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# COUNTY PROFILE

## PLATTE COUNTY

### Lower Loup Natural Resources District Hazard Mitigation Plan 2022

## Local Planning Team

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Table PLA.1: Platte County Local Planning Team

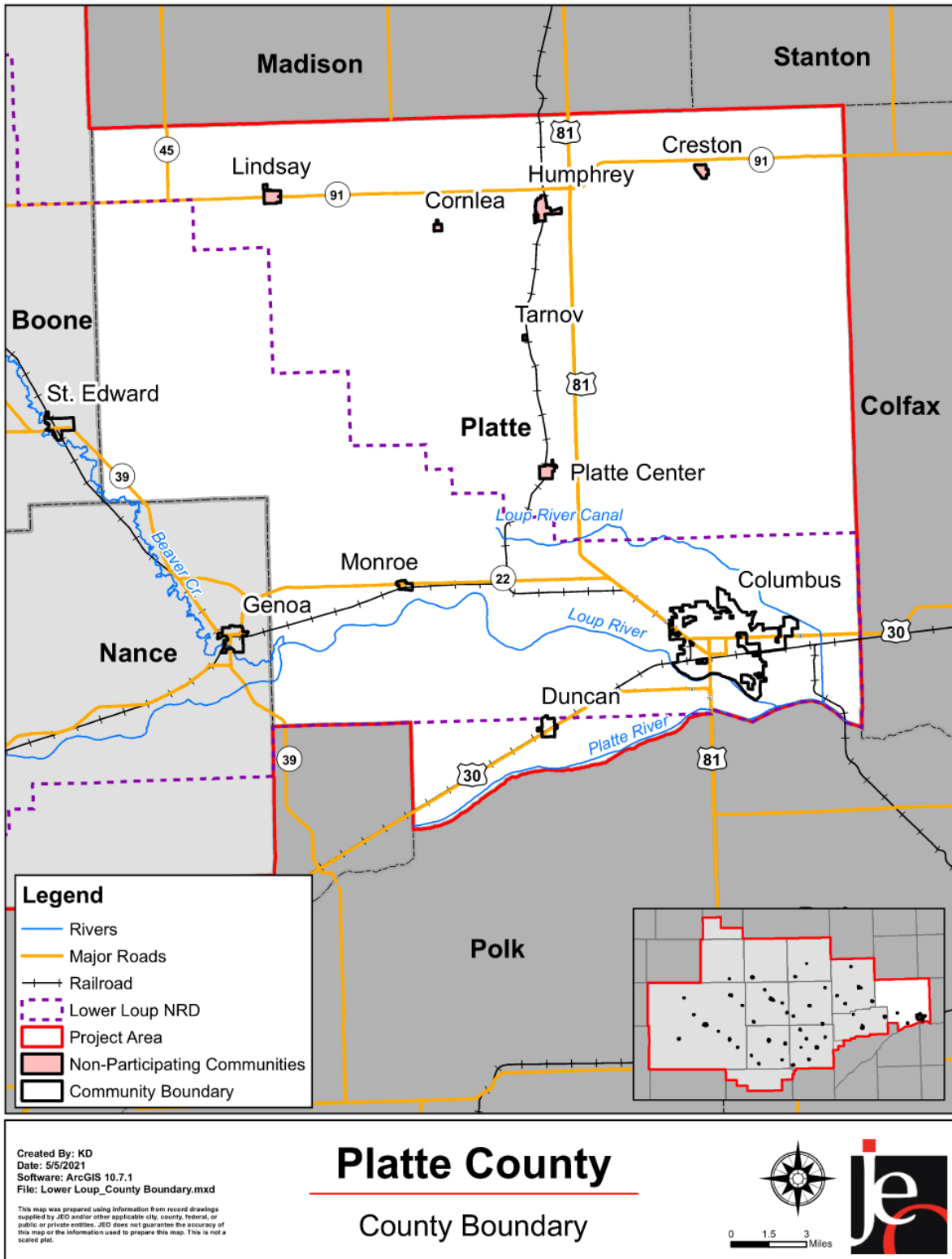
NAME	TITLE	JURISDICTION
TIM HOFBAUER	Emergency Manager	Platte County

## Location, Geography, & Climate

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Platte County is located in eastern Nebraska and is bordered by Nance County, Boone County, and Madison County. The total area of Platte County is 685 square miles. Major waterways within the county include the Platte River and Loup River. The county is not heavily forested, nor is it located in a geographic area of the state prone to landslides. Most of Platte County lies in the dissected plains and valleys topographic regions, with the vast majority of the county's land characterized by agricultural fields.

Figure PLA.1: Platte County Jurisdictional Boundary



## Climate

The average high temperature in Platte County for the month of July is 86.9 degrees and the average low temperature for the month of January is 13.8 degrees. On average, Platte County receives over 28 inches of rain and 25 inches of snowfall per year. The following table compares these climate indicators with those of the entire 11-county planning area and the 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 PLA.2: Platte County Climate Normals**

	PLATTE COUNTY	PLANNING AREA	STATE OF NEBRASKA
<b>JULY NORMAL HIGH TEMP</b>	86.9°F	62.7°F	87.4°F
<b>JANUARY NORMAL LOW TEMP</b>	13.8°F	12.1°F	13.9°F
<b>ANNUAL NORMAL PRECIPITATION</b>	28.7 inches	26.36 inches	24.0 inches
<b>ANNUAL NORMAL SNOWFALL</b>	25.6 inches	28.6 inches	28.2 inches

Source: NCEI 1991-2020 Climate Normals<sup>1</sup>

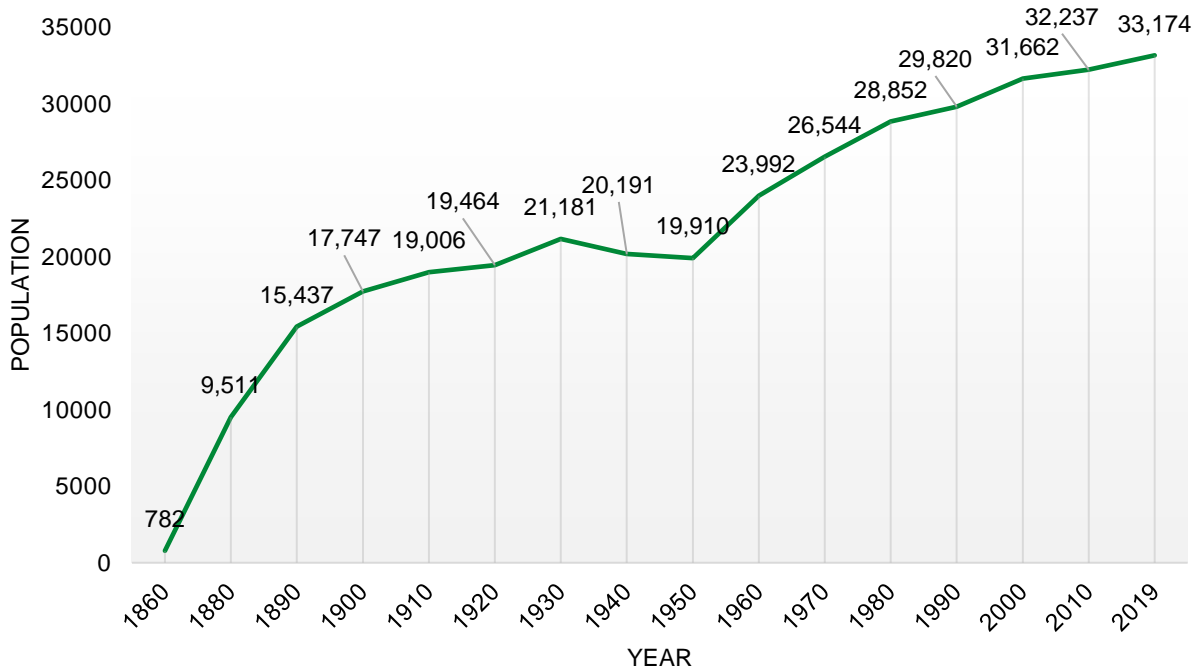
Precipitation includes all rain and melted snow and ice.

## Demographics

The following figure displays the historical population trend from 1860 to 2019. This figure indicates that the population of Platte County has been increasing significantly since 1950. This is notable for hazard mitigation because communities with increasing population may also have fewer unoccupied housing that is not being up kept. Furthermore, areas with an increasing population will be more prone to pursuing residential/commercial development in their areas, which may increase the number of structures vulnerable to hazards in the future. Increasing populations can also represent increasing tax revenue for the county which could make implementation of mitigation actions more fiscally attainable.

<sup>1</sup> NOAA National Centers for Environmental Information. May 2021. "Data Tools: 1991-2020 Normals." [datafile]. <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>.

**Figure PLA.2: Platte County Population 1860-2019**



Source: U.S. Census Bureau<sup>2</sup>

The following table indicates the county has a slightly higher percentage of people under the age of 5 and people over the age of 64. Platte County also has a slightly higher median age than the state. This is relevant to hazard mitigation insofar 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 PLA.3: Population by Age**

AGE	PLATTE COUNTY	STATE OF NEBRASKA
<5	7.2%	6.9%
5-64	75.5%	78.1%
>64	17.2%	15.0%
<b>MEDIAN AGE</b>	<b>38.4</b>	<b>36.4</b>

Source: U.S. Census Bureau<sup>3</sup>

The following table indicates that the county’s median household income is greater than the state while per capita income is slightly lower. Median home values is slightly greater and rent is comparable with the state’s. These economic indicators are relevant to hazard mitigation because they show the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a community’s level of resiliency during hazardous events.

<sup>2</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]  
<sup>3</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]

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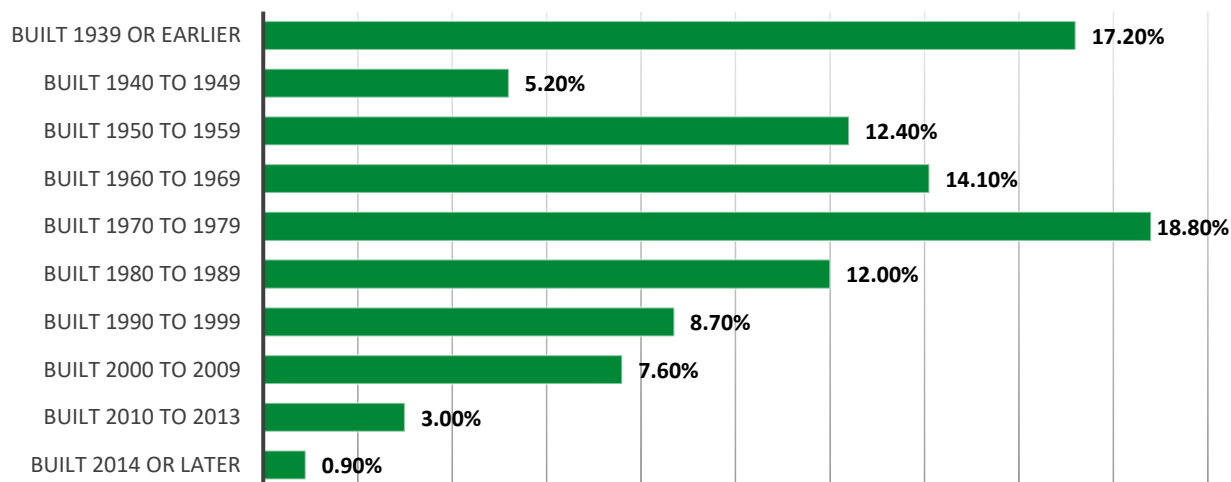
**Table PLA.4: Housing and Income**

AGE	PLATTE COUNTY	STATE OF NEBRASKA
MEDIAN HOUSEHOLD INCOME	\$62,305	\$59,116
PER CAPITA INCOME	\$30,331	\$31,101
MEDIAN HOME VALUE	\$149,700	\$147,800
MEDIAN RENT	\$769	\$805

Source: U.S. Census Bureau<sup>4,5</sup>

The following figure indicates that the majority of the housing in Platte County was built either prior to 1940 or between 1970 and 1979. According to the United States Census Bureau 2019 ACS 5-year estimates, the county has 13,784 housing units; with 93.9 percent of those units occupied. Approximately 4.4 percent of the county’s housing is classified as mobile homes. The local planning team noted that there are four trailer courts outside of Columbus which includes: 35 lots at Silver Trailer Court, 42 lots at Circle H Court, 67 lots at College View Mobile Home Park, and 145 lots at Country View Estates. Housing age can serve as an indicator or risk as structures built prior to state building codes being developed may be at greater risk. The State of Nebraska first adopted building codes in 1987, with the International Building Code adopted in 2010. The current edition of the IBC was updated in 2018. 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 PLA.3: Housing Units by Age**



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

4 United States Census Bureau. "2019 American Fact Finder: DP04: Selected Housing Characteristics." [database file]

5 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

6 United States Census Bureau. "2019 American Fact Finder: SP04: Selected Housing Characteristics." [database file]



**Table PLA.5: Housing Units**

JURISDICTION	TOTAL HOUSING UNITS				OCCUPIED HOUSING UNITS			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>PLATTE COUNTY</b>	12,947	93.9%	837	6.1%	9,381	72.5%	3,566	27.5%
<b>NEBRASKA</b>	754,063	90.8%	76,686	9.2%	498,567	67.1%	255,496	33.9%

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

## Employment Factors

According to 2018 Business Patterns Census Data, Platte County had 1,046 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 PLA.6: Businesses in Platte County**

	TOTAL BUSINESSES	NUMBER OF PAID EMPLOYEES	ANNUAL PAYROLL (IN THOUSANDS)
<b>TOTAL FOR ALL SECTORS (2014)</b>	1,014	15,770	\$587,181
<b>TOTAL FOR ALL SECTORS (2016)</b>	1,016	15,936	\$623,935
<b>TOTAL FOR ALL SECTORS (2018)</b>	1,046	16,771	\$700,197

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

Agriculture is also important to the economic fabric of Platte County, and the state of Nebraska as a whole. Platte County's 836 farms cover 383,635 acres of land. 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 PLA.7: Platte County Agricultural Inventory**

	2012 CENSUS	2017 CENSUS	PERCENT CHANGE
<b>NUMBER OF FARMS WITH HARVESTED CROPLAND</b>	942	836	-11.25%
<b>ACRES OF HARVESTED CROPLAND</b>	426,329	383,635	-10.01%

Source: USDA Census of Agriculture<sup>10,11</sup>

## Governance

A community's governance structure impacts its capability to implement mitigation actions. The county is governed by a seven-member board of supervisors. The county also has the following

7 United States Census Bureau. "2019 American Fact Finder: DP04: Selected Housing Characteristics." [database file]

8 2016 County Business Patterns and 2016 Nonemployer Statistics. <https://www.census.gov/programs-surveys/cbp/technical-documentation/methodology.html> and <https://www.census.gov/programs-surveys/nonemployer-statistics/technical-documentation/methodology.html>.

