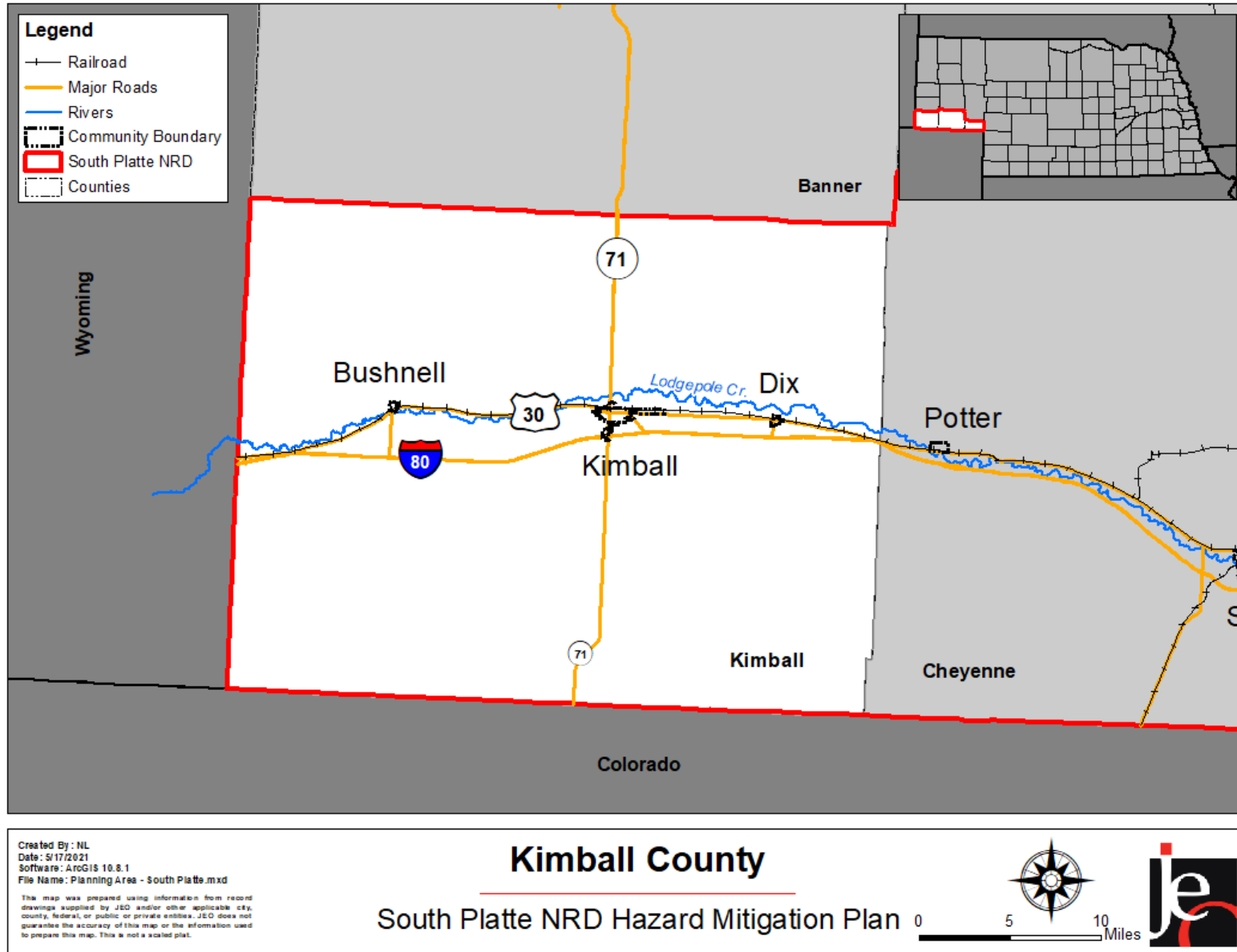
Kimball County's major transportation corridors include US Highway 30, Nebraska Highway 71, and Interstate 80. Highway 30 runs east/west through the county and accommodates approximately 4,750 vehicles per day, 165 of which are heavy commercial vehicles. Highway 71 runs north/south through the center of the county and accommodates approximately 1,440 vehicles per day, 270 of which are heavy commercial vehicles.³ Interstate 80 also runs east/west through the center of the county. The county has one airport located just south of Kimball and the Union Pacific Railroad runs east/west through the middle of the county. According to the local planning team, no significant transportation events have occurred locally.

¹ National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed May 2021. <https://www.ncdc.noaa.gov/cdo-web/datatools>.

² High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010 – Kimball, NE." Accessed May 2021. <http://climod.unl.edu/>.

³ Nebraska Department of Transportation. 2020. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=8ed4b009b0d546f19f0284e5bba0f972>

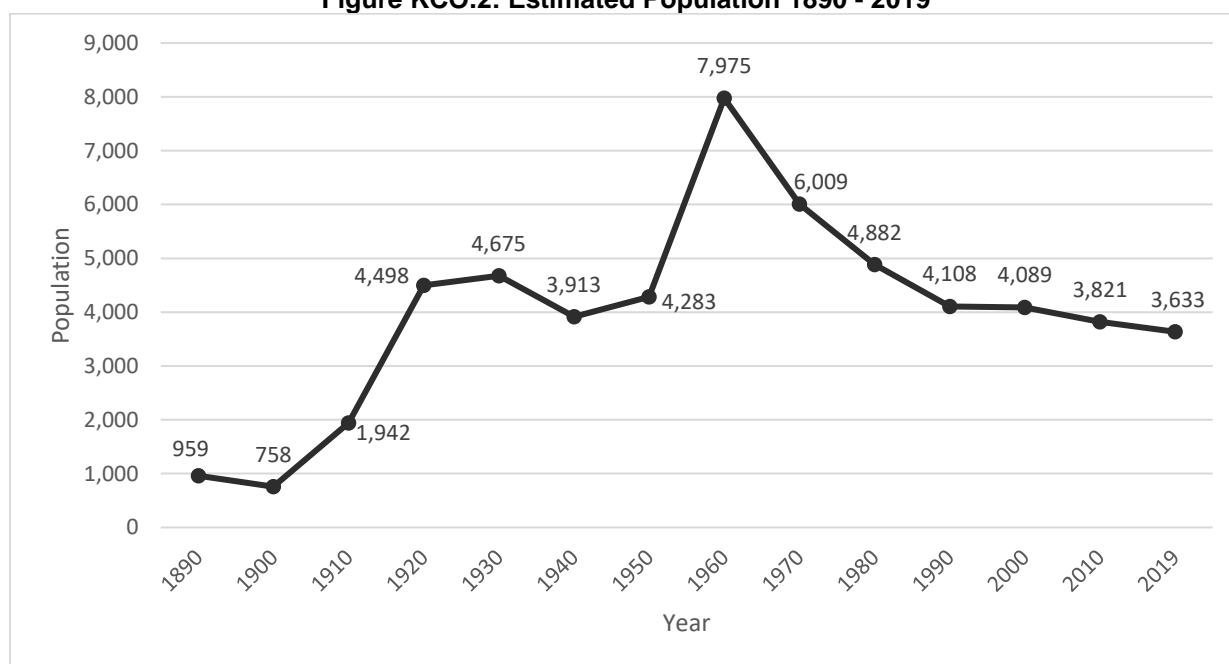
Figure KCO.1: Kimball County



Demographics

The following figure displays the historical population trend from 1890 to 2019. This figure indicates that the population of Kimball County decreased dramatically from 1900 to 1900. After some moderate fluctuation, the population almost doubled from 1950 to 1960. However, from 1960 to 1980, it lost most of what it gained in the 1950s. The population has slowly declined since. This information is notable for hazard mitigation because counties with declining population may also have a higher level of unoccupied housing that is not being kept up. Furthermore, areas with declining population may be less prone to pursuing residential/commercial development in their areas, which may reduce the number of structures vulnerable to hazards in the future. Decreasing populations can also represent decreasing tax revenue for communities and the county, which could make implementation of mitigation and strategic actions more fiscally challenging.

Figure KCO.2: Estimated Population 1890 - 2019



Source: U.S. Census Bureau⁴

The following table indicates that Kimball County has a smaller percentage of people under the age of five than the State of Nebraska. The county has a smaller percentage of people between the ages of 5 and 64 and a larger percentage of those over 64. The median age in Kimball County is larger than the state. This information is relevant to hazard mitigation as the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

Table KCO.3: Population by Age

Age	Kimball County	State of Nebraska
<5	3.9%	6.9%
5-64	71.6%	77.7%
>64	24.6%	15.4%
Median	45.7	36.5

Source: U.S. Census Bureau⁵

⁴ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

⁵ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

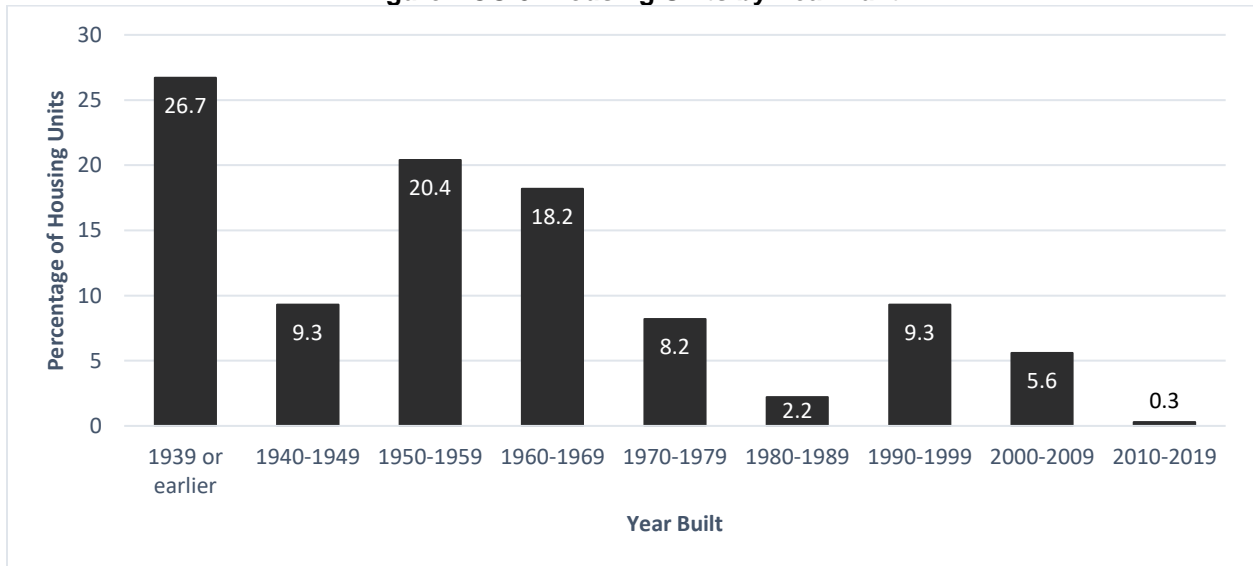
The following table indicates that median household income and per capita income for the county is lower than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they indicate the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county’s level of resilience during hazardous events.

Table KCO.4: Housing and Income

	Kimball County	State of Nebraska
Median Household Income	\$53,403	\$61,439
Per Capita Income	\$27,478	\$32,302
Median Home Value	\$82,600	\$155,800
Median Rent	\$741	\$833

The following figure indicates that most of the housing in Kimball County was built prior to 1970. According to the Census Bureau, the county has 1,924 housing units; with 82 percent of those units being occupied. 9.6 percent of the county’s housing is classified as mobile homes. Housing age can serve as an indicator of risk as structures built prior to the development of state building codes may be more vulnerable to hazards. The State of Nebraska first adopted building codes in 1987 and the state currently has adopted the 2018 International Building Code. Finally, communities with a substantial number of mobile homes may have a higher number of residents vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure KCO.3: Housing Units by Year Built



Source: U.S. Census Bureau⁶

⁶ United States Census Bureau. “2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics.” [database file]. <https://data.census.gov>.

Table KCO.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Kimball County	1,577	82%	347	18%	1,126	71.4%	451	28.6%
Nebraska	759,176	90.7%	78,300	9.3%	501,679	66.1%	257,497	33.9%

Source: U.S. Census Bureau⁷

Major Employers

According to 2018 Business Patterns Census Data, Kimball County had 123 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table KCO.6: Businesses in Kimball County

	Total Businesses	Number of Paid Employees	Annual Payroll (in thousands)
Total for All Sectors (2012)	132	1,112	\$38,708
Total for All Sectors (2018)	123	997	\$43,398

Source: U.S. Census Bureau⁸

Agriculture is also important to the economic fabric of Kimball County, and the state of Nebraska as a whole. Kimball County's 443 farms cover 603,457 acres of land, about 99% of the county's total area. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute as well by producing, processing, and marketing farm and food products. These businesses generate income, employment, and economic activity throughout the region.

Table KCO.7: Kimball County Agricultural Inventory

Kimball County Agricultural Inventory	
Number of Farms	443
Land in Farms (acres)	603,457

Source: USDA 2017 Census of Agriculture⁹

Future Development Trends

In 2018, Kimball Wind built a 12-turbine wind farm northwest of the City of Kimball. Although no new housing developments are planned for the county, Clean Harbors is planning to build another incinerator in the coming years. A new wind farm is also being proposed by Orion Renewable Energy, which would add five to eight turbines in northwest Kimball County. According to census estimates, Kimball County's population is decreasing. The local planning team attributes this to a

⁷ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

⁸ United States Census Bureau. "2018 Census Bureau American Community Survey: Geography Area Series County Business Patterns 2018 Business Patterns." [database file]. <https://data.census.gov>.

⁹ United States Department of Agriculture, National Agricultural Statistics Server. 2019. "2017 Census of Agriculture – County Data." <https://www.nass.usda.gov/Publications/AgCensus/2017/index.php>.

lack of economic diversity, younger population leaving the county, and potentially the higher property tax keeping agricultural producers from coming or staying in the county.

Structural Inventory and Valuation

GIS parcel data as of July 2021 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. Floodplain analysis was performed using a HAZUS-generated floodplain* map (non-regulatory). A summary of the results of these analyses is provided in the following table.