9 2018 County Business Patterns and 2018 Nonemployer Statistics. <https://www.census.gov/programs-surveys/cbp/technical-documentation/methodology.html> and <https://www.census.gov/programs-surveys/nonemployer-statistics/technical-documentation/methodology.html>.

10 United States Department of Agriculture, National Agricultural Statistics Server. 2014. "2012 Census of Agriculture – County Data."

11 United States Department of Agriculture, National Agricultural Statistics Server. 2019. "2017 Census of Agriculture – County Data."

offices or departments: assessor, attorney, clerk, county court, district court, emergency management, register of deeds, roads, sheriff, treasurer, veterans office, and weed control.

## Capabilities

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

**Table PLA.13: Capability Assessment**

	<b>SURVEY COMPONENTS</b>	<b>YES/NO</b>
<b>PLANNING &amp; REGULATORY CAPABILITY</b>	Comprehensive Plan	No
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Local Emergency Operational Plan	Yes
	Floodplain Ordinance	Yes
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Building Codes	No
	Floodplain Management Plan	Yes
	Storm Water Management Plan	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<b>ADMINISTRATIVE &amp; TECHNICAL CAPABILITY</b>	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>FISCAL CAPABILITY</b>	1 & 6 Year Plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>EDUCATION AND OUTREACH</b>	Local citizen groups or non-profit organizations focused on environmental	Yes

SURVEY COMPONENTS		YES/NO
	protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

**Table PLA.14: Overall Capability**

OVERALL CAPABILITY	2017 PLAN	2022 PLAN LIMITED/MODERATE/HIGH
FINANCIAL RESOURCES NEEDED TO IMPLEMENT MITIGATION PROJECTS	Moderate	Moderate
STAFF/EXPERTISE TO IMPLEMENT PROJECTS	High	Moderate
COMMUNITY SUPPORT TO IMPLEMENT PROJECTS	High	Moderate
TIME TO DEVOTE TO HAZARD MITIGATION	Moderate	Moderate

## Plan Integration

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

### Annual Budget

Platte County's annual budget is sufficient to maintain current facilities as well as pursue some additional hazard mitigation projects. Currently the budget includes funds for several property acquisition projects to reduce community flood risk. The acquisition project, as well as others in the county, have been assisted through several grant programs.

### Zoning Ordinance, Subdivision Regulations, Floodplain Ordinance

The county zoning ordinance and floodplain ordinance are anticipated to be updated by 2023. Currently the plans limit development in the floodplain and wildland urban interface. The county requires a base flood elevation of one foot.

### Platte County Local Emergency Operations Plan

The Platte 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.

### **Middle Northeast Community Wildfire Protection Plan**

The Nebraska Forest Service updated the Middle Northeast Community Wildfire Protection Plan (CWPP), which includes Loup County in October 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.

### **Other Plans**

The county is currently developing a Debris Management Plan. This plan will identify how debris will be handled, transported, and tracked following a hazard event. The plan will aim to be FEMA approved. Additionally, the county is currently developing a Disaster Recovery Plan that will assist the county in short- and long-term recovery efforts including managing resources and volunteers following a hazard event.

## **Future Development Trends**

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In the past five years, there has been substantial development in Columbus. Columbus continues to build in multiple directions within the area and recently annexed an area north of Parkway and 33rd Ave. A 96-unit housing apartment was added in central Columbus, a 180-unit complex was built on the east end of Columbus near Menards. A campground was added just east of the confluence of the Platte River on the north bank. This is located near the area where the Loup Power canal empties into the Platte River. The campground features cabins and seasonal RV sites. Floodplain permits were submitted and approved as the permanent structures were elevated per floodplain requirements. The seasonal RV sites are within the floodplain and aren't permanent. According to the census data, Platte County's population is growing. Platte County continues to grow in part because of increased manufacturing and agricultural related companies. A portion of the Platte County population commute to Schuyler in Colfax County to work for Cargill meat packing. The Columbus Area Chamber of Commerce also has a full-time employee dedicated to recruiting employees to the area. In the next five years, construction is planned for a new casino on the west edge of Columbus to include additional housing and retail.

## **Community Lifelines**

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### **Transportation**

Platte County's major transportation corridors include Highways 30, 91, and 22. The Nebraska Central Railroad Company has a rail line through the county. The Columbus Municipal Airport is also located within the county. The local planning team also identified the Lost Creek Parkway as another transportation corridor of concern. The Parkway is located along the northern portion of Columbus and provides a bypass to Highway 81 west of the city. In the fall of 2018, the Nebraska Central Railroad Company had an ethanol spill west of Monroe. This information is important to

hazard mitigation plans insofar as it suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents.

## Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 61 chemical storage sites throughout Platte County which house hazardous materials. For a description of chemical sites located in incorporated areas, please see the jurisdiction's participant section. In the event of a chemical spill, the Columbus HAZMAT team would be the first to respond. The HAZMAT team is also supported by the Nebraska Emergency Management Agency. The local planning team noted concerns around the ADM Corn Processing plant which houses approximately 52 Tier II chemicals at their compound on East 8<sup>th</sup> Street. The east industrial park area is a concentrated area with over a dozen facilities that make up a large percentage of the county's Tier II chemical inventory.

## Critical Facilities

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

The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table PLA.9: Platte County Critical Facilities**

CF #	COMMUNITY LIFELINE	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	Communications	911 Communication Tower	N	N	N
2	Communications	City/County Communications Center	N	Y	N
3	Communications	Communications Tower	N	N	N
4	Communications	County Communications Tower	N	N	N
5	Safety and Security	District 5 Probation Office	N	N	N
6	Transportation	EM Motor Pool	N	N	N
7	Safety and Security	Platte County Courthouse, Sheriff's Dept., EM.	N	Y	N
8	Safety and Security	Platte County Detention Center	N	N	N
9	Food, Water, and Shelter	School	Y	N	N

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CF #	COMMUNITY LIFELINE	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
10	Safety and Security	Community Warning Sirens – 4*	N	Battery Backup	N

\*indicates critical facility is unmapped

Although not listed in the table above, critical infrastructure also include power substations, cell towers, and alert sirens in the county. These assets are typically owned and maintained by other agencies and are not the responsibility of the jurisdiction.

### Health and Medical Facilities

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

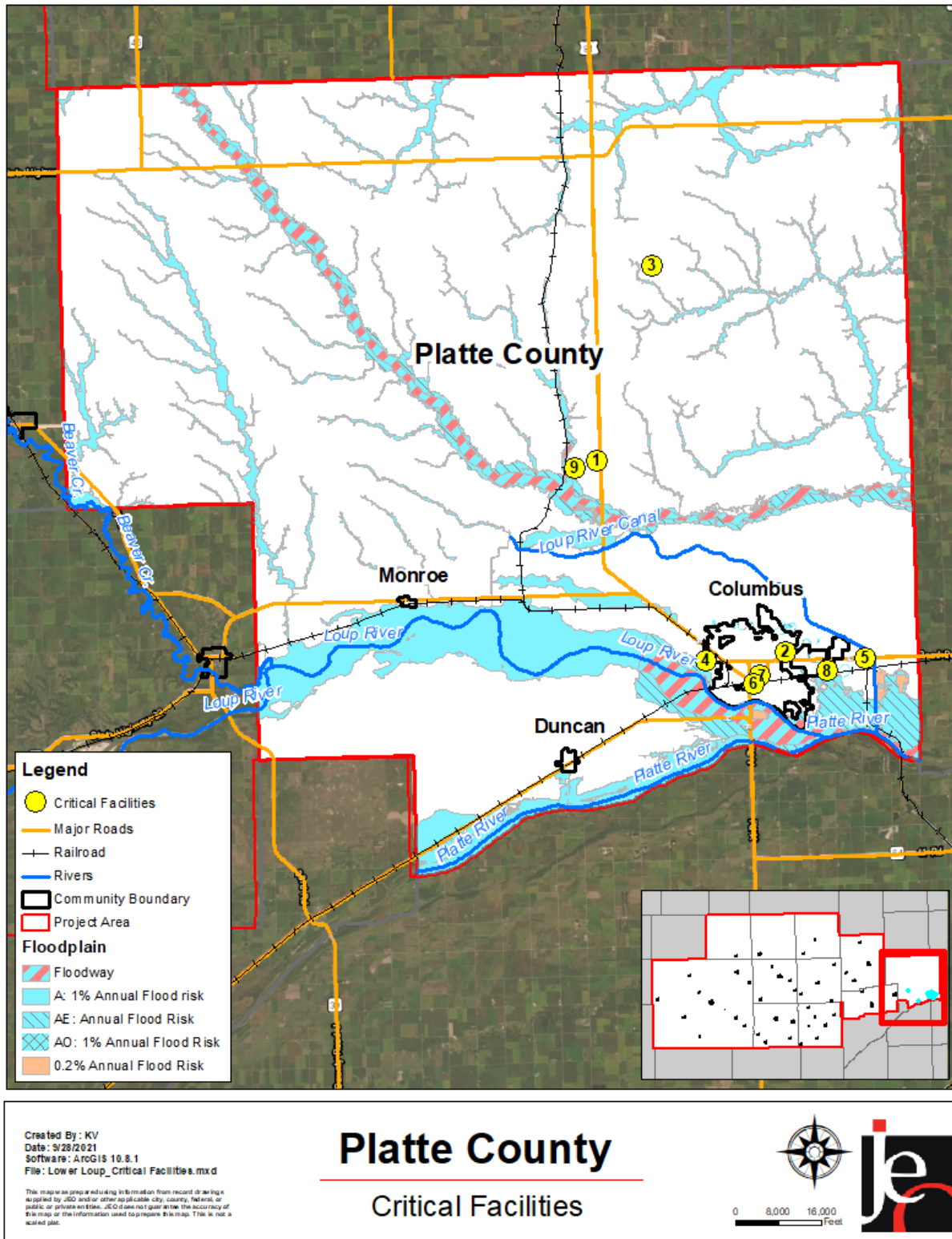
**Table PLA.4: Platte County Critical Facilities**

TYPE OF FACILITY	FACILITY NAME	COMMUNITY	NUMBER OF LICENSED BEDS
Assisted Living	Cottonwood Place	Columbus	47
Assisted Living	Edgewood Columbus Senior Living	Columbus	14
Assisted Living	Meridian Gardens	Columbus	117
Assisted Living	Prairie Village Retirement Center	Columbus	60
Hospital	Columbus Community Hospital	Columbus	50
Long Term Care	Brookestone Acres	Columbus	80
Long Term Care	Emerald Nursing & Rehab Columbus	Columbus	145

Source: DHHS Care Rosters, 2021



Figure PLA.4: Platte County Critical Facilities



## Parcel Improvements and Valuation

GIS parcel data as of December 2020 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table PLA.12: Platte County Parcel Valuation**

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	PERCENT OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
20,153	12525	2,494,570,125	920	351,279,290	7.35%

Source: County Assessor, GIS Workshop

**Table PLA.13: Platte County Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMR	12-07-2322P-310467	07/25/2013	Revisions for BFE for West Fork Maple Creek/Leigh Dam
LOMA	10-07-1300A-310467	5/11/2010	Portion of property removed from SFHA
LOMA	10-07-2122A-310467	9/21/2010	Portion of property removed from SFHA
LOMA	10-07-2135A-310467	10/14/2010	Structure (residence) removed from SFHA
LOMA	11-07-0176A-310467	11/12/2010	Structure removed from SFHA
LOMA	11-07-1014A-310467	3/8/2011	Structure (residence) removed from SFHA
LOMA	11-07-1235A-310467	3/22/2011	Structure removed from SFHA
LOMA	11-07-1297A-310467	4/28/2011	Portion of property removed from SFHA
LOMA	13-07-0097A-310467	11/20/2012	Portion of property removed from SFHA
LOMA	13-07-0447A-310467	1/8/2013	Structure removed from SFHA
LOMA	13-07-1783A-310467	6/27/2013	Structure removed from SFHA
LOMA	13-07-2170A-310467	8/22/2013	Structure removed from SFHA
LOMA	13-07-2361A-310467	9/24/2013	Structure (residence) removed from SFHA
LOMA	14-07-0580A-310467	1/28/2014	Portion of property removed from SFHA
LOMA	14-07-0939A-310467	3/6/2014	Structure removed from SFHA
LOMA	14-07-1694A-310467	6/10/2014	Structure (N hog bldg.) removed from SFHA



TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	14-07-2744A-310467	10/23/2014	Structure (residence) removed from SFHA
LOMA	14-07-2746A-310467	1/20/2015	Structure removed from SFHA
LOMA	15-07-0492A-310467	1/22/2015	Portion of property removed from SFHA
LOMA	15-07-1033A-310467	4/23/2015	Portion of property (portion 1) removed from SFHA
LOMA	15-07-2087A-310467	9/14/2015	Structure (cabin) removed from SFHA
LOMA	16-07-2063A-310467	9/28/2016	Structure removed from SFHA
LOMA	16-07-2120A-310467	10/6/2016	Structure (residence) removed from SFHA
LOMA	17-07-1453A-310467	6/21/2017	Portion of property (area 4) removed from SFHA
LOMA	18-07-0273A-310467	2/22/2018	Structure (Barn 8) removed from SFHA
LOMA	18-07-0910A-310467	3/27/2018	Portion of property removed from SFHA
LOMA	19-07-0128A-310467	11/28/2018	Structure (residence) removed from SFHA
LOMA	19-07-0495A-310467	2/26/2019	Portion of property removed from SFHA
LOMA	19-07-0496A-310467	2/7/2019	Structure (garage) removed from SFHA
LOMA	20-07-1329A-310467	9/8/2020	Structure removed from SFHA
LOMA	20-07-1381A-310467	11/2/2020	Portion of property removed from SFHA
FIS	31141CV000A	04/19/2010	-

Source: FEMA Flood Map Service Center

## Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the planning area. The property damages from the NCEI Storm Events Database (January 1996 – December 2020) 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 between 2000 and 2020.

For the complete discussion on historical occurrences, please refer to *Section 4: Risk Assessment*.