Table KCO.8: Kimball County Parcel Valuation

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain*	Value of Improvements in Floodplain*	% of Improvements in Floodplain*
2,449	\$315,136,990	177	\$14,294,225	7%

Source: County Assessor

*An effective Digital Flood Insurance Rate Map was not available for Kimball County. Therefore, the best available digital data for depicting the flood hazard for the county is a modeled floodplain using FEMA's Hazards United States (HAZUS) software. This modeled floodplain is not regulatory and is only an approximation of vulnerability.

Community Lifelines

Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 104 chemical storage sites throughout Kimball County that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. For a description of chemical sites located in incorporated areas, please see the jurisdiction's participant section.

Critical Facilities

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

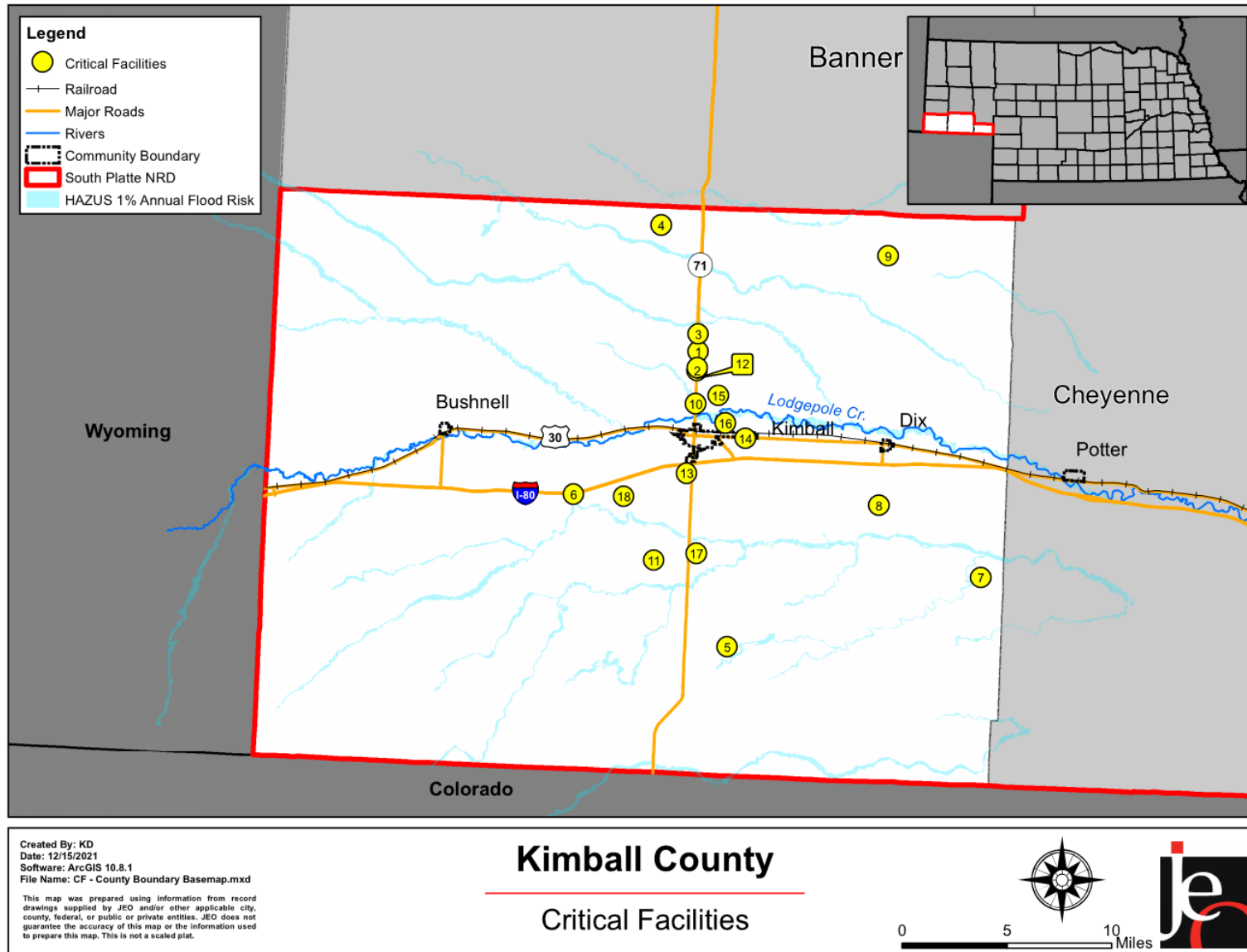
Table KCO.9: Critical Facilities

CF #	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Municipal Well	N	N	N
2	Municipal Well	N	N	N
3	Municipal Well	N	N	N
4	HWE Rocky Hollow Substation	N	Unknown	N
5	HWE Enders Substation	N	Unknown	N
6	HWE Bushnell Substation	N	Unknown	N
7	HWE Jacinto Substation	N	Unknown	N
8	HWE Dix Substation	N	Unknown	N
9	HWE Irrigation Substation	N	Unknown	N

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10	HWE Kimball Substation	N	Unknown	N
11	WAPA Substation	N	Unknown	N
12	Communication Tower: Kimball (North)	N	N	N
13	Communication Tower: Bushnell	N	N	N
14	Communication Tower: Kimball (Near Golf Course)	N	N	N
15	Communication Tower: Kimball (Front St)	N	N	N
16	Wastewater Treatment Plant	N	N	N
17	Clean Harbors	N	Unknown	N
18	Tallgrass Energy Pump Station	N	Unknown	N

Figure KCO.4: Critical Facilities



*1% Annual Flood Risk is based off a HAZUS generated floodplain

Governance

A county's governance indicates the number of boards or offices that may be available to help implement hazard mitigation and strategic actions. Kimball County has three-member board of commissioners and the following departments and offices.

- Assessor
- Attorney
- Clerk
- District Court
- Highway Superintendent
- Sheriff
- Planning/Zoning
- Surveyor
- Transit Coordinator
- Treasurer
- Veteran Services Officer
- Weed Superintendent

Capability Assessment

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

Table KCO.11: Capability Assessment

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

Survey Components/Subcomponents		Yes/No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	
Fiscal Capability	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	Yes
	Firewise Communities Certification	No
	Tree City USA	N/A
	Other (if any)	

Table KCO.12: Overall Capability

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

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

Grants and Funding

Kimball County funds are currently limited to maintaining facilities and systems. The county has a Buildings/Grounds Improvement Fund and a Roads/Bridge Sinking Fund for future needs. The county tax levy increased 2% from 2020/2021 to 2021/2022. The county was awarded a grant recently for a county transit building.

Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the county would like to pursue. The County Commissioners review the plan annually during the budget process. Projects identified in the plan include: regular maintenance for drainage structures, improving transportation routes for drainage, and bridge improvements. Installing emergency generators in critical facilities will be included in a future update.

Comprehensive Plan (2004)

The comprehensive plan is designed to guide the future actions and growth of the county. It contains goals aimed at Safe Growth, encourages infill development, and discourages development in flood prone areas. There is currently no timeline to update the plan, but the planning team indicated that the net update should identify known hazard areas for the safety of the county residents and future development.

Kimball County Local Emergency Operations Plan (2017)

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

Zoning Ordinance (2020) and Subdivision Regulations (2020)

The county's zoning ordinance and subdivision regulations outline where and how development should occur in the future. These documents currently do not provide many hazard-related restrictions, but a future update will include discouraging development near chemical storage sites and will consider wildfire and the wildland urban interface. The county plans to update these documents in 2022.

Wildcat Hills Region Community Wildfire Protection Plan (2021)

The Nebraska Forest Service updated the Wildcat Hills Region Community Wildfire Protection Plan (CWPP), which includes Kimball County, in July 2021. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

Plan Maintenance

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

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the Zoning Administrator, County Commissioner, Roads Superintendent, and Region 21 Emergency Manager. The plan will be reviewed bi-annually. The public will be included in the review and revision process via website updates and county commissioner meetings.

Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 – April 2021) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages reports come from the USDA Risk Management Agency for Kimball County between 2000 and 2020.

Table KCO.13: Hazard Events for Kimball County

Hazard Type		Count	Property	Crop ²
Agricultural Disease	Animal Disease ¹	0	0 animals	N/A
	Plant Disease ²	24	N/A	\$285,581
Dam Failure⁵		0	\$0	N/A
Drought⁷		438/1,512 months	\$50,000	\$10,052,752
Earthquakes⁸		0	\$0	\$0
Extreme Heat⁶		Avg. 2 days/yr	\$0	\$2,355,927
Flooding⁹	Flash Flood	28	\$1,047,000	\$7,261
	Flood	4	\$2,000	
Grass/Wildfire¹⁰ <i>Injuries: 2</i>		141	\$70,835	\$4,283
Hail⁹ <i>Average: 1.3 in.</i> <i>Range: 0.5 – 4.25</i> <i>Injuries: 1</i>		190	\$6,137,000	\$13,807,965
Hazardous Materials - Fixed Sites³		33	\$0	N/A
Hazardous Materials - Transportation⁴		24	\$12,400	N/A
High Winds⁹ <i>Average: 55 mph</i> <i>Range: 40-90 mph</i>		80	\$50,500	\$3,988,808

SECTION SEVEN: KIMBALL COUNTY COMMUNITY PROFILE

Hazard Type		Count	Property	Crop ²
Levee Failure¹¹		0	\$0	N/A
Severe Thunderstorms⁹	Thunderstorm Wind <i>Average: 64 mph Range: 55-90 mph</i>	40	\$93,000	N/A
	Heavy Rain	6	\$0	\$1,391,458
	Lightning	0	\$0	N/A
Severe Winter Storms⁹	Blizzard	17	\$30,000	\$4,240,040
	Extreme Cold/Wind Chill	4	\$0	
	Heavy Snow	27	\$0	
	Ice Storm	0	\$0	
	Winter Storm	41	\$200,000	
	Winter Weather	11	\$63,700	
Terrorism and Civil Disorder¹²		0	\$0	N/A
Tornadoes⁹	Tornado <i>Average: EF0 Range: EF0-EF1</i>	33	\$3,000	\$0
Totals		703	\$7,759,435	\$36,134,075

N/A: Data not available

1 NDA (2014-2020)

2 USDA RMA (2000-2020)

3 NRC (1990-2020)

4 PHMSA (1971-2020)

5 DNR Dam Inventory (May 2021)

6 HPRCC (1893 - May 2021)

7 NOAA (1895-2020)

8 USGS (1900-2020)

9 NCEI (January 1996 - April 2021)

10 NFS (January 2000 - 2020)

11 USACE NLD (May 2021)

12 Global Terrorism Database (1970-2017)

The following table provides a summary of hazards that have or have the potential to affect each participating jurisdiction in Kimball County. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the 16 hazards profiled in this plan. The evaluation process was based on data collected and summarized in Table KCO.14; previous impacts or the potential for impacts to infrastructure, critical facilities, people, and the economy; and the proximity to certain hazards such as dams and levees. For example, while there have not been instances of dam failure in the county, there exists a possibility for a dam to fail in the future due to the presence of dams in the county.

Table KCO.14: Kimball County Hazard Matrix

Hazard	Kimball County	Village of Bushnell	Village of Dix	City of Kimball
Animal and Plant Disease	X	X	X	X
Dam Failure	X	X	X	X
Drought	X	X	X	X
Earthquakes	X	X	X	X
Extreme Heat	X	X	X	X
Flooding	X	X	X	X
Grass/Wildfire	X	X	X	X
Hail	X	X	X	X
Hazardous Materials - Fixed Sites	X	X	X	X
Hazardous Materials - Transportation	X	X	X	X
High Winds	X	X	X	X
Levee Failure				
Severe Thunderstorms	X	X	X	X
Severe Winter Storms	X	X	X	X
Terrorism and Civil Disorder	X	X	X	X
Tornadoes	X	X	X	X

County Hazard Prioritization

For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were added by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Dam Failure

According to the USACE National Inventory of Dams, there are 22 dams throughout Kimball County. Two dams are classified as high hazard dams. A "high hazard" designation is not an evaluation of the condition of a dam. Instead, it signifies the high number of individuals that live downstream from it. One of the high hazard dams – Oliver Dam – backs the largest reservoir in the planning area. The local planning team noted that there is no official emergency housing for potentially displaced residents should the dam fail; however, in a close-knit rural area, residents will have no shortage of friends and family with whom to seek refuge.

Local planning team members did note that damage to the dam at Oliver Dam would damage both property and residents in the inundation area. Additionally, a dam failure would likely impact transportation, roads, railroad, bridges, crops, water resources. Wells could also be contaminated. Table KCO.15 provides details of the high hazard dams in the county. Figure KCO.5 shows a map of all dams within the county. They can also be viewed on the Nebraska Department of Natural Resources Dam Inventory map (<https://dnr.nebraska.gov/dam-safety>).

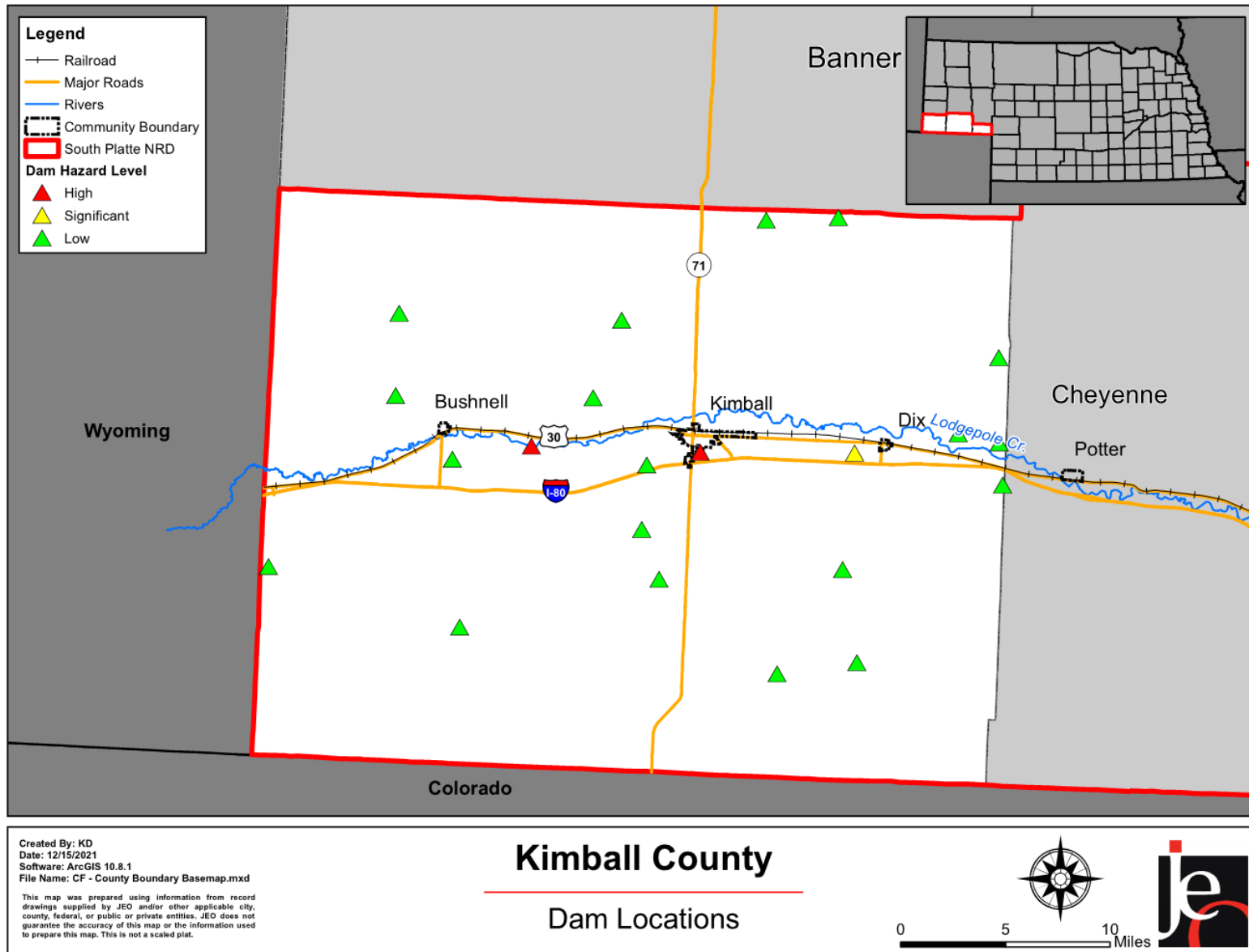
Table KCO.15: High Hazard Dams in Kimball County

Dam Name	NID ID	Location	Condition	Inspection Date
Janicek Dam	NE00750	South of Kimball	Fair	8/11/2020
Oliver Dam	NE00749	West of Kimball	Satisfactory	6/10/2020

Source: USACE, 2021¹⁰

¹⁰ United States Army Corps of Engineers. February 2021. "National Inventory of Dams." <https://nid.sec.usace.army.mil/ords/f?p=105:19:15077170345077::NQ::>

Figure KCO.5: Dams in Kimball County



Drought

Local representatives from Kimball County identified drought as a top concern. Drought influences the crop growth cycles that result in loss of crops, hay and grassland. Livestock rely on grasses that are not stressed. Excessive heat and drought can result in the livestock's reproduction to be reduced and livestock owners can be forced to cull more than preferred due to the loss of grass and shortage of hay for winter feed. Due to the county's dependence on agriculture, businesses can also be affected indirectly with drought.

Extreme Heat is also associated with periods of drought, and both affect the county. Both use more electricity and put a stress on the grid. Water sources become strained and county roads deteriorate.

The local representatives also indicated that drought may result in emotional concerns and depression. When droughts become especially bad, both municipal and firefighting water supplies are depleted. The county recently experienced a significant drought during the summer of 2012. As a result of this drought, water availability was reduced, fire potential increased, as did the likelihood of crop and animal loss and the deterioration of county roads. The local planning team added that Kimball County was designated as a natural disaster area by the Farm Service Agency (FSA) for much of 2012 and 2013. A significant drought in 2020 also resulted in a natural disaster declaration by the Farm Service Agency.

The county FSA monitors for drought, but the county does not have drought triggers to taper domestic water use during drought events. The South Platte NRD also facilitates proper management of groundwater for quality and quantity. According to the planning team, the county water supply has been sufficient during past drought events.

Flooding

The county is primarily concerned about flash flooding. Flash flooding creates the potential for wash out, ponding, or damage to roadways during severe thunderstorms or after heavy snow conditions followed by extreme warming conditions. Drainage from flash flooding and storm water is a concern for the county. The county consists of moderately rolling plains with Lodgepole Creek extending east-west across the center of the county. The table lands are on each side (north/south) and are characterized by slopes with numerous drainage ways. The impact depends on the area(s) flooded, the size of the area, and the time it takes the water to recede. Substantial flooding could limit county access roads to the affected area. The county does not have a Flood Insurance Rate Map (FIRM).

Grass/Wildfire

According to the local planning team, many fires begin along the rail lines within the county. Sparks leap off the tracks during drier times and start fires adjacent to the rail line. Lightning also contributes to these fires. Dry conditions increase the potential for these grass/wildfires. These fires contribute to crop/grassland loss and erosion. Wildfires move quickly due to the topography of the county and are destructive. Crop loss and destroyed grasslands significantly impacts the county and results in lost grazing for livestock and damaged fencing. Electrical poles and transmission lines could be damaged resulting in lost power for certain areas of the county.

To defend against impacts from grass/wildfire events, the county has invested in resources and training for local fire departments, as well as establishing mutual aid agreements with neighboring fire departments, which agree to assist when local resources have been exhausted.

High Winds

High Winds are usually associated with severe storms but can also be independent and cause severe damage. The primary effect is structural due to the force of the wind. The county has seen high wind warnings throughout the years. These winds can also damage trees, electric power lines, and strain the county roads with dust blowing. Visibility of travel is reduced, and state highways have seen semi-trucks turned over due to these high winds. High winds can also affect the crops and grassland productivity if prolonged. Storm spotting is performed by the fire departments and weather radios are available at the Kimball County Courthouse.

Severe Thunderstorms

Severe thunderstorms are a top concern for the county. These severe thunderstorms often include heavy rain, hail, and high winds. Locally severe thunderstorms result in flooded roadways and erosion to agricultural lands. In addition to heavy rainfall, it is common for severe thunderstorms to include hail. Historically, hail has been the costliest weather-related phenomenon for Kimball County. Also, depending on the type of high wind, major damage or destruction can occur. Thunderstorms combined with hail and high winds can result in damage to homes and buildings, downed power lines and can wash out county roads. Severe thunderstorms can also cause significant damage to crops, rangeland, and livestock throughout the county.

To improve awareness of flooding events, the county has invested in both “CodeRed” emergency text messaging and weather radios. The county also works annually to improve drainage by maintaining drainage systems (i.e. culverts, ditches, and other structures). The planning team indicated that current zoning and subdivision regulations will be reviewed to identify areas in which future development regulations could mitigate risk to hazards.

Severe Winter Storms

Local representatives from Kimball County identified severe winter storms as a top concern. Severe winter storms can include extreme cold, freezing rain and drifting snow due to high winds. Blizzards hinder local transportation, damaging power lines that can cause structural damage to buildings. Crops and livestock are also susceptible to these storms and extreme cold temperatures. Freezing rain can build up on electric power lines and trees snapping under the weight of the ice. The inability of responders to vulnerable county residents is a concern. The significant snow removal and power outages could experience delays, and roads and bridges can become impassible. These storms also put an extra burden on the county budget.

Because Interstate 80 runs directly through Kimball County, there is a higher level of vulnerability compared to counties without a major transportation corridor. The local planning team stated that I-80 closes due to severe weather approximately 10-12 times per winter. Additionally, planning team members are extremely concerned about older populations during severe winter storms. Approximately 25 percent of Kimball County’s population is age 65 or older, with a median age of 46. Older populations are disproportionately vulnerable to severe winter storms as a result of limited mobility. Those new to the area may also be vulnerable as they may not have experienced a severe winter storm.

A significant blizzard hit the county in 2019 and was declared a natural disaster by the Farm Service Agency. The Livestock Indemnity Program aided ranchers with livestock loss due to the blizzard. Additionally, a critical communication tower collapsed from this storm and a temporary cell tower on wheels was used until a new tower could be built. To reduce impacts from severe winter storms, county employees created a snow removal plan, which prioritizes the maintenance of key transportation routes.

Mitigation Strategy

New Mitigation and Strategic Actions

Mitigation Action	Backup Generator at Courthouse
DESCRIPTION	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters. A backup generator is needed at the courthouse.
HAZARD(S)	All Hazards
ESTIMATED COST	\$180,000
FUNDING	County General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	County Board, Region 21 Emergency Manager
STATUS	Not started. The generator at the courthouse needs to be upgraded to provide for full courthouse capacity for continuity of operations during a hazard event.

Mitigation Action	Backup Generators at Roads Department Buildings
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)	All Hazards
ESTIMATED COST	\$180,000
FUNDING	County General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	County Board, Region 21 Emergency Manager
STATUS	Not started. Generators are needed at Bushnell, Dix, and Kimball Roads Department buildings for continuity of operations during a hazard event.

Completed Mitigation and Strategic Actions

Mitigation Action	Complete/Update Wildfire Protection Plan
DESCRIPTION	Complete and/or update a Community Wildfire Protection Plan (CWPP); the CWPP enables a community to plan how it will reduce the risk of wildfire
HAZARD(S)	Grass/Wildfire
STATUS	The Wildcat Hills Community Wildfire Protection Plan includes Kimball County and was updated in July 2021.

Mitigation Action	Emergency Exercise: Hazardous Spill
DESCRIPTION	Utilize exercise to prepare for potential explosions or hazardous spills; ensure that nearby businesses and residents have appropriate plans in place.
HAZARD(S)	Hazardous Materials
STATUS	The county completed an emergency exercise for a hazardous spill event.

Mitigation Action	Fire Prevention Program: Planning and Training
DESCRIPTION	Participate in the Nebraska Forest Service Wildland Fire Protection Program which provides services in wildfire suppression training, equipment, pre-suppression planning, wildfire preventions, and aerial fire suppression.
HAZARD(S)	Grass/Wildfire
STATUS	The county participates in the Fire Prevention Program and is part of the Wildcat Hills Community Wildfire Protection Plan which was updated in July 2021.

Continued Mitigation and Strategic Actions

Mitigation Action	Public Awareness and Education
DESCRIPTION	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; conduct an annual storm spotter training; share information via the County Facebook page, as well as information regarding animal and plant disease through UNL extension.
HAZARD(S)	All Hazards
ESTIMATED COST	\$3,000+
FUNDING	County General Fund
TIMELINE	Ongoing
PRIORITY	High
LEAD AGENCY	Region 21 Emergency Management
STATUS	Public awareness and education are carried out on an annual basis.

SECTION SEVEN: KIMBALL COUNTY COMMUNITY PROFILE

Mitigation Action	Water Conservation Awareness Programs
DESCRIPTION	Improve and/or develop a program to conserve water use by citizens during elongated periods of drought; potential restrictions on water could include limitations on lawn watering, car washing, or water sold to outside sources; work with NeDNR on farm irrigation.
HAZARD(S)	Drought
ESTIMATED COST	\$3,000
FUNDING	South Platte NRD
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Kimball County Board, South Platte NRD, NeDNR
STATUS	The county works to educate the public on water conservation on a regular basis.

Mitigation Action	Zoning Regulations Update
DESCRIPTION	Review and update zoning to ensure that facilities which house vulnerable populations are placed in the least vulnerable areas of the community
HAZARD(S)	All Hazards
ESTIMATED COST	Staff Time
FUNDING	County General Fund
TIMELINE	Ongoing
PRIORITY	High
LEAD AGENCY	Planning/Zoning Administrator
STATUS	The county reviews and updates zoning regulations on a regular basis.

Removed Mitigation and Strategic Actions

Mitigation Action	Develop Flood Assistance Strategies
DESCRIPTION	Develop strategies to provide necessary services in the event of flooding.
HAZARD(S)	Flooding
REASON FOR REMOVAL	This project is no longer a priority for the county.

Mitigation Action	Emergency Fuel Supply Plan
DESCRIPTION	Plan to ensure adequate fuel supply is available during an emergency; actions might include: prioritization and rationing plan for gasoline and diesel uses in extended loss of fuel supply or electric power supply; a plan to purchase local fuel supply, etc.
HAZARD(S)	All Hazards
REASON FOR REMOVAL	This project is no longer a priority for the county.

Mitigation Action	Emergency Management Exercise
DESCRIPTION	Develop and facilitate an exercise to identify gaps in planning and to ensure that community response plans are sufficient to meet the needs of the jurisdiction.
HAZARD(S)	Flooding
REASON FOR REMOVAL	This project is no longer a priority for the county.

Mitigation Action	Resource Tracking
DESCRIPTION	Develop real time resource tracking capabilities to monitor resources (people/equipment) during wildfire response.
HAZARD(S)	Grass/Wildfire
REASON FOR REMOVAL	This project is no longer a priority for the county.

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel and Propane Tanks and Secure At-Risk Development
DESCRIPTION	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in a tornado or high wind event. "Tie downs" can be used to anchor manufactured homes to their pads or concrete foundations
HAZARD(S)	High Winds, Tornadoes
REASON FOR REMOVAL	This project is no longer a priority for the county.

Mitigation Action	Wildfire Education
DESCRIPTION	Develop a wildfire education program to inform citizens of actions they can take to reduce personal vulnerabilities
HAZARD(S)	Grass/Wildfire
REASON FOR REMOVAL	This project is no longer a priority for the county. The county participates in the Wildcat Hills Wildfire Protection Plan which was updated in July 2021.