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**Table PLA.10: Hazard Risk Assessment – Platte County**

Hazard Type		Platte County		
		Count	Property	Crop
Agricultural Disease	Animal Disease <sup>2</sup>	29	3,255 Animals	N/A
	Plant Disease <sup>3</sup>	16	N/A	\$138,455
Dam Failure <sup>7</sup>		0	\$0	N/A
Drought <sup>8</sup>		444 out of 1,512 Months	\$0	\$38,269,266
Earthquakes <sup>11</sup>		0	\$0	\$0
Extreme Heat <sup>9</sup>		Avg 4 Days per Year	\$0	\$
Flooding <sup>1</sup>	Flash Flood	18	\$382,200	\$1,244,923
	Flood <i>2 deaths</i>	32	\$666,000	
Grass/Wildfires <sup>4</sup>		447	3,433 acres	\$35,660
Hazardous Materials	Chemical Spills (Fixed Site) <sup>5</sup> <i>15 evac, 2 injuries</i>	49	\$0	N/A
	Chemical Spills (Transportation) <sup>6</sup>	23	\$121,420	N/A
Levee Failure <sup>12</sup>		0	\$0	N/A
Public Health Emergency <sup>13</sup>		~4,140 cases, 50 deaths	N/A	N/A
Severe Thunderstorms <sup>1</sup>	Hail <i>Average: 1.17"</i> <i>Range: 0.75"-4.5"</i>	149	\$7,500,000	\$16,592,309
	Heavy Rain	5	\$0	\$6,463,320
	Lightning	3	\$33,000	N/A
	Thunderstorm Wind <i>Average: 56.6mph</i> <i>Range: 50-95mph</i>	111	\$530,000	N/A
Severe Winter Storms <sup>1</sup>	Blizzard	8	\$0	\$254,162
	Extreme Cold/Wind Chill	5	\$0	
	Heavy Snow	5	\$0	
	Ice Storm	2	\$0	
	Winter Storm	36	\$3,200,000	
	Winter Weather	9	\$0	
Terrorism <sup>10</sup>		1	\$0	N/A
Tornadoes & High Winds <sup>1</sup>	High Winds <i>Average: 51.5mph</i> <i>Range: 40-69mph</i>	25	\$82,000	\$3,245,892
	Tornadoes <i>17 injuries</i> <i>Average: F0</i> <i>Range: EF0/F0-F2</i>	9	\$4,104,000	\$4,058
<b>Totals</b>		<b>982</b>	<b>\$16,618,620</b>	<b>\$73,450,399</b>

- 1 - NCEI, Jan 1996-Dec 2020
- 2 - USDA, 2014-2020
- 3 - USDA RMA, 2000-2020
- 4 - NFS, 2000- April 2020
- 5 - NRC, 1990-2020
- 6 - PHSMA, 1971- Jan 2021
- 7 - NeDNR Dam Safety Division, 2021
- 8 - NOAA, 1895-2020
- 9 - HPRCC & NOAA Regional Climate Center, 1983-2021
- 10 - Global Terrorism Database, 1970-2017
- 11 - USGS, 1900-2021
- 12 - USACE, 2021
- 13 - NE DHHS, May 12, 2021(COVID only)

The following table provides a summary of hazards that have or have the potential to affect each jurisdiction in the county. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the hazards profiled in this plan. The evaluation process was based on data collected and summarized in the previous table; 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 may not been instances of dam failure in the planning area, there exists a possibility for a dam to fail in the future due to the presence of dams.

**Table PLA.11: Platte County and Communities Hazard Matrix**

JURISDICTION	AG DISEASE	DAM FAILURE	DROUGHT & EXTREME HEAT	EARTHQUAKES	FLOODING	GRASS/ WILDFIRE	HAZARDOUS MATERIALS	LEVEE FAILURE	PUBLIC HEALTH EMERGENCY	SEVERE THUNDERSTORMS	SEVERE WINTER STORMS	TERRORISM	TORNADOES & HIGH WINDS
PLATTE COUNTY	X	X	X	X	X	X	X	X	X	X	X	X	X
COLUMBUS	X	X	X	X	X	X	X	X	X	X	X	X	X
DUNCAN	X		X	X	X	X	X		X	X	X	X	X
MONROE	X		X	X	X	X	X		X	X	X	X	X

## 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 county’s capabilities.

### Dam Failure

There are 15 dams in Platte County. None of these dams have been identified as a high hazard dam.

**Table PLA.16: Dams in Platte County**

	NUMBER OF DAMS	MINIMAL	LOW	SIGNIFICANT	HIGH
PLATTE COUNTY	15	1	14	0	0
PLANNING AREA	135	5	119	6	5

Source: NeDNR, 2017

During the major flooding in 2019, many farm dams filled with water and posed a risk to roads and homes. During the event, the headwork area near Genoa was washed out and water ran uncontrolled into the canal. Loup Power continues to rebuild the structure and plans to build in a spillway to divert the water back to the Loup River if this happens again. The dam of greatest risk in the county is the Loup Power Canal. To mitigate against this hazard in the future, the planning team needs additional planning and changes to floodplain ordinances as well as property acquisitions, relocation, and elevation.

### Flooding

Unincorporated areas of Platte County have 64 NFIP policies in-force for \$12,147,500. There are no repetitive flood loss properties in unincorporated areas of Platte County. The major local concern regarding flooding in the county relates to ice jams along the Loup and Platte Rivers. The local planning team indicated that ice jams occur every year along the Loup River and cause minor flooding. In 1993, ice jams caused major flooding in the county that resulted in millions of dollars in damages, homes to be destroyed, and residents to be displaced for an extended period of time. Since that event, the county has greatly improved the communication of risk, communication between stakeholders, and warning systems. During the major flooding in 2019, over 60 people were air lifted by the Nebraska National Guard after they could not leave their homes due to flooding. Two lives were lost in the event and over 80 families filed for FEMA assistance in Platte County due to losses and impacts. The county is currently waiting on FEMA approval for property acquisition for nine properties, and a property elevation project for four properties.

### Hazardous Materials (Fixed Sites and Transportation)

Platte County has a number of chemical fixed sites. Many of them are located within Columbus. The local planning team noted concerns around the ADM Corn Processing plant which houses approximately 52 Tier II chemicals at their compound on East 8<sup>th</sup> Street. The east industrial park area is a concentrated area with over a dozen facilities that make up a large percentage of the county's Tier II chemical inventory. ADM is active in mitigation work and working with Platte County Emergency Management. ADM is working with emergency management to acquire the ability to notify residents in the event of a chemical spill. Union Pacific has approximately 60 to 70 trains pass through Columbus and Platte County a day. Highway 81 and Highway 30 also pass through Platte County. Chemical Spills during transportation are more likely along these routes. There is a Haz-Mat response team within Columbus and ADM has their own as well. According to the local planning team, other than small farm accidents, there have been no major chemical spills in Platte County.

### **Levee Failure**

Levee failure was identified as a hazard of concern due to the levee system which provides flood risk control to the City of Columbus. If the system were to fail a large portion of Columbus would be inundated and require evacuations. Platte County Emergency Management would be a primary resource managing evacuation and repair work. During the March 2019 flood event the levee system performed as anticipated however many surrounding highways were inundated, specifically Highway 81.

### **Severe Thunderstorms**

Severe thunderstorms were identified as the top threat to the county. The county experiences a number of thunderstorms every year but has felt like the intensity of storms has increased over recent years. According to NCEI data, there have been 268 severe thunderstorm events in the county between 1996 and 2021, causing an estimated \$8,063,000 in property damages. The county has a number of cottonwood trees, which have blown over in the past. On July 5<sup>th</sup>, 2016, a severe thunderstorm occurred in the county and caused hundreds of thousands of dollars in damages. Most of the expense was that of the city of Columbus, which paid \$400,000 to remove trees. The Platte County courthouse is underpowered by the current generator and lacks the stability necessary to run current electronics. The Platte Center Highway department located near Platte Center does not have a generator and when power is out, doors and fuel pumps will not work. Most critical facilities have either rubber or tin roofing. The county has requested a study to determine the best options for a new generator at the courthouse.

### **Severe Winter Storms**

The County has a plan in place for snow removal. The main concern is the potential for power outages. Rural areas of the county have been identified as being more vulnerable to power outages than the urban areas. Columbus has a hydroelectric plant that can power many of the homes in town in the event of a power outage. In the past, extreme cold and rolling black outs caused issues with the operation of county facilities. The County Highway Department is in charge of removing snow for the county.

### **Tornadoes and High Winds**

According to NCEI data, there have been nine tornado events in the county between 1996 and 2021, causing an estimated \$4,104,000 in property damages. There are no public shelters in the County. There are five trailer courts that have increased vulnerability. Many of the residents of these trailer courts have a limited income and are non-English speaking. The County utilizes AlertSense to warn residents of an impending tornadic event. The County has a siren covering most of the population, including all the schools.

## Mitigation Strategy

### Completed Mitigation Actions

OBJECTIVE	EVALUATE/IMPROVE BERM, FLOODWALL AND/OR LEVEE
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Evaluate/Update current or new berm, floodwall and/or levee systems</li> <li>2. Design and construct measures to protect and/or improve berm/floodwall/levee</li> </ol>
HAZARD(S) ADDRESSED	Flooding/ Levee Failure
STATUS	Improvements were made to the Columbus Levee System following the March 2019 flood event.

### Continued Mitigation Actions

OBJECTIVE	BACKUP AND EMERGENCY GENERATORS
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Identify and evaluate current backup and emergency generators</li> <li>2. Obtain additional generators based on identification and evaluation</li> <li>3. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters</li> </ol>
HAZARD(S) ADDRESSED	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
ESTIMATED COST	\$20,000 to \$75,000 + per generator
POTENTIAL FUNDING	HMGP, PDM, County General Fund, Communities' General Fund, Private Funding
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Emergency Manager
STATUS	Platte County Emergency Management is currently in the process of securing funding for backup generators.

OBJECTIVE	FACILITY FLOOD PROOFING
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Explore possibility of flood proofing facilities which fall within HAZUS 1% flood inundation areas</li> <li>2. Conduct flood proofing feasibility study for structures and implement identified measures</li> </ol>
HAZARD(S) ADDRESSED	Flooding
ESTIMATED COST	Varies by number and size of structure(s)
POTENTIAL FUNDING	County General Fund, LLNRD
TIMELINE	2-5 Years
PRIORITY	Low
LEAD AGENCY	LLNRD, Emergency Manager
STATUS	The county is currently in the process of securing funding for facility flood proofing.

<b>OBJECTIVE</b>	<b>IMPROVE ELECTRICAL SERVICE</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Evaluate hardening, retrofitting, looping and/or burying of power lines and related infrastructure and/or comparable protection measures</li> <li>2. 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</li> <li>3. Implement measures to improve electrical service</li> <li>4. Bury power lines for future construction</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
<b>ESTIMATED COST</b>	Unknown
<b>POTENTIAL FUNDING</b>	County General Fund, Public Power Districts
<b>TIMELINE</b>	5+ Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	Emergency Manager
<b>STATUS</b>	This project has not yet been started.

<b>OBJECTIVE</b>	<b>IMPROVE EMERGENCY COMMUNICATIONS</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Develop/Improve Emergency Communication Action plan</li> <li>2. Implement Emergency Communication Action Plan</li> <li>3. Establish inner-operable communications</li> <li>4. Obtain/Upgrade Emergency Communication Facilities/Equipment</li> <li>5. Obtain/Upgrade/Distribute Weather Warning Radios</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	All Hazards
<b>ESTIMATED COST</b>	\$5,000+
<b>POTENTIAL FUNDING</b>	County General Fund
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Medium
<b>LEAD AGENCY</b>	Emergency Manager
<b>STATUS</b>	The county is currently evaluating existing communication equipment for needed upgrades.

SECTION SEVEN: PLATTE COUNTY PROFILE

<b>OBJECTIVE</b>	<b>IMPROVE STREAM BED/BANK STABILIZATION</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Evaluate current stream bed and bank stabilization needs</li> <li>2. Implement stream bed and bank stabilization improvements including grade control structures, rock rip rap, vegetative cover, etc.</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Flooding
<b>ESTIMATED COST</b>	\$25,000 to \$500,000+
<b>POTENTIAL FUNDING</b>	County General Fund
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	LLNRD, Emergency Manager
<b>STATUS</b>	This project has not yet been started.

<b>OBJECTIVE</b>	<b>IMPROVE WARNING SYSTEMS</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Evaluate current warning systems</li> <li>2. Improve warning systems/develop new warning system</li> <li>3. Obtain/Upgrade warning system equipment and methods</li> <li>4. Conduct evaluation of existing alert sirens for replacement or placement of new sirens</li> <li>5. Identify location of weather warning radios</li> <li>6. Improve weather radio system</li> <li>7. Obtain/Upgrade weather radios</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	All Hazards
<b>ESTIMATED COST</b>	Varies by Project
<b>POTENTIAL FUNDING</b>	HMGP, PDM, County General Fund
<b>TIMELINE</b>	5+ years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Emergency Manager
<b>STATUS</b>	Platte County is currently working to update or replace sirens in communities.

<b>OBJECTIVE</b>	<b>PUBLIC SAFE ROOMS &amp; POST-DISASTER STORM SHELTERS</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Identify and evaluate existing safe rooms and/or storm shelters</li> <li>2. Improve and/or construct safe rooms and/or storm shelters</li> <li>3. Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Tornadoes, High winds, Severe Thunderstorms
<b>ESTIMATED COST</b>	\$150/sf for retrofit; \$300/sf for new construction
<b>POTENTIAL FUNDING</b>	HMGP, PDM, County General Fund, Private Funding
<b>TIMELINE</b>	5+ years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Emergency Manager
<b>STATUS</b>	This project has not yet been started.



<b>OBJECTIVE</b>	<b>REDUCE DAMAGES IN FLOODPLAIN</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Evaluate repetitive loss or potential loss structures located in floodplain</li> <li>2. Acquire and relocate or demolish flood prone property or elevate flood prone property</li> <li>3. Elevate equipment vulnerable to flooding</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Flooding
<b>ESTIMATED COST</b>	Varies by number and size of structure(s)
<b>POTENTIAL FUNDING</b>	County General Fund, LLNRD
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	LLNRD, Emergency Manager
<b>STATUS</b>	Platte County recently received a \$1.3 million HMA grant for seven property acquisitions in flood prone areas. Anticipated completion by 2024.