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Community Profile

Village of Bushnell

**South Platte NRD
Hazard Mitigation Plan 2022**

Local Planning Team

Table BSH.1: Bushnell Local Planning Team

Name	Title	Jurisdiction
Rick Dickinson	Village Board Chair / Utility Superintendent	Village of Bushnell
Verne Hackbarth	Village Board Vice Chair	Village of Bushnell
Colleen Howington	Village Board Member	Village of Bushnell
Gail Luehr	Village Board Member	Village of Bushnell
Jessica Rocha	Village Board Member	Village of Bushnell

Location and Geography

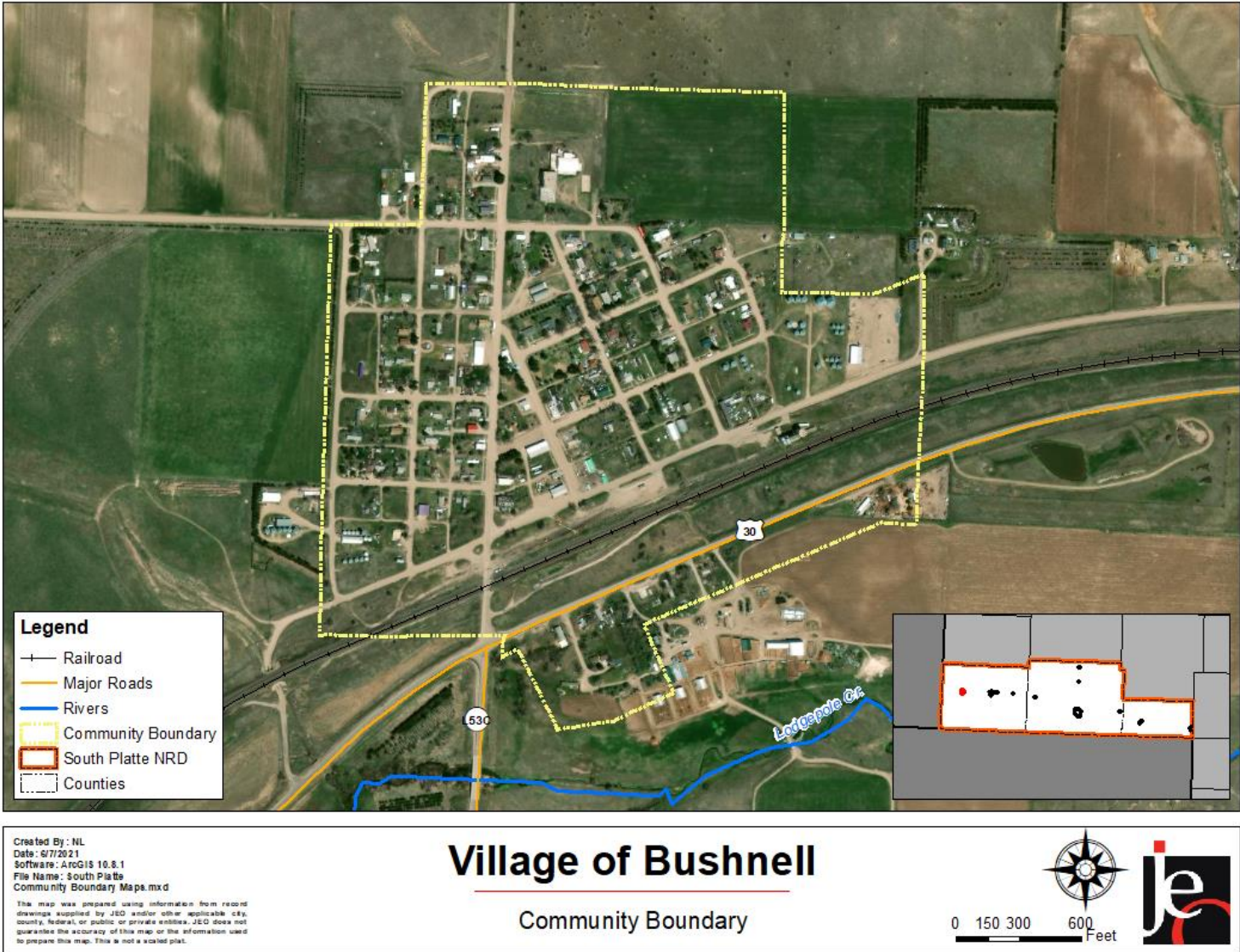
The Village of Bushnell is located in the western portion of Kimball County and covers an area of 0.23 square miles. Major waterways in the area include Lodgepole Creek, south of the village.

Transportation

According to the Nebraska Department of Transportation, US Highway 30 runs east/west south of Bushnell, and accommodates approximately 725 vehicles per day, 121 of which are heavy commercial vehicles.¹¹ The Union Pacific Railroad runs east/west along Bushnell's southern border. According to the local planning team, there have been no significant transportation events in Bushnell in recent memory.

¹¹ Nebraska Department of Transportation. 2020. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=8ed4b009b0d546f19f0284e5bba0f972> .

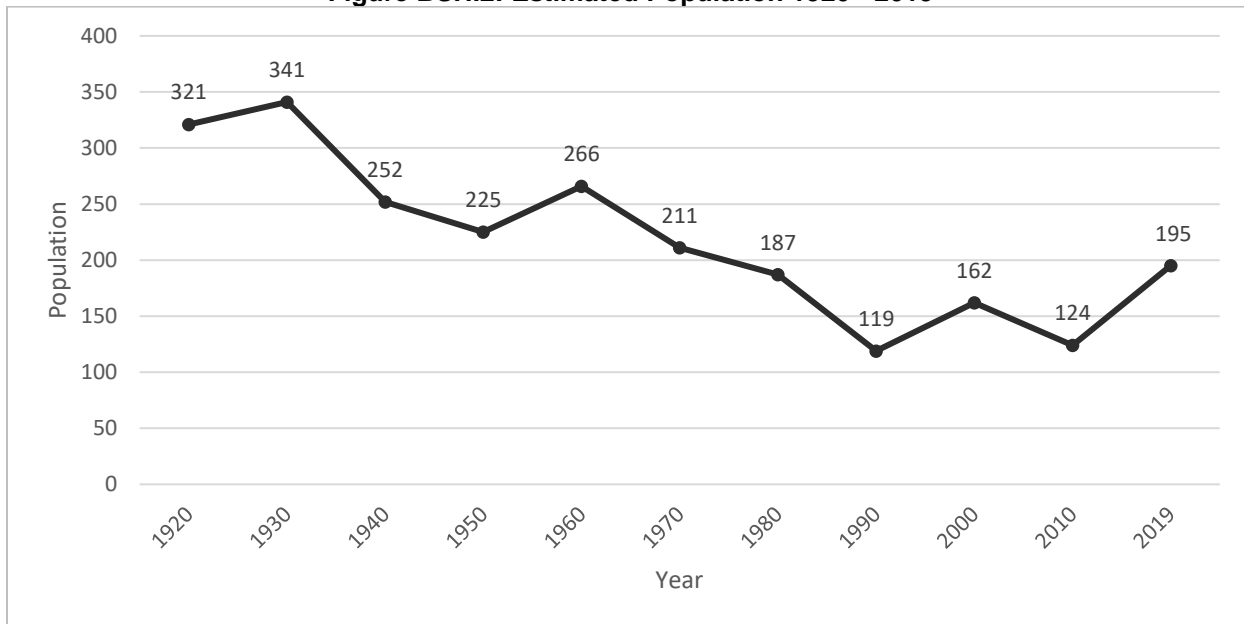
Figure BSH.1: Village of Bushnell



Demographics

Bushnell's estimated population in 2019 was 195. The following figure displays the historical population trend from 1920 to 2019. This figure indicates that the population of Bushnell decreased from 2000 to 2010 but has since increased. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Bushnell's population accounted for 5 percent of Kimball County's population in 2019.¹²

Figure BSH.2: Estimated Population 1920 - 2019



Source: U.S. Census Bureau¹³

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

- **Older.** The median age of Bushnell was 55.9 years old in 2019, compared with the county average of 46.3 years. Bushnell's population grew older since 2010, when the median age was 47.3 years old. Bushnell had a smaller proportion of people under 20 years old (14.3%) than the county (22.5%).¹⁴
- **More ethnically diverse.** Since 2010, Bushnell's ethnic diversity did not change much. In 2010, 1.6% of Bushnell's population was non-white. By 2019, 3.6% of Bushnell's population was non-white. During that time, those who were non-white in the county grew from 5.0% to 5.8%.¹⁵
- **More likely to be at the federal poverty line.** The poverty rate of all persons in Bushnell (20.5%) was higher than the county (10.8%) in 2019.¹⁶

¹² United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

¹³ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

¹⁴ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

¹⁵ United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." [database file]. <https://data.census.gov>.

¹⁶ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

Employment and Economics

The village's economic base is a mixture of industries. In comparison to Kimball County, Bushnell's economy had:

- **Different mix of industries.** Employment sectors accounting for 10% or more of employment in Bushnell included: Retail Trade, Educational Services, Entertainment, and Other Services. Kimball County's employment sectors included Manufacturing, Retail Trade, Transportation, and Educational Services in 2019.¹⁷
- **Lower household income.** Bushnell's median household income in 2019 (\$41,250) was about \$12,000 lower than the county (\$53,403).¹⁸
- **More long-distance commuters.** 11.3% of workers in Bushnell commuted for fewer than 15 minutes, compared with 70.2% of workers in Kimball County. 20.9% of workers in Bushnell commute 30 minutes or more to work, compared to 15.0% of the county workers.¹⁹

Major Employers

No major employers exist within Bushnell. A large percentage of residents commute to other communities for work, such as Kimball. Additionally, many residents work in agriculture in areas surrounding the village.

Housing

In comparison to Kimball County, Bushnell's housing stock was:

- **More owner occupied.** 94.6% of occupied housing units in Bushnell are owner occupied compared with 71.4% of occupied housing in Kimball County in 2019.²⁰
- **Older housing stock.** Bushnell has a larger share of housing built prior to 1970 (82.1%) compared to the county (74.6%).²¹
- **No multifamily homes.** The predominant housing type in the village is single family detached, Bushnell contains no multifamily housing with five or more units per structure compared to the county (0% compared to 2.6%). 90.6% of housing in Bushnell was single-family detached, compared with 81.3% of the county's housing. Bushnell has a smaller share of mobile and manufactured housing (9.4%) compared to the county (9.6%).²² The planning team noted that mobile homes are located at various locations throughout the village.

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

¹⁷ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

¹⁸ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

¹⁹ United States Census Bureau. "2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://data.census.gov>.

²⁰ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

²¹ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

²² United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

Future Development Trends

There have not been many changes in Bushnell over the past five years other than a house burning down. No housing or business development is currently planned for the next five years.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2021. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table BSH.2: Bushnell Parcel Valuation

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
249	\$3,577,170	0	\$0	0%

Source: County Assessor

Community Lifelines

Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 18 chemical storage sites in Bushnell that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

Table BSH.3: Chemical Storage Fixed Sites

Facility Name	Address
Spiker 1	Road 9
Echo 07 Launch Facility	County Rd 6
Echo 06 Launch Facility	County Rd 17
Kilo 09 Launch Facility	County Rd 20
Echo 03 Launch Facility	County Rd 26
Delta 10 Launch Facility	County Rd 7
Delta 11 Launch Facility	County Rd 17
Delta 07 Launch Facility	County Rd 17
Delta 08 Launch Facility	County Rd 40
Delta 09 Launch Facility	County Rd 17
Forsling Lease	Not reported
Haussener 1 Lease	County Roads W & 245
Echo 01 MAF	County Rd 16
Echo 02 Launch Facility	County Rd 13
Echo 04 Launch Facility	County Rd 17
Echo 05 Launch Facility	County Rd 25
Caradori 31-25	Road 48
Nelson 42-35	Jct Roads 46 & 13

Source: Nebraska Department of Environment and Energy²³

²³ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed January 2021. <https://deg-iis.ne.gov/tier2/search.faces>.

Critical Facilities

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

Table BSH.4: Critical Facilities

CF #	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Fire Department	N	N	N
2	Water Tower	N	Y	N
3	Well House	N	N	N
4	Post Office/ City Offices	N	N	N
5	Park	N	N	N
6	Calvary United Methodist	N	N	N
7	Community Center	N	N	N
8	County Maintenance Barn	N	N	N

Figure BSH.3: Critical Facilities



Legend

- Critical Facilities
- Railroad
- Rivers
- Community Boundary
- South Platte NRD
- HAZUS 1% Annual Flood Risk

Created By: KD
 Date: 12/15/2021
 Software: ArcGIS 10.8.1
 File Name: CF - SP Community Basemap.mxd

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

Village of Bushnell

Critical Facilities

0 150 300 600 Feet

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation and strategic actions. Bushnell has a five-member village board and the following offices.

- Clerk/Treasurer
- Sewage Lagoon Operator
- Street Commissioners
- Parks Department
- Water Operator

Capability Assessment

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

Table BSH.5: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	No
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	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	Capital Improvement Plan/ 1 & 6 Year Plan	Yes

SECTION SEVEN: VILLAGE OF BUSHNELL COMMUNITY PROFILE

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

Table BSH.6: Overall Capability

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 Maintenance

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

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the Village Board and Water Operator. The plan will be reviewed bi-annually. The public will be included in the review and revision process via letters and board meetings.

Plan Integration

Bushnell does not have many planning documents that discuss or relate to hazard mitigation. The village does not have a comprehensive plan, zoning regulations, floodplain regulations, or a capital improvements plan.

Grants and Funding

The Village of Bushnell's funds are currently limited to maintaining current facilities and systems. A large portion of funds are currently dedicated to a sewer jetter. In recent years, the village has been awarded grants to purchase a backhoe (2011), for sewer cleaning and video for service (2013), and a warning siren (2020).

Historical Occurrences

See the Kimball County community profile for historical hazard events.

Hazard Prioritization

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

Drought

The local planning team identified drought as a top concern for the Village of Bushnell. Drought is very common across the whole planning area. Because Bushnell and much of the planning area is an agricultural-based economy, drought plays an important role for the community. Extreme drought last occurred in the region in 2012/2013, according to the NCEI. Significant drought, however, was reported in 2020/2021. Locally, the community generally defines drought as a lack of rain. The planning team noted that residential water supply is metered and that there have been some issues with high nitrates in the past. To prevent lasting impacts of a severe drought, Bushnell developed a Wellhead Protection Plan in 2019 to preserve their water resources.

Grass/Wildfires

The planning team identified grass/wildfire as a hazard of top concern due to prior events. Since 2000 the Bushnell-Johnson Fire District reported responding to 53 wildfires in the area, which burned a total of 3,466 acres.

Some wildfires started within the village and migrated outside the community, according to the local planning team. The community and surrounding area have many available fuels during the growing season, which concern the planning team. There are also concerns regarding fires starting as a result of railroad sparks, lightning strikes, or agricultural equipment. The village does have a lawn care ordinance during summer months to limit the amount of available fuels. There are no current building codes for the village that encourage the use of fire-resistant building materials, nor are property owners encouraged to have defensible space around structures.

The Bushnell Fire Department has 19 volunteer staff, who have had satisfactory response times. The planning team also noted that agricultural wells have fittings which allow firefighters to use those wells for a consistent water supply in rural areas.

Hail

Bushnell is highly prone to hailstorms and experiences approximately two events per year. According to the NCEI, there were 50 hail events in Bushnell from 1996 to April 2021. Hailstones from these storms have ranged from 0.5 to 2.75 inches and resulted in \$5,000 in crop damage. In 2003, homes' roofs were significantly damaged, and the siding on the village well houses had to be replaced due to hail damage. To reduce hail damages, many homeowners have installed metal roofing. Critical facilities have also been outfitted with metal roofs.

Severe Thunderstorms

Severe thunderstorms are common events in the planning area and were identified as a top concern for the community. Severe thunderstorms may consist of heavy rain, lightning, and thunderstorm wind and can result in the loss of electricity, blocked roadways, damages to trees, and flooding. The NCEI recorded 13 severe thunderstorm events in Bushnell from 1996 to April 2021. No reported property or crop damage resulted from these storms.

High winds associated with severe thunderstorms are a significant concern. During past events the village has experienced impacts to its electrical infrastructure. The regional electric provider, High West Energy, has been proactive in removing limbs near power lines, as well as installing new power poles. In 2016, some trees fell during thunderstorms, resulting in damages to homes. The NRD has assisted in removing old and/or damaged trees through cost share programs.

Severe thunderstorms have also resulted in localized flooding and ponding in the area of 1st and Birch Streets. This intersection is the primary entrance into and out of town. Birch Street crosses the railroad tracks just south of the intersection before intersecting with HWY 30. There is an alternative railroad crossing that can be utilized approximately one quarter mile west of Birch Street, if needed. A backup generator is located at the water tower for use during power outages. None of the power lines in Bushnell are buried.

Severe Winter Storms

Severe winter storms are a regular part of the climate in Bushnell and were identified as a hazard of top concern. Severe winter storms include blizzards, ice accumulation, extreme cold, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 90 severe winter storm events in Kimball County from 1996 through April 2021, resulting in \$293,700 in property damages and \$4,240,040 in crop damages. Two fatalities and three injuries also resulted from these storms.

Severe winter storms are a concern for the community due to both snow removal and power outages. Large snow drifts often occur on the roadways west of town on County Road 34. The village employees remove snow within the corporate limits while the county maintains CR 34. There are some routes within town which are prioritized for snow removal. These routes emphasize critical resources and facilities, and at-risk populations first. If residents are stranded, or do not have sufficient transportation, they may seek refuge in the village office basement. The community was not impacted by extreme cold in February 2021, according to the planning team.

Tornadoes

Tornadoes were identified as being a hazard of top concern for the community. Tornadoes have the potential for significant damages, economic impacts, and loss of life. The NCEI reported that between January 1996 and April 2021, nine tornadoes appeared in or near Bushnell. All but one of these were EF0 tornadoes. The other was an EF1 tornado, which occurred in June 2017. No damages, injuries, or fatalities were reported as a result of these events, according to the NCEI.

While the village has not seen a direct impact from a tornado, with nearly 25 percent of housing units comprised of mobile homes, any size of tornado could cause damages within the village. The village does require appropriate anchoring of mobile homes upon placement but does not conduct inspections to ensure correct application. According to the planning team, some trees and roofs have suffered damages as a result of high winds.

A safe room is located at the village office and weather radios are available at the fire hall. Additionally, a new warning siren was installed recently.

Mitigation Strategy

New Mitigation and Strategic Actions

Mitigation Action	Sewer Jetter
DESCRIPTION	Acquire a sewer jetter to remove obstructions in drainage pipes.
HAZARD(S)	Flooding
ESTIMATED COST	\$25,000
FUNDING	Sewer Disposal Funds
TIMELINE	1 Year
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	Not started

Completed Mitigation and Strategic Actions

Mitigation Action	Alert/Warning Sirens
DESCRIPTION	The village does have a current siren, but it is a WWII era siren. The community could benefit from a second siren on the north and southeast parts of Bushnell.
HAZARD(S)	All Hazards
STATUS	A new siren was installed in June 2020 near the water tower.

SECTION SEVEN: VILLAGE OF BUSHNELL COMMUNITY PROFILE

Mitigation Action	Well Head Protection Planning
DESCRIPTION	Develop a Well Head Protection Plan to limit/reduce ground water contamination of municipal water supplies.
HAZARD(S)	Flood, Drought
STATUS	Well Head Protection Plan was completed in 2019

Continued Mitigation and Strategic Actions

Mitigation Action	Backup Generator
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)	All Hazards
ESTIMATED COST	\$3,500+ depending on site requirements
FUNDING	Municipal General Fund, HMA
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Clerk, Region 21 Emergency Management
STATUS	Not started

Mitigation Action	Public Awareness/Education
DESCRIPTION	The village clerk includes information regarding seasonal hazards with the bills regularly. For water conservation, reminders occur on monthly water bills.
HAZARD(S)	All Hazards
ESTIMATED COST	\$500+
FUNDING	Municipal General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Clerk
STATUS	Educational information is included in monthly bills and there is additional literature located in the village office.

Mitigation Action	Safe Room
DESCRIPTION	Construct a safe room across from city hall, to be used as a community shelter. The village is presently waiting to purchase the land for the community shelter.
HAZARD(S)	Tornado, High Winds
ESTIMATED COST	\$200-\$300/sq ft stand alone, \$150-\$200/sq ft addition/retrofit.
FUNDING	Municipal General Fund, HMA
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	Project is in the beginning stages. Grant application is being worked on.

Mitigation Action	Stormwater System and Drainage Improvements
DESCRIPTION	Bushnell recognizes their need for water system upgrades and upsizing, but this objective is presently cost prohibitive. Municipal funds are presently being dedicated to this objective for decades to come. Presently, the budget allows for maintaining the system, but improving currently exceed municipal resources. Drainage improvements located at 1 st and Birch Street would reduce ponding and localized flooding.
HAZARD(S)	Flooding
ESTIMATED COST	\$50,000
FUNDING	Loans, SPNRD, HMA
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Village Board
STATUS	Not started

Mitigation Action	Update Comprehensive Plan
DESCRIPTION	Update comprehensive plan. Integrate plan with Hazard Mitigation Plan Components
HAZARD(S)	All Hazards
ESTIMATED COST	\$10,000+
FUNDING	Municipal General Fund, CDBG
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Village Board
STATUS	Not started

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Community Profile

City of Kimball

**South Platte NRD
Hazard Mitigation Plan 2022**

Local Planning Team

Table KMB.1: Kimball Local Planning Team

Name	Title	Jurisdiction
Bill Hinton	Electric Superintendent, Floodplain Administrator	City of Kimball
Annette Brower	City Administrator	City of Kimball

Location and Geography

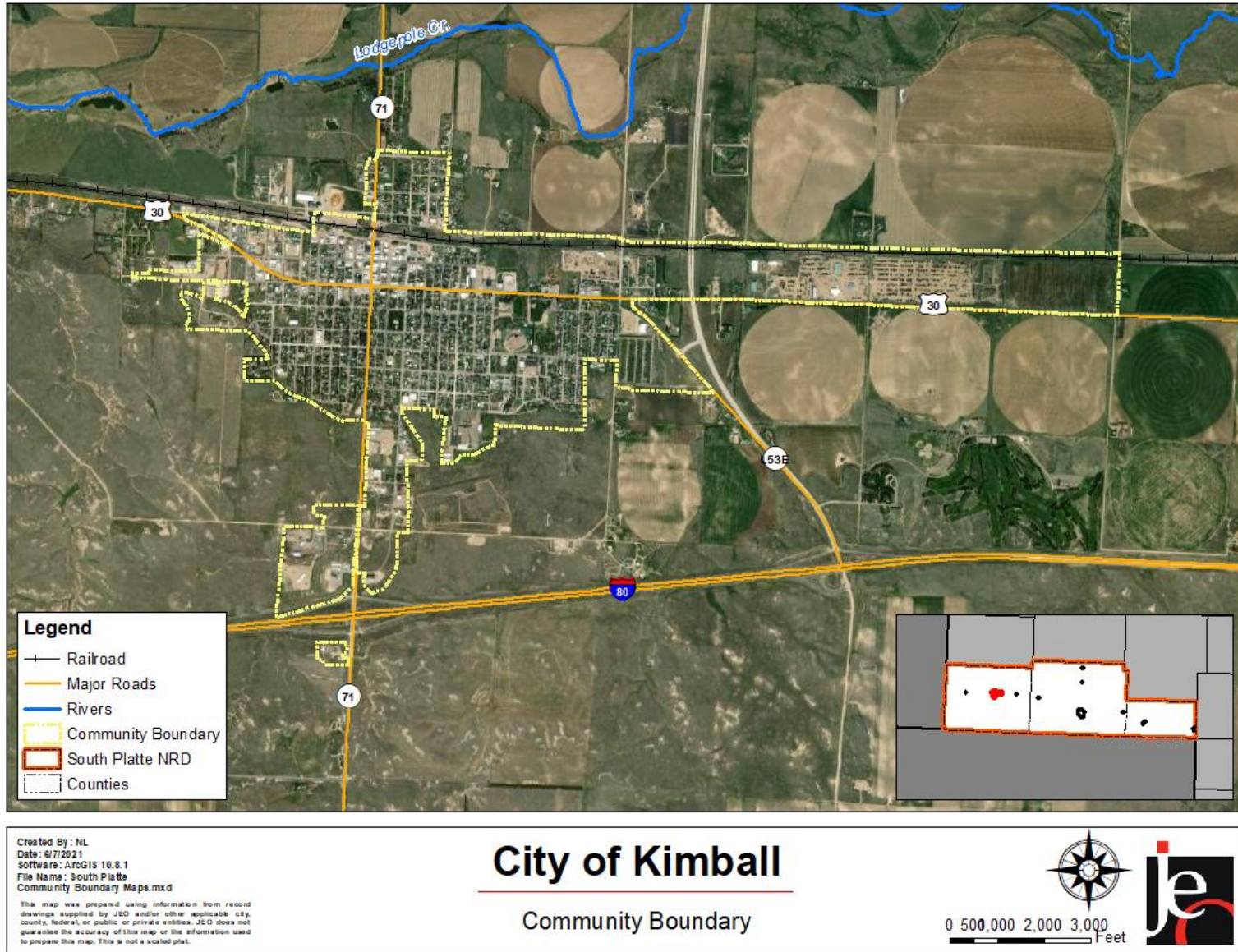
The City of Kimball is located in the central portion of Kimball County and covers an area of 2.07 square miles. The major waterway in the area is Lodgepole Creek, which runs north of Kimball.

Transportation

According to the Nebraska Department of Transportation, US Highway 30 runs east/west through Kimball, and accommodates approximately 4,750 vehicles per day, 165 of which are heavy commercial vehicles. State Highway 71 runs north/south on the eastern side of the city and accommodates approximately 1,440 vehicles per day, 270 of which are heavy commercial vehicles.²⁴ The Union Pacific Railroad runs east/west past Kimball, just north of the community. According to the planning team, no significant transportation events have occurred locally.

²⁴ Nebraska Department of Transportation. 2020. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=8ed4b009b0d546f19f0284e5bba0f972> .

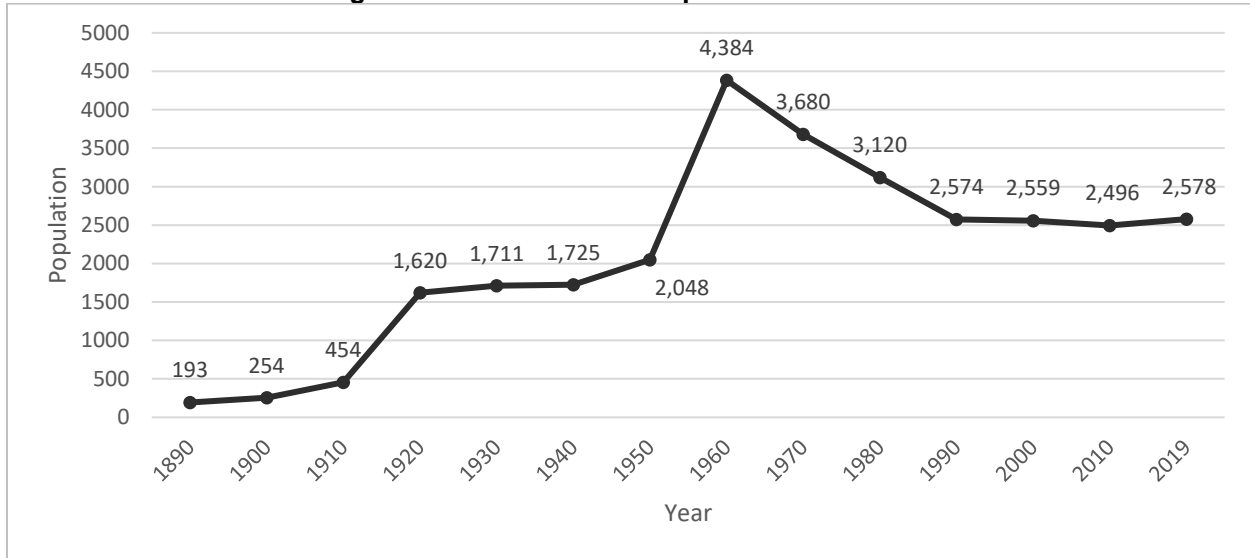
Figure KMB.1: City of Kimball



Demographics

Kimball's estimated population in 2019 was 2,578. The following figure displays the historical population trend from 1890 to 2019. This figure indicates that the population of Kimball decreased from 2000 to 2010 but has since increased. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Kimball's population accounted for 71 percent of Kimball County's population in 2019.²⁵

Figure KMB.2: Estimated Population 1890 - 2019



Source: U.S. Census Bureau²⁶

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

- **Younger.** The median age of Kimball was 41.2 years old in 2019, compared with the county average of 46.3 years. Kimball's population grew younger since 2010, when the median age was 44.9 years old. Kimball had a larger proportion of people under 20 years old (27.1%) than the county (22.5%).²⁷
- **Slightly less ethnically diverse.** Since 2010, Kimball's ethnic diversity has not changed much. In 2010, 7.2% of Kimball's population was non-white. By 2019, 7.0% of Kimball's population was non-white. During that time, those who were non-white in the county grew from 5.0% to 5.8%.²⁸
- **Less likely to be at the federal poverty line.** The poverty rate of all persons in Kimball (10.3%) was lower than the county (10.8%) in 2019.²⁹

²⁵ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

²⁶ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

²⁷ United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

²⁸ United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." [database file]. <https://data.census.gov>.