<b>OBJECTIVE</b>	<b>REDUCE STORM WATER DAMAGE</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Conduct stormwater drainage study to evaluate restrictions, capacity, level of protection, alternative improvements, prioritize improvements, etc.</li> <li>2. Evaluate and implement recommendations or comparable measures (open ditch and culvert improvements, underground piping, retention and detention facilities to decrease runoff, etc.)</li> <li>3. Evaluate storm water ordinance</li> <li>4. Implement improved storm water ordinance</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Flooding
<b>ESTIMATED COST</b>	\$10,000 to \$75,000 for studies; \$10,000 or more for ditch or pipe cleaning; unknown for large projects
<b>POTENTIAL FUNDING</b>	County General Fund, LLNRD
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	LLNRD, Emergency Manager
<b>STATUS</b>	This project has not yet been started.

SECTION SEVEN: PLATTE COUNTY PROFILE

<b>OBJECTIVE</b>	<b>REDUCE STREAM &amp; DRAINAGE BOTTLENECKS/FLOW RESTRICTIONS</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Evaluate restrictions and measures to prevent or reduce flood damage</li> <li>2. Implement appropriate nonstructural or structural methods on an emergency or permanent basis (monitoring or warning systems, ice jam dusting, excavation or blasting, reshaping channel, tree and debris removal, acquire property and/or construct additional channels or other flow improvements)</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Flooding
<b>ESTIMATED COST</b>	\$10,000 to \$50,000 for studies; \$10,000+ or more to enlarge ditches, culverts, pipes; unknown for stream channel, crossing structures or bridge improvements
<b>POTENTIAL FUNDING</b>	County General Fund, LLNRD
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	LLNRD, Emergency Manager
<b>STATUS</b>	This project has not yet been started.

<b>OBJECTIVE</b>	<b>REDUCE TREE DAMAGE &amp; DAMAGE FROM TREES</b>
<b>DESCRIPTION</b>	<ol style="list-style-type: none"> <li>1. Conduct tree inventory</li> <li>2. Develop tree maintenance/trimming program</li> <li>3. Implement tree maintenance/trimming program</li> <li>4. Remove hazardous limbs and/or trees</li> </ol>
<b>HAZARD(S) ADDRESSED</b>	Tornadoes, Severe Winter Storms, Severe Thunderstorms, Grass/Wildfire
<b>ESTIMATED COST</b>	\$0 to \$5,000 to develop program; implementation varies
<b>POTENTIAL FUNDING</b>	County General Fund
<b>TIMELINE</b>	2-5 Years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	LLNRD, Emergency Manager
<b>STATUS</b>	This project has not yet been started.

OBJECTIVE	REDUCE WATER DEMAND/IMPROVE DROUGHT EDUCATION
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Conduct water use study to evaluate/implement methods to conserve water/reduce consumption</li> <li>2. Evaluate/implement water use restriction ordinance</li> <li>3. Identify/evaluate current/additional potable water sources</li> <li>4. Develop or obtain drought education materials to conduct multi-faceted public education and awareness program</li> </ol>
HAZARD(S) ADDRESSED	Drought
ESTIMATED COST	Study \$5,000+
POTENTIAL FUNDING	County General Fund, LLNRD
TIMELINE	5+ Years
PRIORITY	Low
LEAD AGENCY	LLNRD, Emergency Manager
STATUS	This project has not yet been started.

OBJECTIVE	STUDY/IMPROVE DRINKING WATER SUPPLY
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Study water supply deficiencies, identify alternative solutions, locate new sources</li> <li>2. Implement cost effective measures to increase/improve supply and/or fire protection</li> </ol>
HAZARD(S) ADDRESSED	Drought, Grass/Wildfire
ESTIMATED COST	\$25,000 for study; \$350,000+ for new well/transmission
POTENTIAL FUNDING	County General Fund, LLNRD
TIMELINE	5+ Years
PRIORITY	Low
LEAD AGENCY	LLNRD, Emergency Manager
STATUS	This project has not yet been started.

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (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 profile as changes occur or after a major event. The local planning team will include the County Board of Commissioners, County Emergency Management, Highway Superintendent, and Planning and Zoning. The plan will be reviewed no less than annually and will include the public in the review and revision process by sharing information at local council meetings and on the county website.

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# **COMMUNITY PROFILE**

## **VILLAGE OF DUNCAN**

### **Lower Loup Natural Resources District Hazard Mitigation Plan 2022**

## Local Planning Team

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**Table DUN.1: Village of Duncan Local Planning Team**

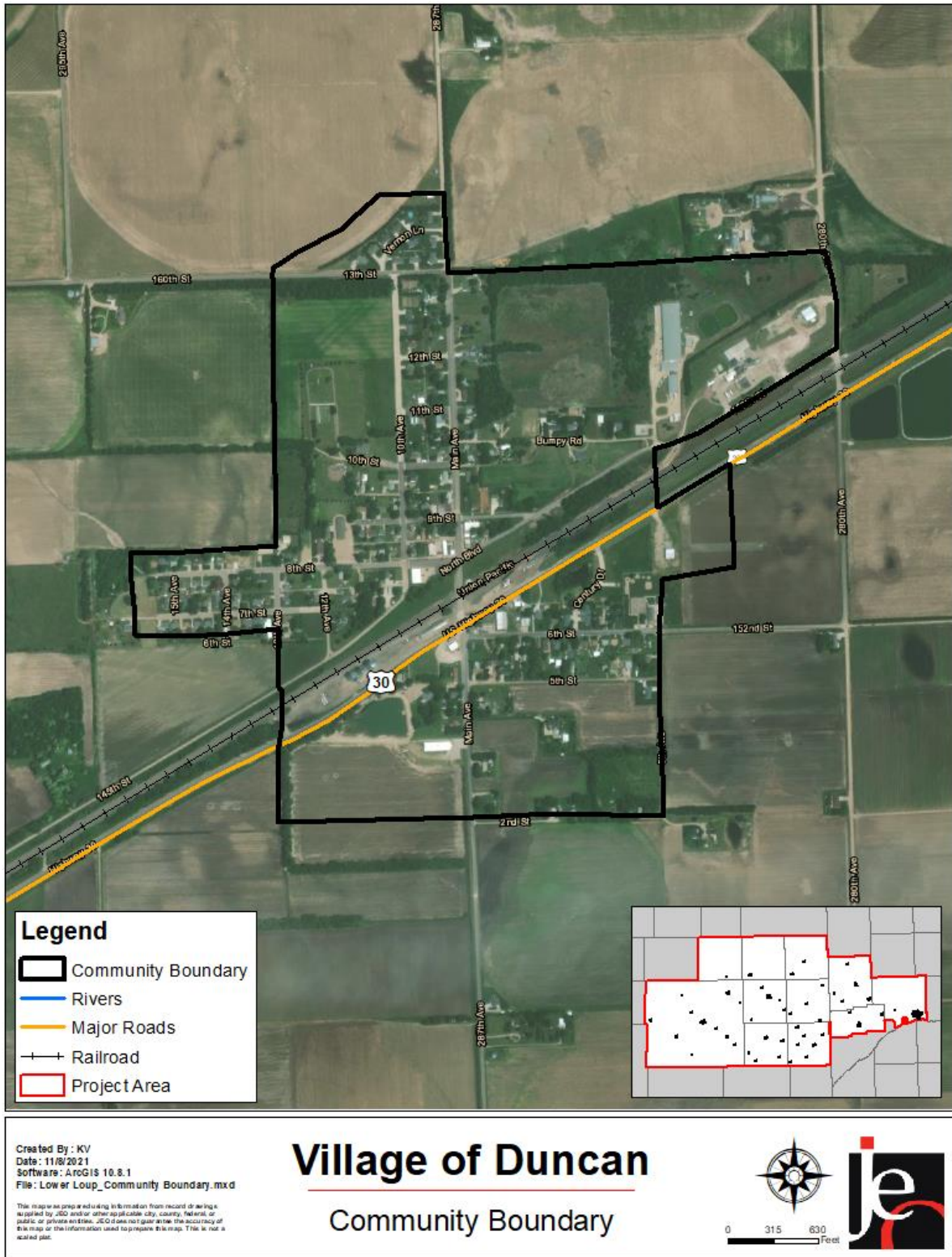
NAME	TITLE	JURISDICTION
DON REVES	Village Maintenance	Village of Duncan
PATRICK SIEMEK	Fire Department Secretary	Village of Duncan
JOSH DAHLBERG	Fire Chief/Village Board Member	Village of Duncan

## Location and Geography

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The Village of Duncan is located in south central Platte County. The Village of Duncan covers an area of 0.41 square miles. There are no major water ways near Duncan. Most of Duncan lies in the dissected plains topographic region, and is surrounded by agricultural fields.

Figure DUN.1: Village of Duncan Jurisdictional Boundary

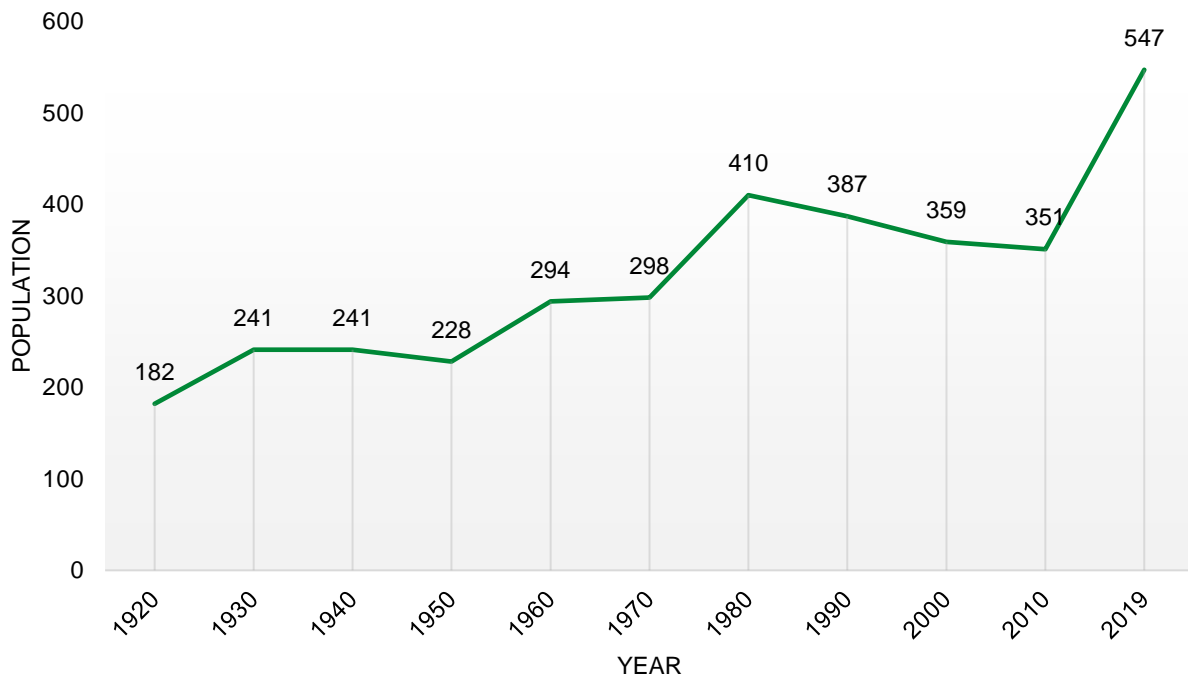


## Demographics

The following figure displays the historical population trend from 1920 to 2019 (estimated). This figure indicates that the population of Duncan experienced an increase from 1920 through 1980. Between 1980 and 2010 the population declined, however, since 2010 the population has increased. The local planning team noted the current U.S. Census Bureau estimates are likely too high and a more accurate population count is approximately 410 for the village.

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. The Village's population accounted for 2% of Platte County's Population in 2019.

**Figure DUN.2: Duncan Population 1920-2019**



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

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

- **Older.** The median age of Duncan was 48.7 years old in 2019, compared with the County average of 38.4 years. Duncan's population has grown older since 2010, when the median age was 38.8 years old. Duncan had a greater proportion of people under 20 years old (30.1%) than the County (28.7%).<sup>13</sup>
- **Less ethnically diversity.** In 2010, only 1.5% of Duncan's population was American Indian. By 2019, 1.2% of Duncan's population was Black or African American and less than 1% was two or more races. During that time, Platte County had 0.1% to 0.5% Black

<sup>12</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]

<sup>13</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]



or African American, 0.5% to 0.4% American Indian, 0.3% to 0.8% Asian, 1.5% to 2.3% some other race, and 2.0% to 1.1% two or more races from 2010 to 2019 respectively.<sup>14</sup>

- **Less likely to be at the federal poverty line.** The poverty rate of all persons in Duncan (3.5%) was lower than the County (6.1%) in 2019.<sup>15</sup>

## Employment and Economics

The community's economic base is a mixture of industries. In comparison to Platte County, Duncan's economy had:

- **Varied mix of industries.** Employment sectors accounting for 10% or more of employment in Duncan included Manufacturing, Retail, Transportation, Professional Science, and Arts and Entertainment. Employment sectors accounting for 10% in Platte County included Manufacturing, Retail, and Education.<sup>16</sup>
- **Lower household income.** Duncan's median household income in 2019 (\$47,500) was about \$14,800 lower than the County (\$62,305).<sup>17</sup>
- **More long-distance commuters.** About 27.8% percent of workers in Duncan commuted for fewer than 15 minutes, compared with about 63.8% of workers in Platte County. About 11.2% of workers in Duncan commute 30 minutes or more to work, compared to about 9.2% of the County workers.<sup>18</sup>

### Major Employers

Major employers in the village include CSS Farms, Central Valley Ag, AJ's C-store, and Tasty Toppings. However, the majority of Duncan's residents work and commute in the City of Columbus.

## Housing

In comparison to Platte County, Duncan's housing stock was:<sup>19</sup>

- **More owner occupied.** About 94.6% of occupied housing units in Duncan are owner occupied compared with 72.5% of occupied housing in Platte County in 2019.
- **Larger share of aged housing stock.** Duncan has more houses built prior to 1970 than the county (65.3% compared to 48.9%).
- **Fewer multi-family homes.** The predominant housing type in the village is single family detached and Duncan contains fewer multifamily housing with five or more units per structure than the County (0% compared to 2.0%). About 98.7% of housing in Duncan was single-family detached, compared with 77.9% of the County's housing. Duncan has a smaller share of mobile and manufactured housing (1.3%) compared to the County (4.4%). There is one mobile home located in the village which has been anchored.

The local planning team noted that the Village of Duncan is primarily a 'bedroom' community for the City of Columbus. The majority of residents live in Duncan while working in Columbus. Current

14 United States Census Bureau. "2019 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]

15 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

16 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

17 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

18 United States Census Bureau. "2019 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]

19 United States Census Bureau. "2019 American Fact Finder: DP04: Selected Housing Characteristics." [database file]

housing stock is insufficient to support current growth in 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.

## Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Duncan has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The Village has a five-member village board and the following offices: clerk, treasurer, utility superintendent, zoning administration, and a volunteer fire department.

## Capabilities

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

**Table DUN.2: Capability Assessment**

SURVEY COMPONENTS		YES/NO
<b>PLANNING &amp; REGULATORY CAPABILITY</b>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operational Plan	County
	Floodplain Ordinance	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Building Codes	Yes
	Chief Building Official	No
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
<b>ADMINISTRATIVE &amp; TECHNICAL CAPABILITY</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	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)	
<b>FISCAL CAPABILITY</b>	1 & 6 Year Plan	Yes

SURVEY COMPONENTS		YES/NO
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Currently under development
Other (if any)		
<b>EDUCATION AND OUTREACH</b>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table DUN.3: Overall Capability

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

## Plan Integration

Communities have 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. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### Annual Municipal Budget

Duncan's annual budget is currently limited to maintaining current facilities and systems. Funds in the village have remained relatively stable in recent years. Currently any available funds are being used to pay a USDA loan for the water treatment plant updates.

### **Building Code (2018)**

The building code sets standards for constructed buildings and structures. The village follows the 2018 International Building Code as adopted by the State of Nebraska.

### **Comprehensive Plan (2009/2020)**

The village's current Comprehensive Plan was last approved in 2009. An updated 2020 Comprehensive Plan has been developed but as of 2021 had not been adopted by the local board. The plan is designed to guide the future actions of the village. It limits density in areas adjacent to known hazardous areas and prevents any substantial changes to drainage areas for development and encourages preservation of open space in hazard-prone areas.

### **Zoning Ordinance and Subdivision Regulations (2009)**

The local zoning ordinance was developed alongside the Village of Duncan Comprehensive Plan. The village does not have or maintain specific floodplain ordinances; however building permits require description of floodplain status. These documents are reviewed and amended as needed.

### **Platte County Local Emergency Operations Plan (2021)**

The Village of Duncan is an annex in the Platte 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.

### **Middle Northeast Community Wildfire Protection Plan (2019)**

The Nebraska Forest Service updated the Middle Northeast Community Wildfire Protection Plan (CWPP), which includes Platte County in October 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.

The Middle Northeast CWPP noted the Duncan Lakes area is an area of concern due to a lack of adequate access for leaving, entering, and equipment.

## **Future Development Trends**

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Several changes have occurred in Duncan over the past five years. Two dilapidated homes were demolished and one other was burned by the local fire department. A business in town closed; however, a new business has replaced that location. A new housing subdivision called Lloyd's is currently under development and is anticipated to be completed in the next five years. This subdivision will include an additional 10 lots north of the village. No new developments are permitted in hazardous areas such as along the rail line tracks. Union Pacific Rail owns approximately 200 feet of easement on either side of the rail line through the village. No new commercial developments are anticipated in the next five years.

# Community Lifelines

## Transportation

Duncan's major transportation corridors include Highway 30, which runs east-west along the southern portion of Duncan. Highway 30 accommodates 3,865 vehicles per day, 835 of which are heavy commercial vehicles. Union Pacific has a rail line along the southern side of the city. The local planning team noted heightened transportation risks at the intersection of the highway and rail line. While there is enough space between the tracks and intersection for a semi-truck, several accidents have occurred due to vehicles hauling trailers misjudging space. This information is important to hazard mitigation plans insofar as it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

## Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are two chemical storage sites throughout Duncan which house hazardous materials. In the case of a chemical spill event, the local fire department would be first to respond. No major events have occurred in the village which required outside resources. The nearest HAZMAT team is located in Columbus.

**Table DUN.4: Chemical Storage Fixed Sites**

FACILITY NAME	ADDRESS	LOCATED IN FLOODPLAIN?
CENTRAL VALLEY AG	28115 158th St	
FRONTIER COOPERATIVE	912 Highway 30	

Source: Nebraska Department of Environment and Energy<sup>20</sup>

## Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the previous 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 DUN.5: Duncan Critical Facilities**

CF #	LIFELINE	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	Safety and Security	Fire Hall/Equipment Storage/Alert Siren	Y	N	N
2	Safety and Security	Village Office & Equipment Shed	Y	N	N
3	Food, Water, and Shelter	Water Tower and Wells	N	N	N
4	Food, Water, and Shelter	Water Treatment Plant	N	Y - portable	N

<sup>20</sup> Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed August 2020.

SECTION SEVEN: VILLAGE OF DUNCAN COMMUNITY PROFILE

CF #	LIFELINE	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
5	Food, Water, and Shelter	Sewer Lagoons and Lift Station	N	N	N
6	Food, Water, and Shelter	Lift Station			N
7	Food, Water, and Shelter	Pulaski Hall/Community Hall	Y	N	N
8	Food, Water, and Shelter	St Stanislaus Rectory/Church Hall	Y	N	N

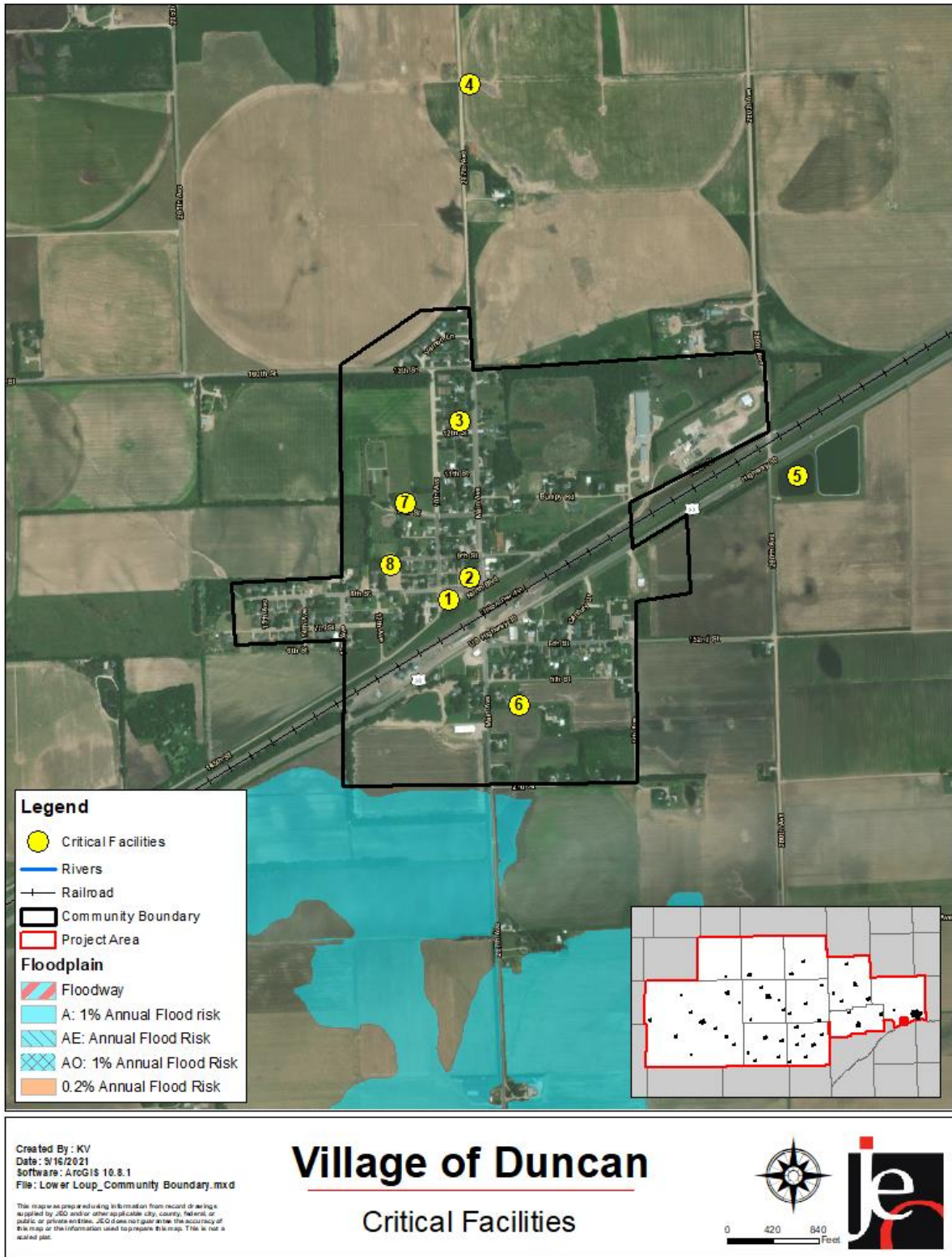
Although not listed in the table above, critical infrastructure also include power substations, cell towers, and alert sirens in the community. These assets are typically owned and maintained by other agencies and are not the responsibility of the jurisdiction.

**Health and Medical Facilities**

No medical and health facilities are located within the village.



Figure DUN.3: Duncan Critical Facilities



# Parcel Improvements and Valuation

GIS parcel data as of December 2020 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table DUN.7: Duncan Parcel Valuation**

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENT OF IMPROVEMENTS IN FLOODPLAIN
234	170	21,941,040	0	0	0.00%

Source: County Assessor, GIS Workshop

**Table DUN.8: Duncan Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
FIS	31141CV000A	4/19/2010	-

Source: FEMA Flood Map Service Center

# Hazard Prioritization

For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*. A full list of historical hazard occurrences can be found in the Platte County jurisdictional profile. 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.

## Hazardous Materials

Hazardous material transport is a primary concern for the village as both Highway 30 and the Union Pacific Rail Line commonly transport hazardous materials through the village. Two main UP lines bisect through the village. Bypass tracks are also located approximately every ten miles along the track contributing to overall traffic. During the March 2019 flood event sections of the UP track line were washed out and the railroad was forced to do repair work. However, due to these repairs other road improvements supplies in the village were extremely limited. During the 2015 Ribfest festival in Duncan a train derailment occurred west of town. A burning train car was left on a small wooden bridge and was destroyed causing \$81,000 in damages. Carried materials in the train were not disclosed and concerns were present due to unknown substances leaking into Prairie Creek. Additionally, a pipeline is located a few miles west of town. While no incidents have been reported, potential pipeline breaks could cause closures on the highway and railroad tracks.

## Severe Thunderstorms

Severe thunderstorms are common in the planning area and for the Village of Duncan. Impacts from severe thunderstorms include hail, high winds, heavy rain, and lightning. The NCEI identified 15 severe thunderstorm impacts specifically in the Village of Duncan; however no damages or injuries were reported. Past storm events in the village have damaged roofs and siding on homes. The water tower has a lightning rod. A portable generator is stored at the water treatment plant



which can be hooked up to village wells with a tractor. Concerns exist for extended periods of power loss as the village must blend water wells to treat for nitrates. Loup Public Power district serves the village while Cornhusker Public Power services the lift stations, treatment plant, and areas outside the village. The village also noted poor stormwater drainage leads to localized ponding throughout the village due to the overall flat terrain – for example a 3”-4” rain takes more than 24-hours to drain. Culverts and drainage ways throughout the village are cleared out annually and have experienced severe blockages in the past.

### Severe Winter Storms

Platte County frequently experiences severe winter weather, with heavy snowfall, extreme cold, and ice accumulations. Several severe winter storms have impacted the Village of Duncan in the past. Thankfully no damages have been reported due to these events. Main concerns from severe winter storms are snow removal, property damage, and public safety. The village is responsible for clearing snow in village limits and has a truck with a blade and a v-plow. Many residents commute to Columbus for work and are at risk during severe winter storms which may cause white-out or icy conditions on the highway. Power loss is another hazard of concern. All powerlines in town are above ground. New construction does require buried lines.

### Flooding

Flooding was not identified as a hazard of top concern but there are floodplain areas to the south to the village. Fairmont participates in the NFIP and has one policy in force for \$43,000 in coverage as of August 2021.

## Mitigation Strategy

### New Mitigation Actions – 2022 Plan

OBJECTIVE	BACKUP GENERATORS AND EMERGENCY GENERATORS
DESCRIPTION	<ol style="list-style-type: none"> <li>1. Identify and evaluate current backup and emergency generators</li> <li>2. Obtain additional generators based on identification and evaluation</li> <li>3. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters</li> </ol>
HAZARD(S) ADDRESSED	All hazards
ESTIMATED COST	\$45,000
POTENTIAL FUNDING	Water Fund, HMA
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Water Operator
STATUS	This is a new mitigation action. A new generator is needed at the wellhouse.

OBJECTIVE	WATER SYSTEM IMPROVEMENTS
DESCRIPTION	1. Evaluate and determine needed improvements to local water system infrastructure to reduce dead ends, improve redundancy, and clear out blockages.
HAZARD(S) ADDRESSED	All hazards
ESTIMATED COST	\$800,000
POTENTIAL FUNDING	Water Fund, State Revolving Fund, USDA loan
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Water Operator
STATUS	This is a new mitigation action.

OBJECTIVE	WATER TOWER IMPROVEMENTS
DESCRIPTION	1. Improve or replace existing water tower to increase capacity and service life to local residents
HAZARD(S) ADDRESSED	All hazards
ESTIMATED COST	\$600,000 - \$800,000
POTENTIAL FUNDING	Water Fund, NDEE
TIMELINE	5+ years
PRIORITY	Low
LEAD AGENCY	Water Operator
STATUS	This is a new mitigation action. Anticipated timeline around 2030-2031 once water treatment plant improvement loan is paid off.

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (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 Village Board, Village Clerk, and the Planning Commission. The plan will be reviewed no less than annually and will include the public in the review and revision process by sharing information via social media, the local website, and on community bulletin boards. The village also has an opt-in text alert system for local notices which can be used to share information.

# **COMMUNITY PROFILE**

## **CITY OF COLUMBUS**

### **Lower Loup Natural Resources District Hazard Mitigation Plan 2022**

## Local Planning Team

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**Table COL.1: City of Columbus Local Planning Team**

<b>NAME</b>	<b>TITLE</b>	<b>JURISDICTION</b>
<b>RICHARD J. BOGUS, P.E.</b>	City Engineer	City of Columbus
<b>CHUCK SLIVA</b>	Public Works Director	City of Columbus
<b>RENEE WHITING</b>	Engineering Admin Specialist	City of Columbus

## Location and Geography

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The City of Columbus is located in southeastern Platte County and covers an area of 10.08 square miles. The Loup River runs along the south side of the city and combines with the Platte River southeast of the corporate limits. Most of Columbus lies in the plains topographic region, and is surrounded by agricultural fields.