²⁹ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

Employment and Economics

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

- **Different mix of industries.** Employment sectors accounting for 10% or more of employment in Kimball included: Manufacturing, Retail Trade, and Educational Services. Kimball County's employment sectors included Manufacturing, Retail Trade, Transportation, and Educational Services in 2019.³⁰
- **Lower household income.** Kimball's median household income in 2019 (\$46,484) was about \$7,000 lower than the county (\$53,403).³¹
- **Fewer long-distance commuters.** 79.3% of workers in Kimball commuted for fewer than 15 minutes, compared with 70.2% of workers in Kimball County. 13.5% of workers in Kimball commute 30 minutes or more to work, compared to 15.0% of the county workers.³²

Major Employers

Major employers in Kimball include Clean Harbors Environmental Services, Kimball Health Services, George Risk Industries, and Kimball Public Schools.

Housing

In comparison to Kimball County, Kimball's housing stock was:

- **Less owner occupied.** 61.5% of occupied housing units in Kimball are owner occupied compared with 71.4% of occupied housing in Kimball County in 2019.³³
- **Older housing stock.** Kimball has a larger share of housing built prior to 1970 (79.6%) compared to the county (74.6%).³⁴
- **More multifamily homes.** Although the predominant housing type in the city is single family detached, Kimball contains more multifamily housing with five or more units per structure compared to the county (3.8% compared to 2.6%). 80.2% of housing in Kimball was single-family detached, compared with 81.3% of the county's housing. Kimball has a smaller share of mobile and manufactured housing (7.1%) compared to the county (9.6%).³⁵ According to the planning team, multiple mobile and manufactured homes are scattered throughout the community. Stahla Mobile Home Park is located on the north side of Kimball along Lodgepole Creek. Rook RV Park is located on the east side of the city. High Point RV Park is located at the I-80 exit at the south edge of town.

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

³⁰ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

³¹ United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

³² United States Census Bureau. "2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://data.census.gov>.

³³ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

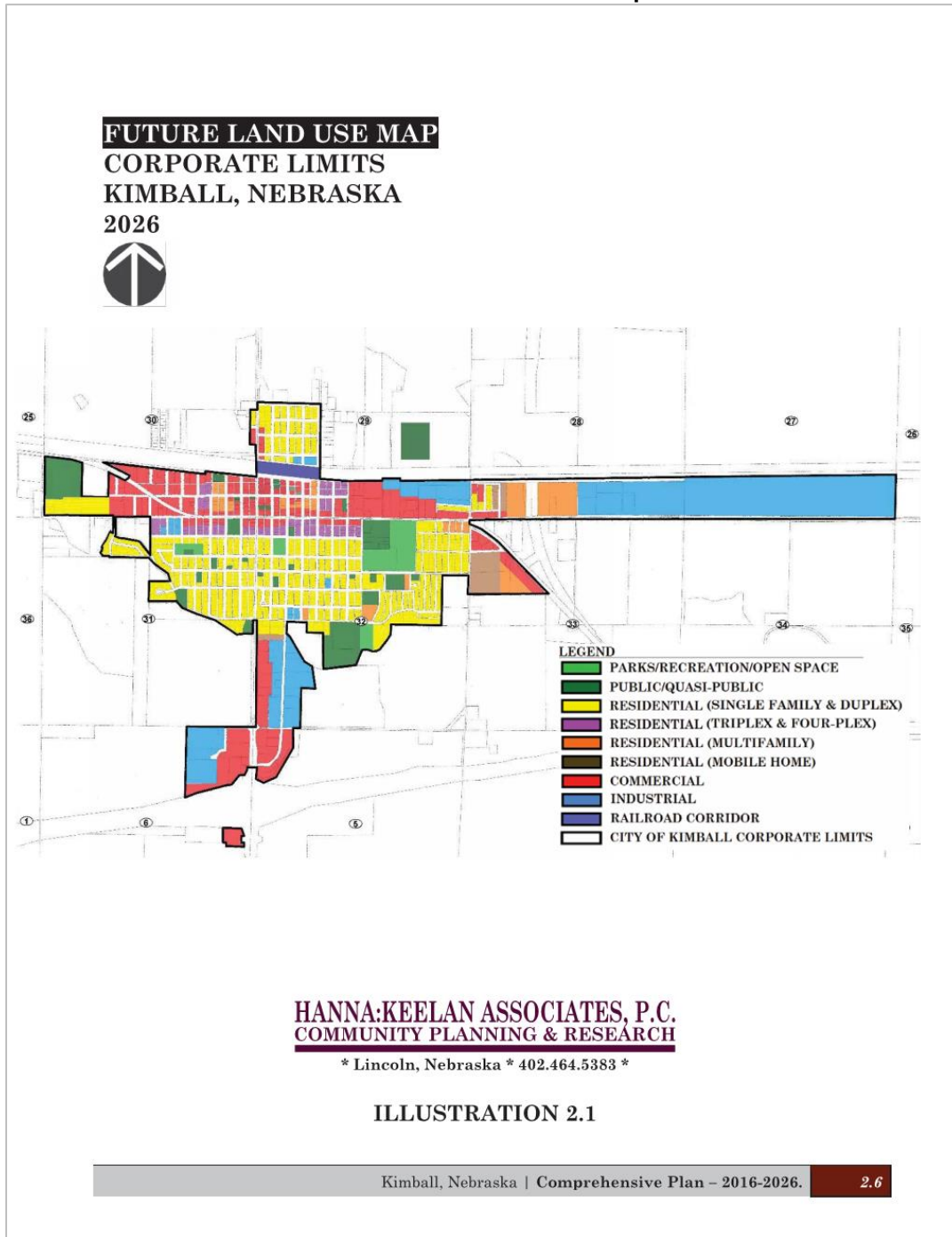
³⁴ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

³⁵ United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

Future Development Trends

No major developments have occurred over the last five years; however, many changes are planned for the next five years. These include a proposed subdivision, a \$180 million expansion of the Clean Harbors property, the development of a rail spur, a trucking operation, a new Ace Hardware store and a new dollar store. Figure KMB.3 shows a future land use map for Kimball from 2016. Figure KMB.4 shows one for the extraterritorial jurisdiction (ETJ).

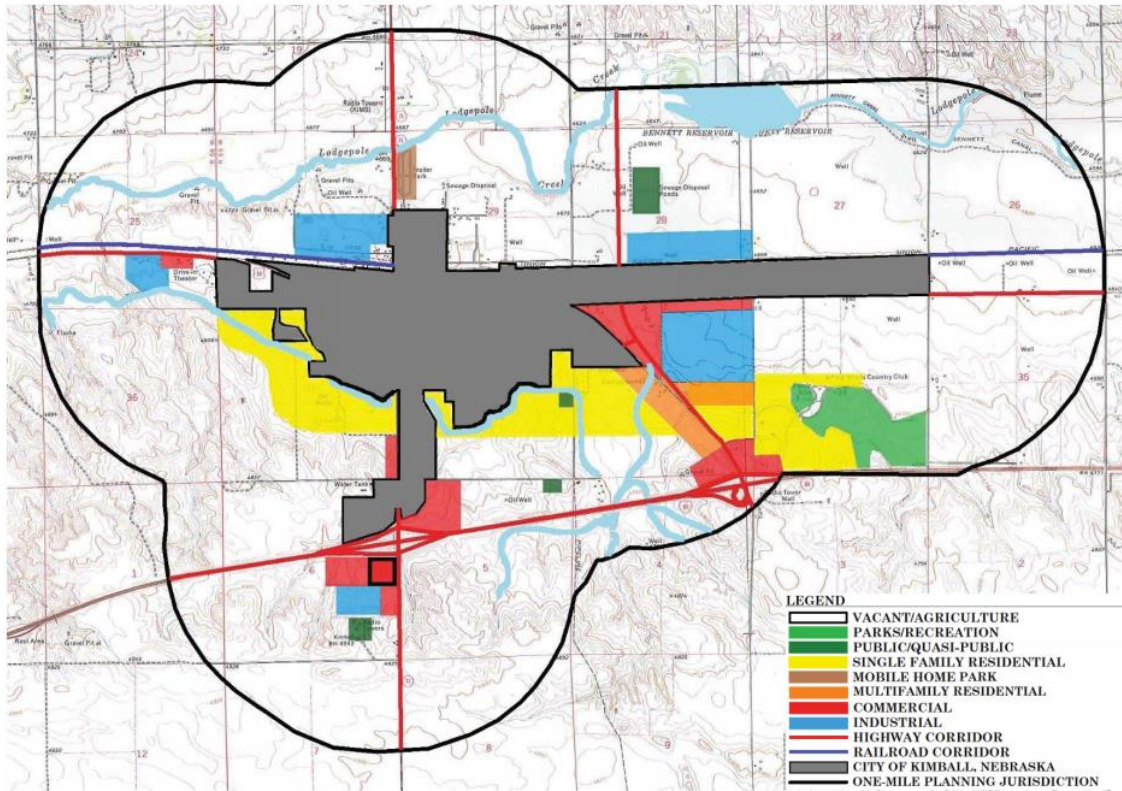
KMB.3: Future Land Use Map



Source: Kimball, Nebraska Comprehensive Plan 2016-2026

KMB.4: Future Land Use Map (ETJ)

FUTURE LAND USE MAP
ONE-MILE PLANNING JURISDICTION
KIMBALL, NEBRASKA
2026



HANNA:KEELAN ASSOCIATES, P.C.
COMMUNITY PLANNING & RESEARCH

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ILLUSTRATION 2.2

Source: Kimball, Nebraska Comprehensive Plan 2016-2026

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2021. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table KMB.2: Kimball Parcel Valuation

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
1,385	\$105,916,940	0	\$0	0%

Source: County Assessor

Community Lifelines

Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 63 chemical storage sites in Kimball that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

Table KMB.3: Chemical Storage Fixed Sites

Facility Name	Address
Swanson 11X-21	Rd 14
Giesecking 41X-9	County Road 45
Maxted 1	County Road 37
Frenchman Valley Farmers Co-op	201 E Front St
Kimball Energy Oil	103 S Howard St
Wolf-Mobil	County Road 54
Frenchman Valley Farmers Co-op	1101 S Highway 71
Clean Harbors Env Services Inc	4386 E Highway 30
Hagstrom Commingled Tank Batt	County Road 30
Woolsey	Highway 71
Trevethan 1-17	Rd 14
NDOT Kimball Yard	3979 Road 32
Clean Harbors Env Services Inc	2247 S Highway 71
Kimball Energy Propane Storage	Jct W 1st St & Hwy 30
Kilo 06 Launch Facility	County Road 12
Kilo 10 Launch Facility	County Rd 28
Kilo 08 Launch Facility	Highway 71
Kilo 07 Launch Facility	County Rd 10
Delta 01 MAF	County Rd 27
WAPA Kimball Substation	County Road 22
State of Nebraska 1 Lease	Unknown
Chaney East Unit	County Road 23
Terrestrial 1-32 Tank Battery	Unknown
State of Nebraska 36-2 & 3	Highway 30 E
Owasco Unit Tank Battery	Highway 30 E
Flying Eagle 1,2,3 Battery	Unknown

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Facility Name	Address
Campbell 2-20 Tank Battery	Unknown
Gross C-1,2,3 Lease	Unknown
Wykert Tank Battery	Unknown
Grubb 2-1A	Rd 37
Bourlier Unit	County Road 14
Giesecking 1	County Road 45
Bernice Zweiner Lease	Highway 71 S
State of Nebraska 27-21 Lease	Road 210
Evertson 1	Jct Roads 39 & 30
Prairie State Lease 01	County Road 14
South Torgeson Units 6 & 7	Roads 22 & 37
Foxtrot 09 Launch Facility	County Rd 49
Foxtrot 10 Launch Facility	County Rd 49
Delta 04 Launch Facility	County Rd 52
Delta 05 Launch Facility	County Road 42
Delta 06 Launch Facility	County Rd 29
Forsling 3	Road E
Frederick 1 Lease	Road E
Kimball Energy Station	312 S Chestnut St
Endura Products Corp	2891 W Highway 30
TIGT Kimball Jct Compressor	County Rd 12
Sloss Unit 99	County Road 43
Heidemann Farms 1-13 Lease	16 Road E
Sue Ann Wilson 15-34 Lease	Road 20
WJD Ranch 42-22	County Rd 27 W
Haase 24-10	Unknown
Art Pirnie 6-3	Road 20
Jessen 34-15	County Road 50
Jessen 23-15	County Road 50
Reader 21-11	County Road 54
Kimball Batch Plant	1098 W Highway 30
Elite Oil Field Services LLC	107 S Cedar St
Tallgrass Pony Exprss Pipeline	3381 Road 28 S
Kunau 1 Tank Battery	Lindbergh Rd
Elite Oil Field Services LLC	501 W 2nd St
Cauley 44-29	Rd 46
Cederburg 35-15 1R	Road 20

Source: Nebraska Department of Environment and Energy³⁶

³⁶ Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed January 2021. <https://deg-iis.ne.gov/tier2/search.faces>.