Figure COL.1: City of Columbus Jurisdictional Boundary

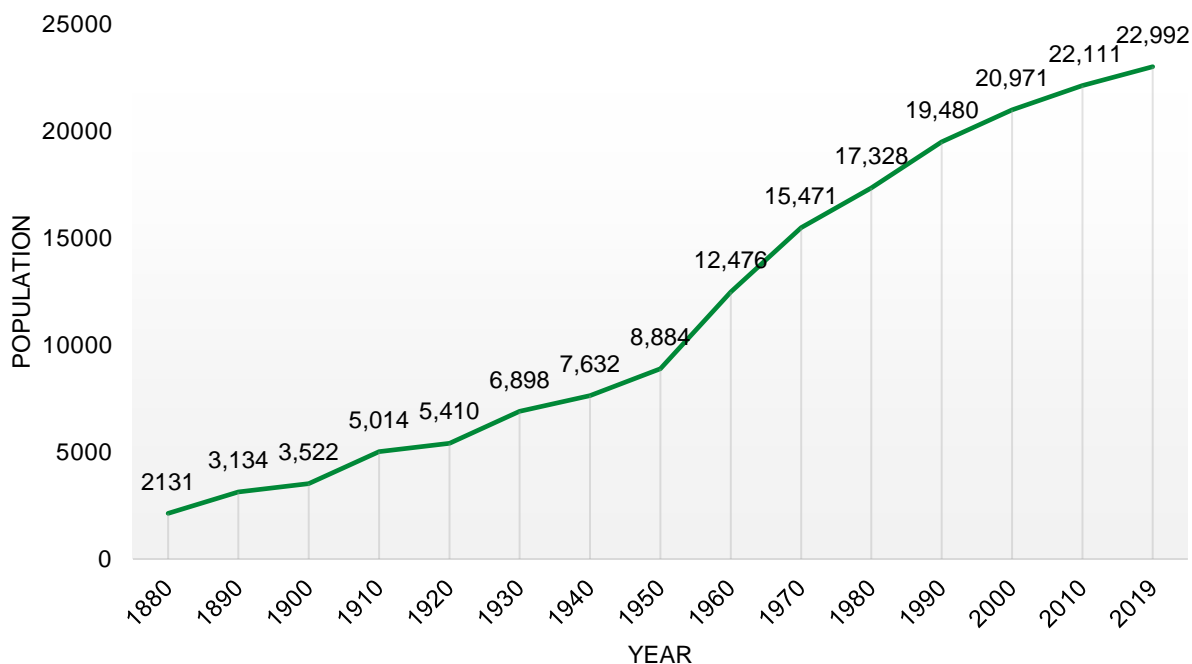




## Demographics

The following figure displays the historical population trend from 1880 to 2019 (estimated). This figure indicates that the population of Columbus has been increasing since 1930. 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. The city's population accounted for 69% of Platte County's Population in 2019.

**Figure COL.2: Columbus Population 1880-2019**



Source: U.S. Census Bureau<sup>21</sup>

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

- **Younger.** The median age of Columbus was 36.5 years old in 2019, compared with the County average of 38.4 years. Columbus's population has grown younger since 2010, when the median age was 37.2 years old. Columbus had a similar proportion of people under 20 years old (28.3%) than the County (28.7%).<sup>22</sup>
- **Similar ethnic diversity.** In 2010, 0.2% of Columbus's population was Black or African American, 0.7% was American Indian, 0.5% was Asian, 2.1% was some other race, and 1.9% was two or more races. By 2019, about 0.5% of Columbus's population was Black or African American, 0.6% was American Indian, 0.6% was Asian, 3.1% was some other race, and 1.2% was two or more races. During that time, Platte County had 0.1% to 0.5% Black or African American, 0.5% to 0.4% American Indian, 0.3% to 0.8% Asian, 1.5% to

<sup>21</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]

<sup>22</sup> United States Census Bureau. "2019 American Fact Finder: S0101: Age and Sex." [database file]

2.3% some other race, and 2.0% to 1.1% two or more races from 2010 to 2019 respectively.<sup>23</sup>

- **More likely to be at the federal poverty line.** The poverty rate of all persons in Columbus (6.3%) was higher than the County (6.1%) in 2019.<sup>24</sup>

## Employment and Economics

The community's economic base is a mixture of industries. In comparison to Platte County, Columbus's economy had:

- **Similar mix of industries.** Employment sectors accounting for 10% or more of employment in Columbus and Platte County both included Manufacturing, Retail, and Education.<sup>25</sup>
- **Lower household income.** Columbus's median household income in 2019 (\$60,110) was about \$2,000 lower than the County (\$62,305).<sup>26</sup>
- **Fewer long-distance commuters.** About 71.4% percent of workers in Columbus commuted for fewer than 15 minutes, compared with about 63.8% of workers in Platte County. About 5.6% of workers in Columbus commute 30 minutes or more to work, compared to about 9.2% of the County workers.<sup>27</sup>

### Major Employers

Major employers in the City of Columbus include: BD Medical; Behlen Manufacturing; CAMACO; Cargill; Columbus City Schools; Columbus Community Hospital; Vishay Dale Electronics; ADM Corn Processing; Columbus Hydraulics. The local planning team noted that approximately 34% of employees in the city travel from outside of Platte County.

## Housing

In comparison to the Platte County, Columbus's housing stock was:<sup>28</sup>

- **More owner occupied.** About 67.1% of occupied housing units in Columbus are owner occupied compared with 72.5% of occupied housing in Platte County in 2019.
- **Larger share of aged housing stock.** Columbus has more houses built prior to 1970 than the county (50.4% compared to 48.9%).
- **More multi-family homes.** The predominant housing type in the City is single family detached and Columbus contains more multifamily housing with five or more units per structure than the County (11.5% compared to 2.0%). About 73.5% of housing in Columbus was single-family detached, compared with 77.9% of the County's housing. Columbus has a smaller share of mobile and manufactured housing (1.9%) compared to the County (4.4%). There are approximately 266 mobile homes in the community

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,

23 United States Census Bureau. "2019 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]

24 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

25 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

26 United States Census Bureau. "2019 American Fact Finder: DP03: Selected Economic Characteristics." [database file]

27 United States Census Bureau. "2019 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]

28 United States Census Bureau. "2019 American Fact Finder: DP04: Selected Housing Characteristics." [database file]

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.

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Columbus has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City has a seven-member council and the following offices: city clerk/finance director, city administrator, public works department, community development department, fire department, engineering department, police department, public property director. In addition to these positions, the following departments may assist the city with emergency response and mitigation activities: Platte County Emergency Management; Platte County Roads Department; Sheriffs Department; Nebraska Department of Transportation; and Nebraska State Patrol.

## Capabilities

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

**Table COL.2: Capability Assessment**

		<b>SURVEY COMPONENTS</b>	<b>YES/NO</b>
<b>PLANNING &amp; REGULATORY CAPABILITY</b>		Comprehensive Plan	Yes
		Capital Improvements Plan	Yes
		Economic Development Plan	Yes
		Local Emergency Operational Plan	County
		Floodplain Ordinance	Yes
		Zoning Ordinance	Yes
		Subdivision Regulation/Ordinance	Yes
		Building Codes	Yes
		Chief Building Official	Yes
		Floodplain Management Plan	Yes
		Storm Water Management Plan	Yes
		National Flood Insurance Program	Yes
		Community Rating System	No
	Other (if any)		
<b>ADMINISTRATIVE &amp; TECHNICAL CAPABILITY</b>		Planning Commission	Yes
		Floodplain Administration	Yes
		GIS Capabilities	Yes
		Civil Engineering	Yes
		Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
		Grant Manager	No
		Mutual Aid Agreement	Yes
		Other (if any)	



SURVEY COMPONENTS		YES/NO
FISCAL CAPABILITY	1 & 6 Year Plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
EDUCATION AND OUTREACH	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

Table COL.3: Overall Capability

OVERALL CAPABILITY	2017 PLAN	2022 PLAN LIMITED/MODERATE/HIGH
FINANCIAL RESOURCES NEEDED TO IMPLEMENT MITIGATION PROJECTS	High	High
STAFF/EXPERTISE TO IMPLEMENT PROJECTS	High	High
COMMUNITY SUPPORT TO IMPLEMENT PROJECTS	High	High
TIME TO DEVOTE TO HAZARD MITIGATION	High	High

## Plan Integration

Communities have 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. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

## Comprehensive Plan

The City of Columbus Envision Columbus 2040 Comprehensive Plan was last updated in 2018. This plan embodies Columbus's vision for its' future and will guide future growth and development within the City of Columbus. Through a background study and discussions with City officials, staff, residents, and relevant stakeholders this plan is able to assess:

- Existing land use and development patterns, compatibility and transition issues, and associated economic and real estate market factors.
- Existing housing market conditions and housing stock status in terms of availability, variety and affordability relative to the housing needs of current and prospective residents.
- Existing neighborhood conditions relative to community desires and expectations for quality living environments.
- Existing water, wastewater and storm drainage systems (general condition and capacity, any significant service issues or deficiencies, anticipated needs, etc.) and specific improvements already planned and/or programmed.
- The area's physical characteristics and context, including locations of valued natural, historical and cultural assets targeted for preservation, and potential opportunities for and constraints to future development and redevelopment.
- Existing parks, recreation and trails system and specific improvements already planned and/or programmed.
- Existing development policies and regulations, annexation history and status, and other factors influencing community character and form and the area's development and redevelopment potential.

The Comprehensive Plan utilizes data and information that came from the background study to create a plan that focuses around seven key areas in need of improvement and attention to ensure Columbus meets the vision for its' future. The plan specifically encourages the use of cluster development and encourages safe development in floodplain areas of the community. The plan does not address other hazards of concern such as tornadoes, high winds, or wildfire.

## Building Codes (2018)

The City of Columbus has adopted the 2018 International Building Codes including the Residential Code, Uniform Plumbing Code, and International Fire Code. The code integrates hazard mitigation in the following ways: requires elevation of structures in the floodplain, requires mechanical systems to be elevated for structures in the floodplain, requires onsite storm water detention for commercial structures, encourages the use of permeable surfaces, and requires a safe room in multiple dwelling units.

## Ordinances and Regulations

The City of Columbus does not have a department dedicated solely to Planning and Zoning. These duties are shared by the Engineering and the Community Development Departments. The common goal of the two departments is to guide the physical development of the community to meet present and future needs of its citizens in a way that promotes good civic design, convenience, health, safety, efficiency, and provides for a well-planned community. The Unified Land Development Ordinance is designed to: Serve the public health, safety, and general welfare of the city and its jurisdiction; Classify property in a manner that reflects its suitability for specific uses; Provide for sound, attractive development within the city and its jurisdiction; Encourage compatibility of adjacent land uses; Protect environmentally sensitive areas; Further the

objectives of the Comprehensive Development Plan of the City of Columbus; and Further the objectives of the Long Range Transportation Plan of the City of Columbus.

The zoning ordinance includes specific floodplain district and floodway overlay districts and agricultural overlay districts.

### **Platte County Local Emergency Operations Plan (2021)**

The City of Columbus is an annex in the Platte 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.

### **Middle Northeast Community Wildfire Protection Plan (2019)**

The Nebraska Forest Service updated the Middle Northeast Community Wildfire Protection Plan (CWPP), which includes Platte County in October 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.

### **Other Plans**

In 2017, Columbus will begin the development of a Storm Water Master Plan and Management Program. This project will evaluate the urban drainage system, evaluate the Lost Creek floodplain, develop a post construction storm water management program, and identify storm water capital improvement projects.

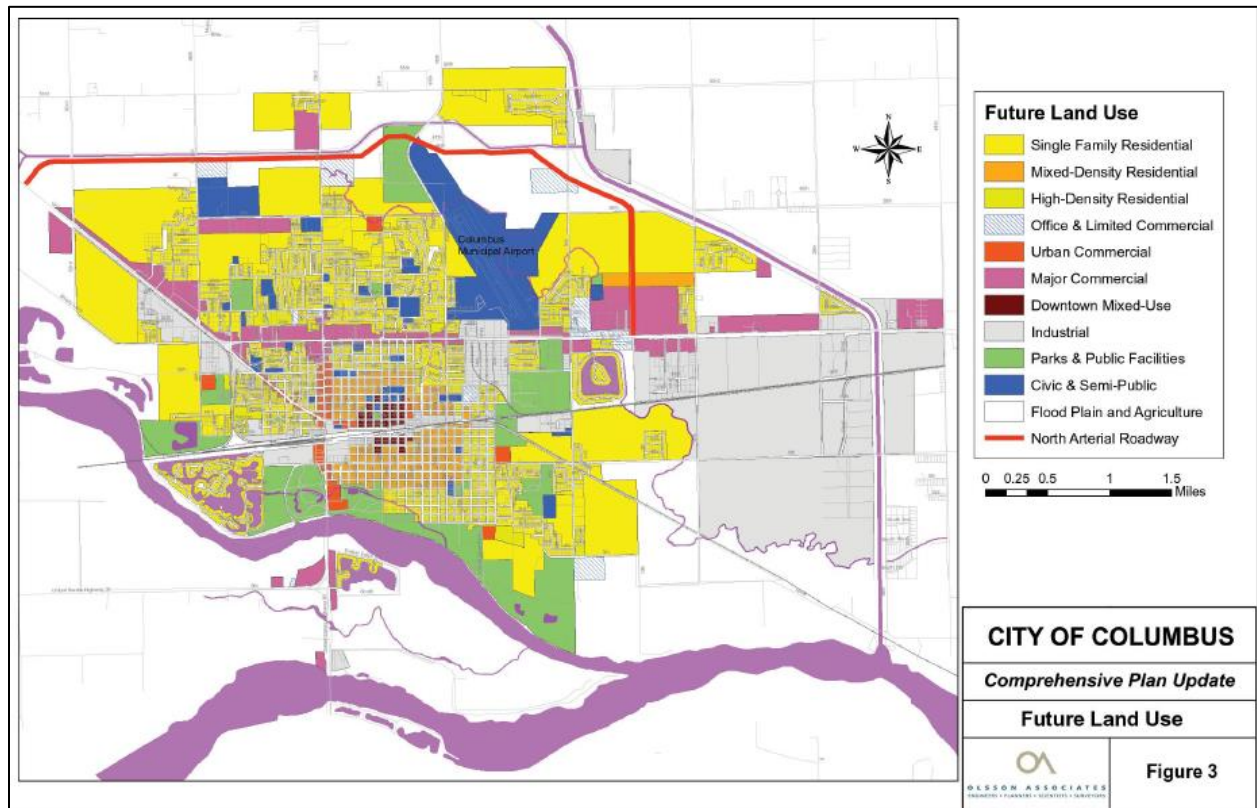
## **Future Development Trends**

Columbus has experienced steady growth over the past century. This population trend is likely going to continue into the near future. Columbus voters passed a \$49 Million Bond to fund a new High School located near the Lost Creek Parkway and 33<sup>rd</sup> Ave. Opening date was March of 2017. The current High School at 2200 26<sup>th</sup> Street was converted to the Columbus Public Schools' Middle School. Cargill of Columbus recently remodeled and increased employee numbers for their updated facility.

According to the current Columbus Comprehensive Plan, growth centers are identified as the northwest, north central, northeast, and southeast portions of town. In the past five years, numerous developments have taken place. New construction has included a fire station, police station, and wastewater treatment facility. Demolitions have included the old fire station, old city library, senior center, and an airport A-frame structure. New housing subdivisions have been built throughout and around the city which have added more than 400 lots and 324 apartments. Other new constructions include a Hampton Inn, Columbus High School, and three viaducts (3<sup>rd</sup> Ave, 12<sup>th</sup> Ave, and 18<sup>th</sup> Ave). Any of these structures built within the floodplain were required to meet

all local and state floodplain development requirements including fill, elevation, or floodproofing needs.

In the next five years the city anticipates growth and development to continue throughout the city. A new Columbus Community Building is anticipated to be completed in the next five years and several other residential and commercial subdivisions are in the works.



## Community Lifelines

### Transportation

Columbus’ major transportation corridors include Highway 30 with 4,715 vehicles per day, and Highway 81 with 10,005 vehicles per day. Rail lines from Union Pacific, and Nebraska Central Railroad Company converge in the center of Columbus. Chemicals are regularly transported along these routes. This information is important to hazard mitigation plans insofar as it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

### Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are 41 chemical storage sites throughout Columbus which house hazardous materials. In the case of a chemical spill the local fire department’s HAZMAT team would be first to respond. A few small-scale spill events have occurred in Columbus but no injuries or fatalities have occurred as a result of these.

Table COL.4: Chemical Storage Fixed Sites

<b>FACILITY NAME</b>	<b>ADDRESS</b>	<b>LOCATED IN FLOODPLAIN?</b>
<b>3D DESIGNS INC</b>	1520 25th St	No
<b>ADM ALLIANCE NUTRITION INC</b>	2174 E 59th Ave	No
<b>ADM CORN PROCESSING</b>	3000 E 8th St	No
<b>BD MEDICAL SYSTEMS</b>	1852 10th Ave	No
<b>BD PHARMACEUTICAL SYSTEMS</b>	920 E 19th St	No
<b>BEHLEN MFG CO</b>	4025 E 23rd St	No
<b>CAMACO COLUMBUS MANUFACTURING</b>	1851 E 32nd Ave	No
<b>CARGILL VALUE ADDED MEATS</b>	1529 23rd St	No
<b>CENTRAL SAND &amp; GRAVEL CO</b>	2251 48th Ave	No
<b>CENTRAL SAND &amp; GRAVEL CO 71</b>	6621 Shady Lake Rd	No
<b>CENTRAL VALLEY AG</b>	1362 3rd Ave	Yes
<b>CHARTER COMMUNICATIONS NE4445</b>	2453 39th Ave	No
<b>COLUMBUS HYDRAULICS CO LLC</b>	1751 12th Ave	No
<b>COLUMBUS METALS INDUSTRIES</b>	3440 15th St	No
<b>DUO LIFT MANUFACTURING CO INC</b>	2810 38th St	No
<b>FARMERS PRIDE PROPANE</b>	3773 63rd Ave	No
<b>FERRELLGAS</b>	1184 3rd Ave	No
<b>FLEXCON COMPANY INC</b>	2021 E 23rd St	No
<b>FRONTIER COMMUNICATIONS</b>	1366 27th Ave	No
<b>FRONTIER COOPERATIVE</b>	1854 14th Ave	No
<b>FRONTIER COOPERATIVE</b>	24072 310th Ave	Yes
<b>FRONTIER COOPERATIVE</b>	2175 14th Ave	No
<b>GERHOLD CONCRETE CO</b>	4521 Howard Blvd	No
<b>HUBBARD FEEDS INC</b>	4431 23rd St	No
<b>ISLAND SUPPLY WELDING CO</b>	3825 S 9th St	No
<b>KAT'S CAR WASH &amp; GAS</b>	3309 8th St	No
<b>MATHESON TRI-GAS INC</b>	2268 3rd Ave	No
<b>MIBA IND BEARINGS US LLC</b>	3300 E 8th St	No
<b>MID STATE AVIATION II INC</b>	1308 Bill Babka Dr	No
<b>MID-AMERICAN RESEARCH CHEMICAL</b>	2451 16th Ave	No
<b>NDOT COLUMBUS YARD</b>	3303 12th St	No
<b>NPPD COLUMBUS EAST SUBSTATION</b>	3600 E 8th St	Yes
<b>NPPD COLUMBUS GENERAL OFFICE</b>	1414 15th St	No
<b>SAPP BROS COLUMBUS</b>	517 E 23rd St	No
<b>SAPP BROS COLUMBUS BULK PLANT</b>	Jct 13th St & 5th Ave	No

FACILITY NAME	ADDRESS	LOCATED IN FLOODPLAIN?
SUNBELT RENTALS 500	1500 23rd St	No
VALMONT NEWMARK INC	1600 E 29th Ave	No
VIRIDIS CHEMICAL	3309 E 8th St	No
VISHAY DALE ELECTRONICS INC 02	1122 23rd St	No
VISHAY DALE ELECTRONICS INC 04	2086 14th Ave	No
VISHAY DALE ELECTRONICS INC 06	2064 12th Ave	No

Source: Nebraska Department of Environment and Energy<sup>29</sup>

## Critical Facilities

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

The American Red Cross has agreements with Lakeview High School, Scotus Central Catholic Schools, Central Community College, Richland District, Columbus Schools, Centennial Schools, Rainbow Center, St. Anthony Elementary, and numerous churches in Columbus to serve as mass care facilities during disaster events. The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table COL.5: Columbus Critical Facilities**

CF #	COMMUNITY LIFELINE	TYPE	SHELTER (Y/N)	GENERATOR (Y/N)	LOCATED IN FLOODPLAIN (Y/N)
1	Safety and Security	Columbus Fire Dept.	N	Y	N
2	Safety and Security	Columbus Police Dept.	N	Y	N
3	Safety and Security	Columbus City Hall	N	N	N
4	Food, Water, and Shelter	Columbus Water Tower South	N	Y	N
5	Safety and Security	Fire Station	N	Y	N
6	Food, Water, and Shelter	North Water Storage Tank	N	Y	N
7	Food, Water, and Shelter	Well 16	N	Y	N
8	Food, Water, and Shelter	Well 17	N	Y	N
9	Food, Water, and Shelter	Well 18	N	N	N
10	Food, Water, and Shelter	Well 19	N	N	N
11	Energy	Loup Power Canal	N	N	N
12	Food, Water, and Shelter	Lost Creek Elementary School	N	N	N

29 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed August 2020.



SECTION SEVEN: CITY OF COLUMBUS COMMUNITY PROFILE

CF #	COMMUNITY LIFELINE	TYPE	SHELTER (Y/N)	GENERATOR (Y/N)	LOCATED IN FLOODPLAIN (Y/N)
13	Food, Water, and Shelter	North Park Elementary School	N	N	N
14	Food, Water, and Shelter	Immanuel Lutheran School/Preschool	N	N	N
15	Food, Water, and Shelter	Columbus High School	N	N	N
16	Communications	FAA Tower	N	N	N
17	Safety and Security	National Guard Armory	N	N	N
18	Energy	Loup Power House	N	N	N
19	Energy	Loup Power Canal	N	N	N
20	Communications	Communications Tower	N	N	N
21	Communications	Communications Tower	N	N	N
22	Food, Water, and Shelter	West Park Elementary	N	N	N
23	Food, Water, and Shelter	St. Isidore Elementary School	N	N	N
24	Food, Water, and Shelter	Bible Baptist Church	Y	N	N
25	Food, Water, and Shelter	Columbus Christian School	N	N	N
26	Food, Water, and Shelter	Emerson Elementary School	N	N	N
27	Food, Water, and Shelter	Columbus Middle School	N	N	N
28	Food, Water, and Shelter	Scotus Central Catholic High School	N	N	N
29	Communications	Alltel Tower	N	N	N
30	Safety and Security	Platte County Detention Facility	N	N	N
31	Safety and Security	ADM	N	N	N
32	Food, Water, and Shelter	Water Tower	N	Y	N
33	Food, Water, and Shelter	St. Anthony Elementary School	N	N	N
34	Food, Water, and Shelter	Centennial School	N	N	N
35	Food, Water, and Shelter	Columbus Water Well 4	N	Y	N
36	Food, Water, and Shelter	Water Well	N	Y	N
37	Food, Water, and Shelter	Water Well	N	Y	N
38	Food, Water, and Shelter	Water Well 8	N	Y	N
39	Safety and Security	Central Maintenance Facility	N	Y	N
40	Transportation	Columbus Airport	N	N	N
41	Health and Medical	East Central District Health Department	N	Y	N

## SECTION SEVEN: CITY OF COLUMBUS COMMUNITY PROFILE

CF #	COMMUNITY LIFELINE	TYPE	SHELTER (Y/N)	GENERATOR (Y/N)	LOCATED IN FLOODPLAIN (Y/N)
42	Health and Medical	East Central District Health Dept. FEMA Safe Room	Y	Y	N
43	Food, Water, and Shelter	Columbus Solid Waste Transfer Station	N	N	N
44	Communications	E-911 Communications Equipment	N	Y	N
45	Safety and Security	Columbus Levee	N	N	Y
46	Safety and Security	Columbus Levee	N	N	N
47	Communications	Communications Tower	N	N	N
48	Communications	Communications Tower	N	N	N
49	Food, Water, and Shelter	Head Start	N	N	N
50	Food, Water, and Shelter	St Bonaventure Catholic School	N	N	N
51	Energy	Loup Public District	N	N	N
52	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
53	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
54	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
55	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
56	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
57	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
58	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
59	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
60	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
61	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
62	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
63	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
64	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
65	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
66	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
67	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
68	Food, Water, and Shelter	Sanitary Lift Station	N	N	N



SECTION SEVEN: CITY OF COLUMBUS COMMUNITY PROFILE

CF #	COMMUNITY LIFELINE	TYPE	SHELTER (Y/N)	GENERATOR (Y/N)	LOCATED IN FLOODPLAIN (Y/N)
69	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
70	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
71	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
72	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
73	Food, Water, and Shelter	Sanitary Lift Station	N	N	N
74	Food, Water, and Shelter	Water Well 1	N	N	N
75	Food, Water, and Shelter	Water Well	N	N	N
76	Food, Water, and Shelter	Water Well 11	N	Y	N
77	Food, Water, and Shelter	Water Well 12	N	N	N
78	Food, Water, and Shelter	South Reservoir	N	N	N
79	Communications	Behlen Tower	N	N	N
80	Food, Water, and Shelter	Water Well 2	N	N	N
81	Food, Water, and Shelter	Water Booster Station	N	Y	N
82	Food, Water, and Shelter	EPA Water Treatment	N	N	N
83	Food, Water, and Shelter	Water Plant	N	Y	N
84	Food, Water, and Shelter	Extraction Well	N	N	N
85	Food, Water, and Shelter	Extraction Well	N	N	N
86	Food, Water, and Shelter	Extraction Well	N	N	N
87	Food, Water, and Shelter	Extraction Well Control Building	N	N	N
88	Food, Water, and Shelter	Extraction Well	N	N	N
89	Energy	Nebraska Public Power District	N	Y	N
90	Energy	Loup Power	N	N	N
91	Safety and Security	Lost Creek Flood Control Channel	N	N	N
92	Safety and Security	Lost Creek Flood Control Weir/Spillway	N	N	N
93	Safety and Security	Flood Control Levee	N	N	N

Although not listed in the table above, critical infrastructure also include power substations, cell towers, and alert sirens in the community. These assets are typically owned and maintained by other agencies and are not the responsibility of the jurisdiction.

### Health and Medical Facilities

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

**Table COL.6: Columbus Critical Facilities**

<b>TYPE OF FACILITY</b>	<b>ADDRESS</b>	<b>NUMBER OF LICENSED BEDS</b>
<b>HOSPITAL</b>	Columbus Community Hospital	47
<b>ASSISTED LIVING FACILITY</b>	Cottonwood Place	47
<b>ASSISTED LIVING FACILITY</b>	Edgewood Columbus Senior Living	14
<b>ASSISTED LIVING FACILITY</b>	Emerald Nursing & Rehab Columbus	38
<b>ASSISTED LIVING FACILITY</b>	Meridian Gardens Assisted Living	117
<b>ASSISTED LIVING FACILITY</b>	Prairie Village Retirement Center	60
<b>LONG TERM CARE FACILITIES</b>	Brookestone Acres	80
<b>LONG TERM CARE FACILITIES</b>	Columbus Community Hospital	4
<b>LONG TERM CARE FACILITIES</b>	Emerald Nursing & Rehab Columbus	145