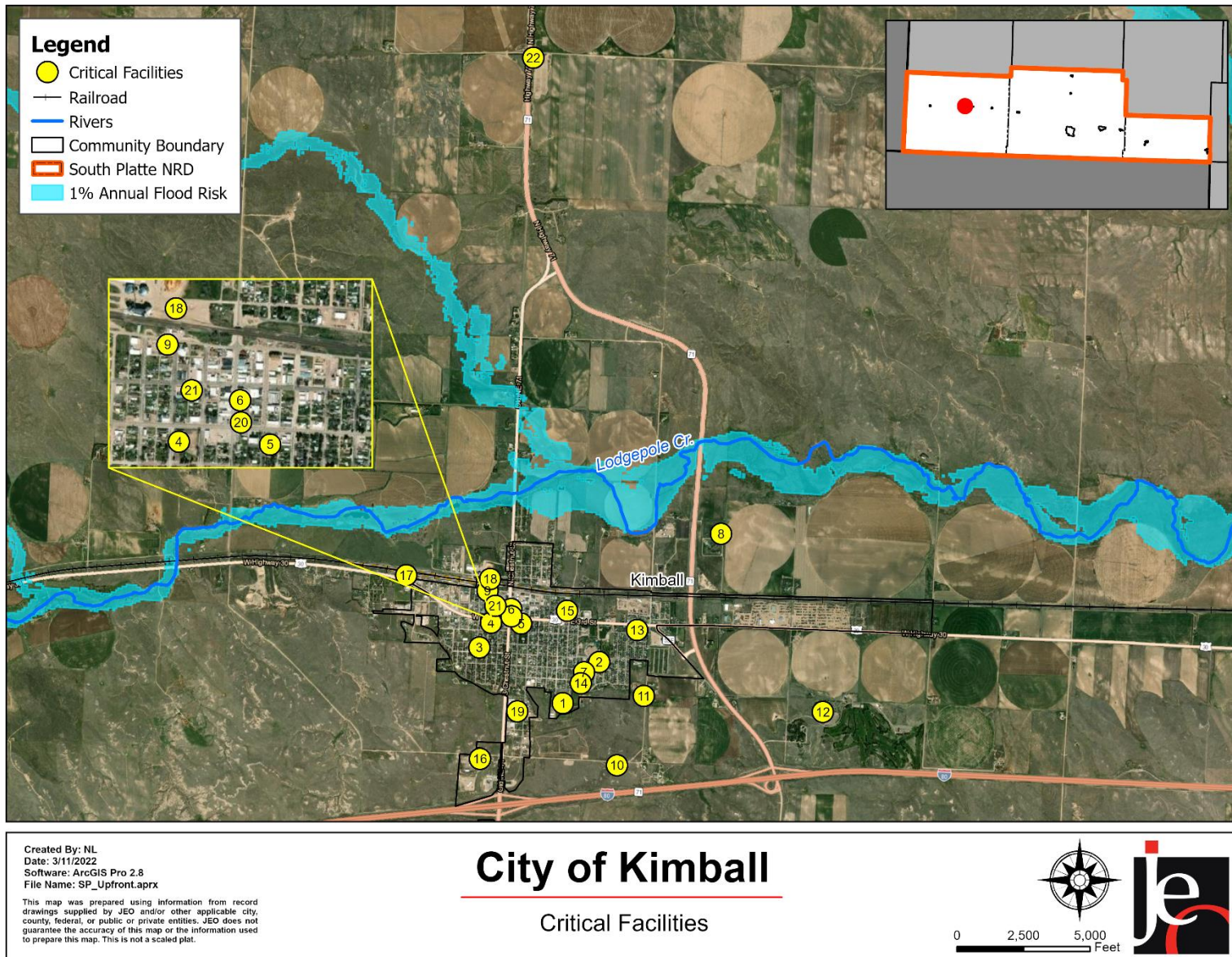
Critical Facilities

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

Table KMB.4: Critical Facilities

CF #	Name	Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Kimball County Hospital	N	Y	N
2	Kimball High School	N	N	N
3	Kimball Mary Lynch School	N	N	N
4	Kimball West Elementary School	N	N	N
5	Kimball County Courthouse	N	Y	N
6	Kimball City Hall/Police Department	N	N	N
7	Kimball County Manor	N	Y	N
8	Wastewater Treatment Plant	N	Y	N
9	Power Plant	N	Y	N
10	Substation	N	N	N
11	Substation	N	N	N
12	Parks and Rec Area	N	N	N
13	Park Terrace	N	N	N
14	Vista Villa	N	N	N
15	Sagebrush Event Center	Y	N	N
16	Water Storage Tank	N	Y	N
17	Propane Storage	N	N	N
18	Propane Storage	N	N	N
19	Anhydrous Ammonia Storage	N	N	N
20	Kimball County Transit	Y	Y	N
21	Kimball Fire Hall	N	N	N
22	Kimball Water Wells	N	N	N

Figure KMB.5: Critical Facilities



Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation and strategic actions. Kimball has a four-member City Council and the following offices.

- Mayor
- City Administrator
- Clerk
- Treasurer
- Economic Development Director
- Attorney
- Chief of Police
- Fire Chief
- Sewage Plant Operator
- Water Superintendent
- Electric Superintendent
- Power Plant Operator
- Streets Superintendent

Capability Assessment

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

Table KMB.5: Capability Assessment

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

Survey Components/Subcomponents		Yes/No
Capability	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	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	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.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	

Table KMB.6: Overall Capability

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 Maintenance

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

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the City Council, Board of Public Works, and City Administrator. The plan will be reviewed annually. The public will be included in the review and revision process via council meetings.

Plan Integration

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

Grants and Funding

The City of Kimball's funds are mostly limited to maintaining current facilities and municipal systems. A large portion of funds are currently dedicated to a wastewater treatment facility study for needed upgrades. The amount of municipal funds has increased slightly in recent years. The city was awarded a CDBG grant for a water-looped project that was completed in 2021.

Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include: installing new municipal wells, upsizing water distribution pipes, installing water meters for residential structures, updating the electrical distribution system, installing emergency generators in critical facilities, constructing a new community center, improving the existing water treatment facility, and improving other existing community owned structures. The city plans to add storm water projects, upsize culverts/drainage structures, regular maintenance for drainage structures, upgrade storm sewer systems, regular maintenance for the storm sewer system, improve transportation routes for drainage, loop electrical distribution to critical facilities, and improve existing police headquarters in a future update of the plan. A potential update to the plan will be discussed during the 2022 budget sessions.

Comprehensive Plan (2016)

The comprehensive plan is designed to guide the future actions and growth of the city. The city's plan contains goals aimed at Safe Growth and encourages infill development. The city plans to update the comprehensive plan in next couple of years, as the city anticipates some growth with the expanding industry in Kimball, as well as a long-term US Air Force project in the area to update some infrastructure.

Building Codes (2006)

Kimball has adopted the 2006 International Building Codes. The building code sets standards for constructed buildings and structures.

Wellhead Protection Plan (2011)

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

Kimball County Local Emergency Operations Plan (2017)

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

Wildcat Hills Region Community Wildfire Protection Plan (2021)

The Nebraska Forest Service updated the Wildcat Hills Region Community Wildfire Protection Plan (CWPP), which includes Kimball County, in July 2021. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

Historical Occurrences

See the Kimball County community profile for historical hazard events.

Hazard Prioritization

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

Dam Failure

According to the USACE National Inventory of Dams, there are two high hazard dams upstream from Kimball. The Janicek Dam is located immediately outside corporate limits, and while the dam does not appear to impound water consistently, if it should fail, it would affect much of Kimball, as well as the Kimball High School, which is located immediately below the dam. Oliver Dam is located nine miles west of Kimball and poses the greatest risk to the community, according to the planning team. The dam is owned by the South Platte NRD. The city does not have a dam failure evacuation plan.

Table KMB.7 lists currently constructed high hazard dams near Kimball. Dams near Kimball, as well as their hazard level, can be seen in Figure KMB.6. They can also be viewed on the Nebraska Department of Natural Resources Dam Inventory map (<https://dnr.nebraska.gov/dam-safety>).

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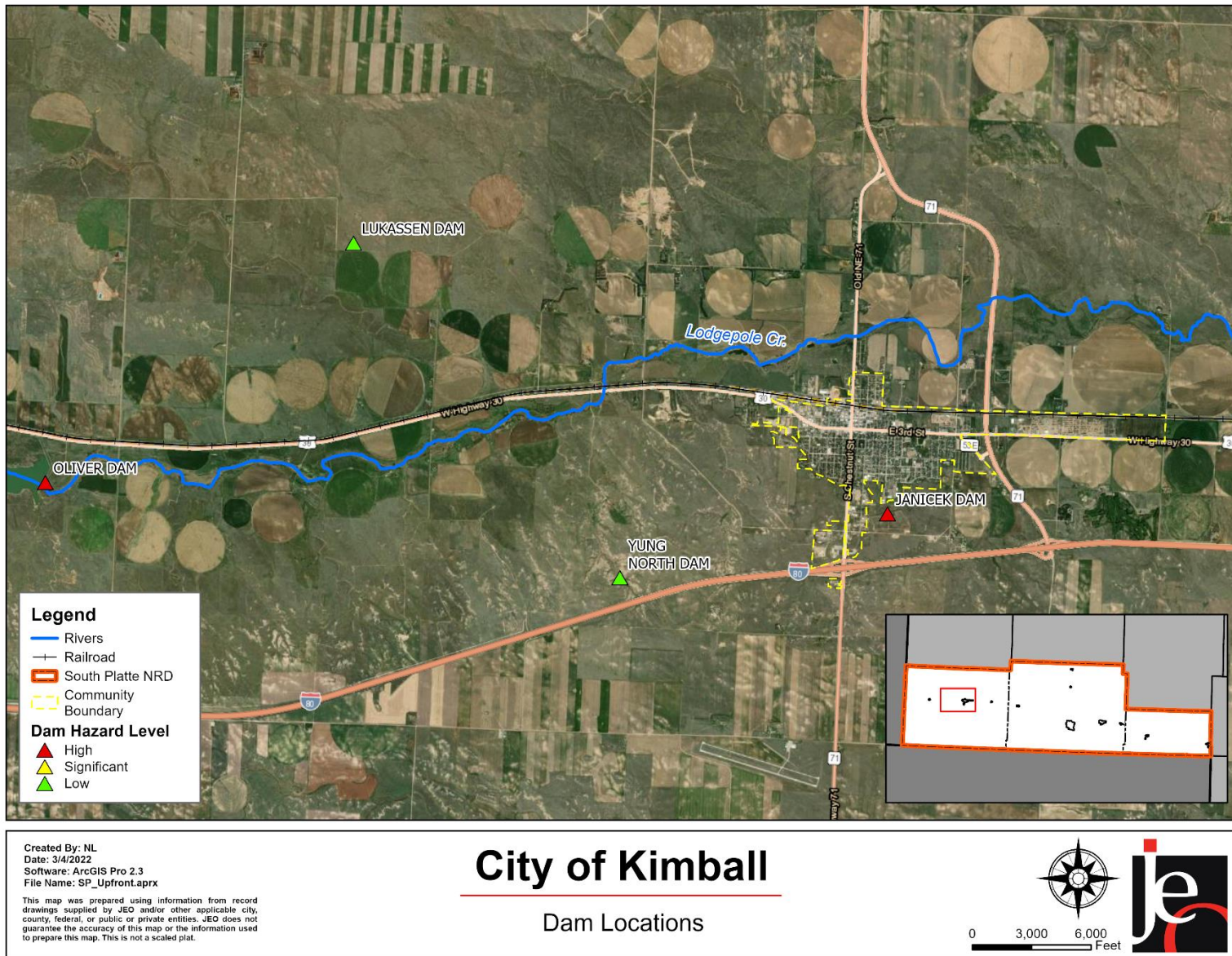
Table KMB.7: High Hazard Dams

Dam Name	NID ID	Location	Condition	Inspection Date
Janicek Dam	NE00750	South of Kimball	Fair	8/11/2020
Oliver Dam	NE00749	West of Kimball	Satisfactory	6/10/2020

Source: USACE, 2021³⁷

37 United States Army Corps of Engineers. February 2021. "National Inventory of Dams." <https://nid.sec.usace.army.mil/ords/f?p=105:19:15077170345077::NQ::>

Figure KMB.6: Kimball Dams



Hazardous Materials (Transportation)

The community's primary concerns are related to a local hazardous waste disposal site: Clean Harbors, which is located five miles south of Kimball and will be operating an additional location on the east edge of the city. The Kimball planning team noted that Clean Harbors uses both truck and rail resources to transport chemical waste through the planning area. All areas where chemicals are being moved from truck to rail are of concern. According to PHMSA, the city has experienced 24 spill events from 1971 to January 2021. The vast majority of these took place at Clean Harbors – five miles south of the city. No evacuations, injuries, or fatalities were reported.

Kimball also experiences a higher degree of vulnerability due to the fact that many of the community's critical facilities are located very near transportation corridors; the city's wells are located on Highway 71, north of town, and the city utilities, fire department, and streets department are located within one block of the railroad.

Hail

The community's primary concern related to hail is property damage and power outages. According to the NCEI, Kimball experienced 92 hail events from 1996 to April 2021, resulting in \$6,092,000 in property damage and \$6,081,000 in crop damage. Hailstones ranged from 0.75 inches to 4.25 inches. The local planning team noted that in 2010, every city-owned building was damaged by baseball-sized hail and many roofs in town needed to be repaired. The event center's roof was installed incorrectly and had to be repaired in 2014 or 2015. Whenever these roofs were replaced, existing materials were replaced, roofs were not hardened for future hail events.

High Winds

High wind events are a common occurrence in Kimball and the city experiences them approximately thirty times per year. In 2014, extremely high winds resulted in the roof temporarily being lifted off St. Joseph's Catholic School and set back down. The community's primary concern related to high winds is power outages. With poorly maintained properties throughout the community, damages resulting from airborne debris are not uncommon. In addition to materials being blown from blighted or substandard structures, privately owned properties throughout the city have trees that are in poor condition. While the local utility company, High West Energy, works to maintain trees that threaten electrical infrastructure, power outages are not uncommon.

In order to prevent impact as a result of high winds, Kimball has worked to more strictly enforce city ordinances, including the Nuisance and Unsafe Property Ordinance, which encourages the maintenance of properties. The city planning team reported that approximately two properties per year are in violation of this ordinance. The city also works to clear power lines and remove damaged trees and limbs.

Severe Thunderstorms

The biggest concerns related to severe thunderstorms in Kimball include falling tree limbs, and lightning strikes. According to NCEI data, 24 thunderstorm events (not including hail) occurred in Kimball from 1996 to April 2021, which resulted in \$90,000 in property damage. In June 2016, a strong microburst destroyed a shed within Kimball and an adjacent storage unit. The metal from the storage unit wrapped around a nearby power pole and knocked out power at a gas station. The most common damage as a result of severe thunderstorms is tree limbs damaging power lines or property. In 2015 severe thunderstorms dropped four inches of rain in four hours, which was considered to be the most recent significant severe thunderstorm event.

The city recently renovated the underpass under the railroad tracks to assist with stormwater drainage issues (2021). According to the planning team, Gotte Park regularly experiences

flooding. Currently, the only critical facility that has backup generators is the wastewater treatment plant. Facilities that need generators include the police department, electric department, water department, streets department, city hall, and three substations. None of the city's power lines are buried underground.

Severe Winter Storms

Kimball is located just off a major transportation corridor, Interstate 80. Whenever the Nebraska Department of Transportation closes the interstate, Kimball becomes a refuge for travelers. According to the local planning team, Kimball experiences one severe winter storm event per year. The NCEI recorded 90 severe winter storm events in Kimball from 1996 to April 2021. These storms resulted in three injuries and two fatalities. Locally, a severe winter storm is defined as between four and six inches of snow, coupled with winds. Often, high winds in a severe winter storm event can result in very low visibility. There are areas of Kimball which have drainage issues and during severe winter storm events, these areas become prone to icy roadways. Due to the high winds in the area, Kimball often experiences drifts on roadways, specifically on the west side of Highway 30, on Highway 71.

For snow removal resources, the community has a road grader, three dump trucks, three snowplows two loaders, a bobcat, and a snow thrower. The local planning team noted that these resources are sufficient for most local events and snow removal staff are normally able to clear roadways within three or four hours after the end of the storm. The community does have snow routes, which municipal employees work to clear first, followed by surrounding, smaller roadways.

The local planning team is especially concerned about the elderly during these events, especially if they require oxygen assistance for breathing. A few years previous, during a power outage, EMTs rushed to an elderly person's home, who required power to work her oxygen tanks.

Mitigation Strategy

Completed Mitigation and Strategic Actions

Mitigation Action	Hail Insurance
DESCRIPTION	Ensure critical facilities have insurance for hail damage
HAZARD(S)	Hail
STATUS	Critical facilities currently have hail insurance.

Mitigation Action	Surge Protectors
DESCRIPTION	Purchase and install surge protectors on sensitive equipment in critical facilities
HAZARD(S)	High Winds
STATUS	The city has acquired and installed surge protectors.

Mitigation Action	Tree Care Ordinance
DESCRIPTION	Pass and enforce a tree care ordinance to improve tree health and to remove dangerous trees and limbs
HAZARD(S)	High Winds
STATUS	The city passed a tree care ordinance.

Continued Mitigation and Strategic Actions

Mitigation Action	Backup Generators
DESCRIPTION	The city will purchase and install a backup generator for power outages, specifically at the wastewater treatment plant, well, police department, electric department, water department, city hall, and three substations.
HAZARD(S)	Hail, Severe Thunderstorms, Severe Winter Storms
ESTIMATED COST	Approximately \$30,000
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	City Administrator
STATUS	The wastewater treatment plant currently has generators. A generator at the well is on order and will be installed in May 2022.

Mitigation Action	Bury Power and Service Lines
DESCRIPTION	Work with local Public Power Districts or electric departments to identify vulnerable transmission and distribution lines and plan to bury lines undergrounds or retrofit existing structures to be less vulnerable to storm events; electrical utilities should be required to use underground construction methods where possible for future installation of power lines
HAZARD(S)	Severe Thunderstorms, High Winds
ESTIMATED COST	\$2M per mile
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	City Administration and Electrical Department
STATUS	Not started

Mitigation Action	Civil Service Improvements
DESCRIPTION	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing, emergency response equipment; develop backup systems for emergency vehicles and identifying and training additional personnel for emergency response
HAZARD(S)	All Hazards
ESTIMATED COST	\$10,000- \$100,000+ (will vary based on specific need)
FUNDING	City General Fund
TIMELINE	Ongoing.
PRIORITY	High
LEAD AGENCY	City Council
STATUS	Several new 4x4 trucks were purchased for the police department, as well as updated radio equipment. Activities planned for the coming year include ongoing police and fire training.

Mitigation Action	Community Education – Chemical Transport
DESCRIPTION	Develop an education program to inform residents of risks related to chemical releases; this could include direct outreach to residents living in the immediate vicinity of chemical storage sites and routes.
HAZARD(S)	Chemical Transportation
ESTIMATED COST	\$3,000+
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Region 21 Emergency Management
STATUS	Education and outreach are performed on an ongoing basis.

Mitigation Action	Community Rating System: Enroll and Participate
DESCRIPTION	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation
HAZARD(S)	Flooding
ESTIMATED COST	\$5,000
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Floodplain Manager
STATUS	The community's regulatory floodplain has not been mapped yet. The city will look to participate in CRS once mapping begins.

Mitigation Action	Comprehensive City Disaster/ Emergency Response Plan
DESCRIPTION	Develop a Comprehensive City Disaster and Emergency Response Plan
HAZARD(S)	All Hazards
ESTIMATED COST	\$5,000+ Staff Time
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Region 21 Emergency Management, Fire Department
STATUS	An Emergency Response Plan is currently in progress with Region 21 Emergency Management.

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Mitigation Action	Continuity Planning
DESCRIPTION	Develop continuity plans for critical community services. Encourage businesses to do the same
HAZARD(S)	All Hazards
ESTIMATED COST	\$5,000+ Staff Time
FUNDING	USDA Grant & USDA Loan
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	City Clerk, Region 21 Emergency Management
STATUS	The city is currently working with Region 21 Emergency Management to develop continuity plans.

Mitigation Action	Critical Facility Siting
DESCRIPTION	Prohibit the construction of critical facilities within the immediate radius of chemical storage facilities
HAZARD(S)	Chemical Transportation
ESTIMATED COST	Staff Time
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Planning Commission
STATUS	Not started

Mitigation Action	Drainage Study/Stormwater Master Plan
DESCRIPTION	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding; stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements
HAZARD(S)	Flooding
ESTIMATED COST	\$15,000+
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Board of Public Works
STATUS	Underpass renovations were done in 2021 to prevent stormwater flooding. Drainage studies/stormwater master plan has not yet started.

Mitigation Action	Electrical System Looped Distribution/Redundancies
DESCRIPTION	Provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails
HAZARD(S)	All Hazards
ESTIMATED COST	\$5,000+
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Electric Superintendent
STATUS	A second electric feed for redundancy will be completed in 2022.

Mitigation Action	Elevate Pad Mounted Transformers and Switch Gear
DESCRIPTION	Elevate pad mounted transformers and switch gear above base flood elevation to eliminate damages from flooding
HAZARD(S)	Flooding
ESTIMATED COST	\$5,000+
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Board of Public Works
STATUS	New construction pad mounts are elevated but elevation of existing utilities has not been started.

Mitigation Action	Emergency Exercise: Hazardous Spill
DESCRIPTION	Utilize exercise to prepare for potential explosions or hazardous spills; ensure that nearby businesses and residents have appropriate plans in place
HAZARD(S)	Chemical Transportation
ESTIMATED COST	\$5,000+
FUNDING	EMPG, City General Fund, Regional Emergency Management
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Region 21 Emergency Management
STATUS	Not started

Mitigation Action	Emergency Operations
DESCRIPTION	Identify and establish an Emergency Operations Center
HAZARD(S)	All Hazards
ESTIMATED COST	\$0
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Region 21 Emergency Management, Fire Department
STATUS	The Kimball County Transit Center can act as an Emergency Operation Center. It has also been established as a Red Cross Shelter.

Mitigation Action	Hazardous Tree Removal Program
DESCRIPTION	Identify and remove hazardous limbs and/or trees
HAZARD(S)	Severe Thunderstorms, High Winds
ESTIMATED COST	\$50 per tree
FUNDING	Private Funds
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Street Superintendent, Parks Superintendent
STATUS	Hazardous limbs and trees are removed on a regular basis.

Mitigation Action	Infrastructure Hardening
DESCRIPTION	Harden critical facilities to withstand high winds, hail, heavy snow, etc. by: hardening roofs, hail resistant barriers to HVAC systems, shatter-proofing window, building tie-down and anchors, and other architectural designs that reduce damage
HAZARD(S)	All Hazards
ESTIMATED COST	Varies by Structure
FUNDING	City General Fund, HMA
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Water Superintendent, Electrical Superintendent, Power Plant Superintendent
STATUS	Not started

Mitigation Action	Impact Resistant Roof Coverings
DESCRIPTION	Use roofing materials that are resistant to hail impacts for new municipal buildings; retrofit existing building with hail resistant roofing
HAZARD(S)	Hail
ESTIMATED COST	\$2.50 per sq ft
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	City Council and Board of Public Works
STATUS	Not started

Mitigation Action	Improve Drainage
DESCRIPTION	Improve storm sewers and drainage patterns in and around the community
HAZARD(S)	Flooding
ESTIMATED COST	\$25,000+
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Board of Public Works
STATUS	Underpass renovations were recently completed to assist with stormwater drainage issues (2021).

Mitigation Action	Improve Snow/Ice Removal Program/Snow Fence
DESCRIPTION	As needed, continue to revise and improve the snow and ice removal program for streets; revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal and removal of associated storm debris, this would include equipment that is needed and paving routes
HAZARD(S)	Severe Winter Storms
ESTIMATED COST	Varies
FUNDING	City General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	City Administrator, City Council, Board of Public works
STATUS	The snow and ice removal program is regularly reviewed by the Street Superintendent, City Council, and City Administrator. A new snow blower will be purchased in 2022.

Mitigation Action	Lightning Rods
DESCRIPTION	Install lightning rods in strategic locations at high points
HAZARD(S)	Severe Thunderstorms
ESTIMATED COST	\$2,500+
FUNDING	City General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Board of Public Works
STATUS	Not started

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Mitigation Action	Mutual Aid through WARN Program
DESCRIPTION	Establish mutual aid agreements through Water/Wastewater Agency Response Network (WARN) Program
HAZARD(S)	Flooding
ESTIMATED COST	\$15,000
FUNDING	City General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	City Administration
STATUS	This is an ongoing action.

Mitigation Action	Power, Service, Electrical and Water Distribution Lines
DESCRIPTION	Work with the local Public Power District to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events; electrical utilities shall be required to use underground construction methods where possible for future installation of power lines
HAZARD(S)	High Winds, Severe Thunderstorms, Severe Winter Storms
ESTIMATED COST	\$50,000-\$70,000 per mile
FUNDING	Enterprise Funds
TIMELINE	Ongoing
PRIORITY	High
LEAD AGENCY	Board of Public Works, High West Energy
STATUS	This is an ongoing action. Ordinance has been passed that requires all new construction to have lines buried underground. Any updates to lines are moved underground as well. Several new construction projects are planned for the coming year, all of which will have underground utility lines.

Mitigation Action	Public Awareness and Education
DESCRIPTION	Outreach programs, distribution of maps and environmental education increase public awareness of natural hazards and how people can protect themselves; other examples include educating citizens on water conservation methods, evacuation plans, etc. In addition, purchasing equipment such as overhead projectors and laptops to facilitate presentation of information
HAZARD(S)	All Hazards
ESTIMATED COST	\$3,000+
FUNDING	City General Fund
TIMELINE	Ongoing
PRIORITY	Low
LEAD AGENCY	City Clerk, Region 21 Emergency Management
STATUS	This is an ongoing project in cooperation with Region 21 Emergency Management.

Mitigation Action	Relocate Municipal Infrastructure
DESCRIPTION	Acquire Geographic Information System (GIS) to locate municipal infrastructure (water and sewer lines)
HAZARD(S)	All Hazards
ESTIMATED COST	\$1,500 Single User and Staff Time
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Board of Public Works
STATUS	GIS and utility mapping has been acquired and is in the process of completion. Activities planned for the coming year include the final mapping of electric and water utility lines.

Mitigation Action	Rescue/Snow Removal
DESCRIPTION	Improve capabilities to rescue those stranded in blizzards and increase the capacity to which snow can be removed from roadways after an event
HAZARD(S)	Severe Winter Storms
ESTIMATED COST	Snow Blower: \$800+; Truck mounted plow: \$2,000+; ATV Plow: \$1,500+
FUNDING	City General Fund
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	City Administrator, City Council
STATUS	New truck-mounted snowplows were recently purchased for several city vehicles/truck. A new snowblower will be purchased in 2022.

Mitigation Action	Static Detectors
DESCRIPTION	Static detectors are designed to detect lightning strikes and can predict the distance to the lightning strike and whether a storm is approaching or moving away from the detector; deploying a static detector at outdoor events can warn of approaching, fast moving storms and associated lightning, and help officials to respond appropriately
HAZARD(S)	Severe Thunderstorms
ESTIMATED COST	\$250+
FUNDING	Private Funds
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Parks and Recreation Superintendent, Electric Superintendent
STATUS	Not started

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Mitigation Action	Tree Assistance
DESCRIPTION	Educate public on appropriate tree planting and establish an annual tree trimming program to assist low income and elderly
HAZARD(S)	Severe Thunderstorms
ESTIMATED COST	\$3,000
FUNDING	NRD or City General Fund
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Parks and Recreation Board, South Platte NRD
STATUS	Tree education/awareness takes place regularly with an annual Arbor Day celebration every April. Tree grants are made available to the public through the NRD.

Mitigation Action	Weather Radios
DESCRIPTION	Conduct an inventory of weather radios at schools and other critical facilities; provide new radios as needed
HAZARD(S)	All Hazards
ESTIMATED COST	\$50 per unit
FUNDING	LEPC
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	City Clerk
STATUS	No radios are in currently in place at any city shops or buildings, but an order is in place to purchase them for all critical facilities in 2022.