Figure COL.3: Columbus Critical Facilities

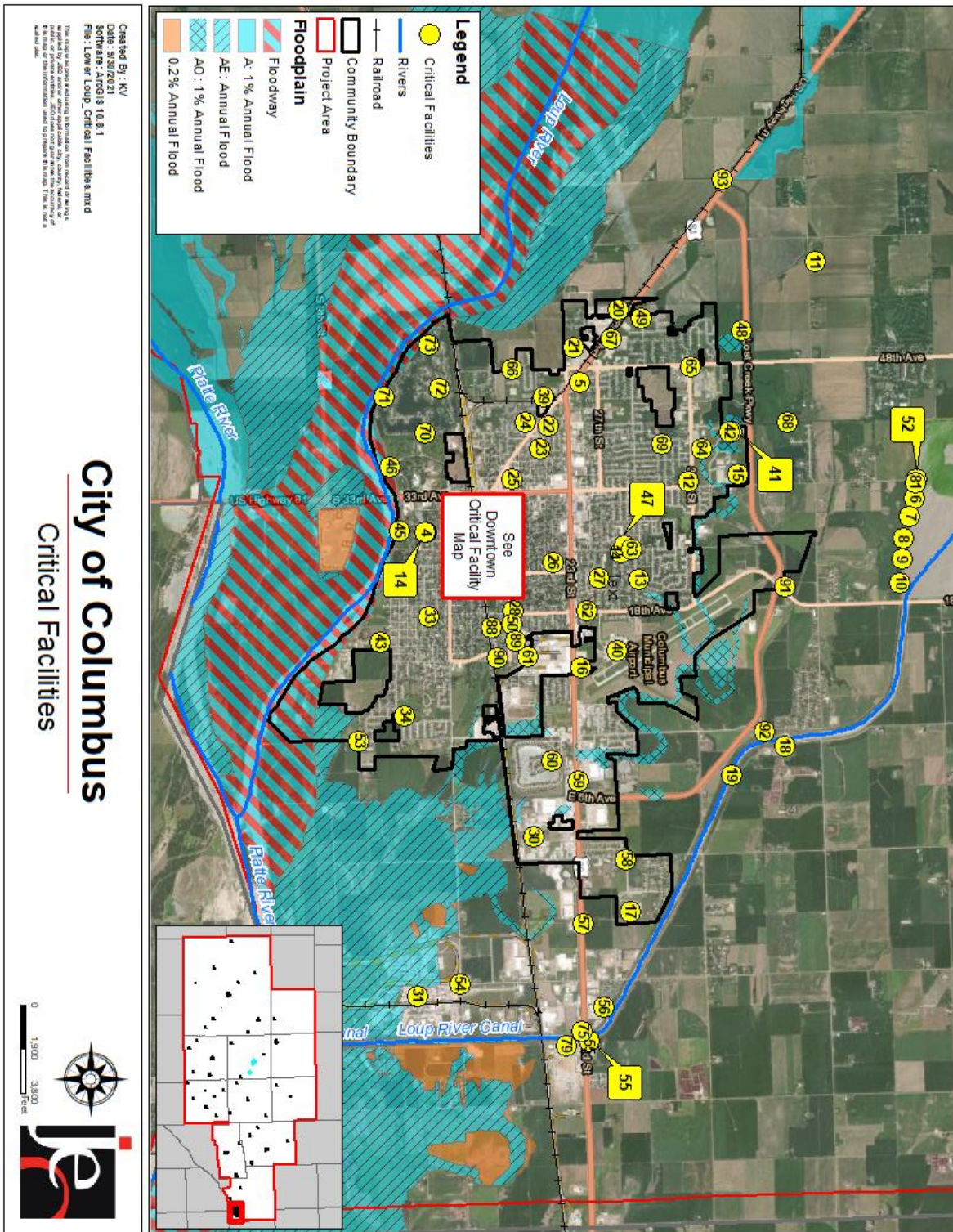
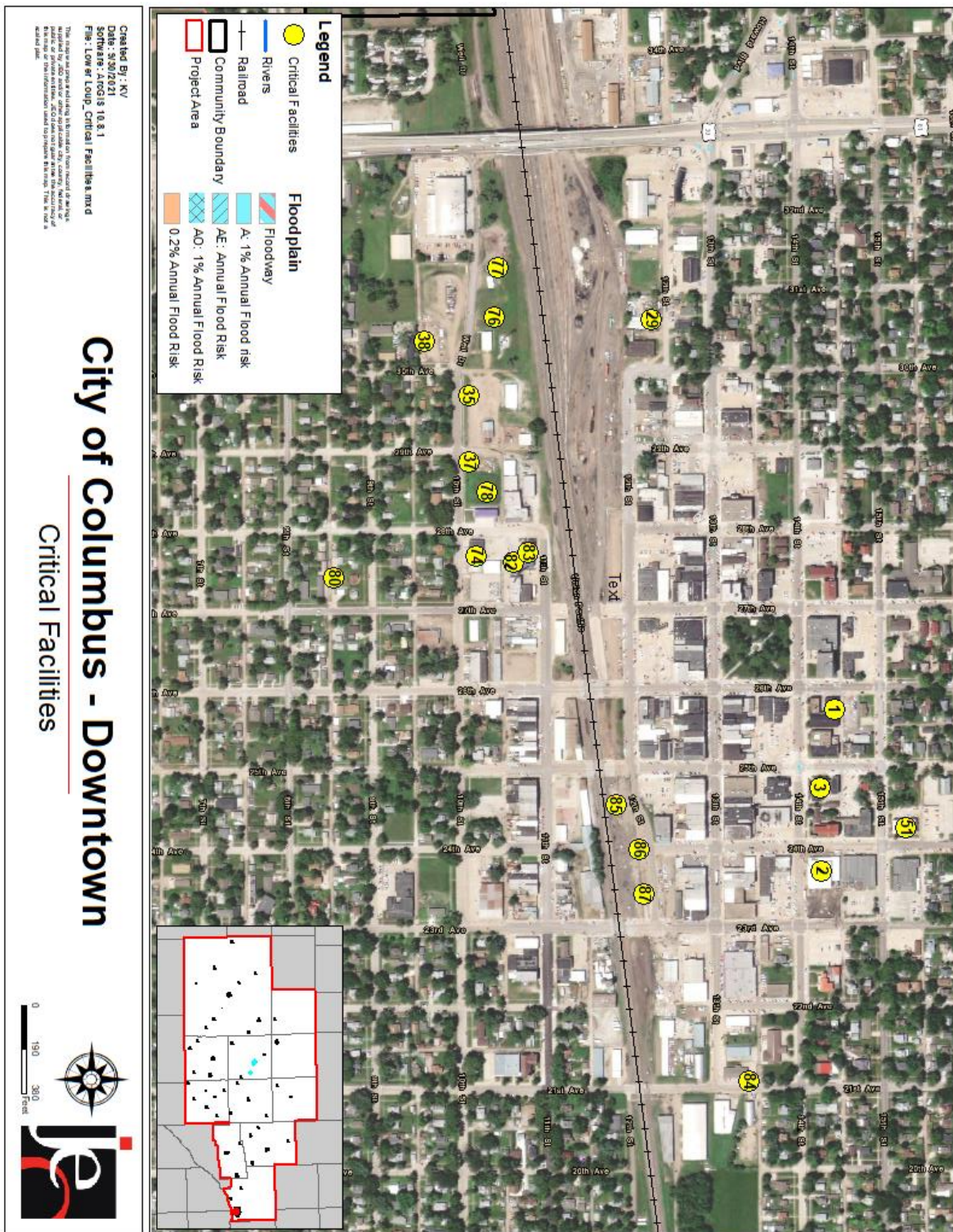




Figure COL.4: Columbus Downtown Critical Facilities



## Parcel Improvements and Valuation

GIS parcel data as of December 2020 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table COL.7: Columbus Parcel Valuation**

NUMBER OF PARCELS	NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	PERCENT OF IMPROVEMENTS IN FLOODPLAIN
9,757	8371	1,510,349,015	67	60,685,845	0.80%

Source: County Assessor, GIS Workshop

**Table COL.8: Columbus Flood Map Products**

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMR	11-07-0714P-315272	2/4/2011	Lost Creek – 26 <sup>th</sup> Avenue revision
LOMA	10-07-2142A-315272	10/14/2010	Structure removed from SFHA
LOMA	13-07-0081A-315272	4/11/2013	Portion of property removed from SFHA
LOMA	13-07-2334A-315272	9/24/2013	Structure removed from SFHA
LOMA	14-07-1901A-315272	7/24/2014	Structure removed from SFHA
LOMA	16-07-1673A-315272	7/26/2016	Structure removed from SFHA
LOMA	18-07-1458A-315272	10/9/2018	Structure (Building 4) removed from SFHA
LOMA	19-07-0145A-315272	12/4/2018	Structure (property) removed from SFHA
LOMA	19-07-0187A-315272	1/8/2019	Portion of property removed from SFHA
LOMA	20-07-0287A-315272	2/12/2020	Structure removed from SFHA
LOMA	20-07-0572A-315272	2/13/2020	Structure removed from SFHA
LOMA	20-07-0924A-315272	6/2/2020	Portion of property removed from SFHA
LOMA	21-07-0002A-315272	1/6/2021	Portion of property removed from SFHA
LOMA	21-07-0149A-315272	12/14/2020	Portion of property removed from SFHA
LOMA	21-07-0506A-315272	2/26/2021	Portion of property removed from SFHA
LOMA	21-07-0522A-315272	3/25/2021	Structure removed from SFHA

TYPE OF PRODUCT	PRODUCT ID	EFFECTIVE DATE	DETAILS
LOMA	21-07-1133A-315272	8/20/2021	Property removed from SFHA

Source: FEMA Flood Map Service Center

## Hazard Prioritization

For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*. A full list of historical hazard occurrences can be found in the Platte County jurisdictional profile. 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.

### Agricultural Plant and Animal Disease

Although it is an urban community, agricultural plant disease could have a profound impact on the City of Columbus. The local economy is largely supported on the agricultural sector. If an outbreak of agricultural plant disease were to occur, major employers such as ADM Corn Processing and Cargill would be negatively impacted. Additionally, the local planning team is concerned about local jobs and revenue that would be lost during large scale disease outbreaks.

### Flooding

Flooding, specifically from ice dams, was identified as a concern for the city. The city lies in the convergence of the Loup River and Platte River. The local planning team indicated that there are ice jams on the Loup River every year, typically resulting in no or minor impacts. In 1993, there was an ice jam that resulted in major flooding within the county and city of Columbus. The flooding destroyed homes and resulted in millions of dollars in damages. Platte County Emergency Management utilizes AlertSense (reverse 911) as a warning system.

Columbus has 146 NFIP policies in-force for a total coverage of \$45,664,700 according to FEMA in 2020. There is one single family residence that is considered a repetitive flood loss property in Columbus. The city has also engaged in a number of flood reduction efforts in the past, which have significantly reduced the flood risk along Lost Creek. The Lost Creek Flood Protection Project improvements were designed to convey flows up to the 500-year storm event, from the approximate 15 square miles of watershed drainage from the west. The Lost Creek Flood Protection Project included:

- Diversion of Lost Creek channel to discharge into the Loup River canal
- Training levee
- Erosion control structures
- Sheet pile rip rap cutoff structures
- Culvert improvements
- Low flow crossings
- Localized collector ditches

The March 2019 flood event caused flooding south of the levee in Columbus and at the Quail Run Golf Course; however, no major damages were experienced in the city itself. The NCEI reported that the intersection of Highway 30 and Highway 81 was covered by water during this event. The



city identified potential solutions for flood risks in the city including additional pumps/floodgates, ice diversion backup areas, and bypass pumping structures. The city has received approval to pursue a Flood Resiliency Plan through FEMA. As of January 2022 the city was awaiting funding obligation for this project.

### Hazardous Materials (Transportation)

Local concerns regarding chemical spills due to transportation focus on the frequency of which chemicals are transported along local routes. The local planning team estimates that Union Pacific has 60-70 trains run through Columbus every day; many of these carrying chemicals. Small spills have occurred in the past. The City of Columbus has a HAZMAT team in town, and ADM has a HAZMAT response team as well. Platte County Emergency Management and private entities have partnered together to improve notification efforts.

### Levee Failure

The City of Columbus recently completed a project to improve their levees to achieve 100-year flood protection. The table and figure below shows the protected leveed areas within the city.

**Table CLB.9: Levees in Columbus**

NAME	SPONSOR	RIVER	LENGTH (MILES)	PROTECTED AREA (ACRES)	RISK RATING	POPULATION PROTECTED	BUILDINGS	PROPERTY VALUEG
COLUMBUS – LOST CREEK RB	City of Columbus	Lost Creek	1.35	474.70	Low Risk (12/9/2016)	48	20	\$2.74M
COLUMBUS – LOUP RIVER LB	City of Columbus	Loup River	5.17	1,718.64	Low Risk (6/1/2018)	3,665	1,599	\$318M

During the March 2019 flood event the levees performed as expected; however, there was significant flooding south of the levee and at the Quail Run Golf Course. No injuries were reported from this event. As the City of Columbus is the owner and sponsor of the levees, the city is responsible for maintenance and management of the structures.

### Severe Thunderstorms

Similar to the rest of Nebraska, Columbus experiences a number of severe thunderstorms every year. Thunderstorms can include impacts from heavy rain, lightning, hail, and strong winds. Recent thunderstorms have caused significant damages. Columbus has reported hail up to 2.75 inches in diameter which caused over \$7,500,000 in property damages in 1999. In July 2005, a thunderstorm blew over a number of cottonwood trees throughout town. The city of Columbus paid \$400,000 to remove the damaged trees. In July 2016, a large thunderstorm caused widespread damages throughout Columbus. The city noted there are a large number of aging or dying trees in the city which are at risk during storms. While many critical facilities have backup generators, the wastewater treatment plant was identified as in need of a generator. Power outages are a concern for the city and only approximately 15% of power lines in the city are buried. The city identified some potential strategies to reduce severe thunderstorm impacts such as establishing a debris management area and improving local equipment resources.

### Severe Winter Storms

Local concerns regarding severe winter storms focus on the potential for power outages and the hindrance of transportation. The city of Columbus has a plan in place for snow removal. Columbus has a hydroelectric plant that could power many of the homes within town in the event of a power outage. The city is also home to a few power companies which would expedite the recovery of electricity. However, concerns exist for power outages from damaged infrastructure as the majority of powerlines in town are above ground. The city noted two major snowfall events: December 2020 produced 14.4” of snow and February 2021 produced 11.5”.

The city is responsible for snow removal in town and noted snow removal resources are currently sufficient for local needs. The city has several dump trucks, tractors, snow blowers, skid loaders, road grades, salt spreaders and other equipment needed to remove and manage snow. The city has established designated snow routes in town which are listed in the table below.

STREETS	AVENUES
Lost Creek Parkway	54 <sup>th</sup> Avenue
41 <sup>st</sup> Street, 54 <sup>th</sup> Avenue to 48 <sup>th</sup> Avenue	53 <sup>rd</sup> Avenue
38 <sup>th</sup> Street	51 <sup>st</sup> Avenue, HWY 81 to 27 <sup>th</sup> Street
34 <sup>th</sup> Street, 39 <sup>th</sup> Avenue to 33 <sup>rd</sup> Avenue	48 <sup>th</sup> Avenue
33 <sup>rd</sup> Street, 51 <sup>st</sup> Avenue to 48 <sup>th</sup> Avenue	41 <sup>st</sup> Avenue, 11 <sup>th</sup> Street to Howard Boulevard
31 <sup>st</sup> Street, 26 <sup>th</sup> Avenue to 18 <sup>th</sup> Avenue	39 <sup>th</sup> Avenue, 27 <sup>th</sup> Street to 38 <sup>th</sup> Street
30 <sup>th</sup> Street, 33 <sup>rd</sup> Avenue to 26 <sup>th</sup> Avenue	33 <sup>rd</sup> Avenue, 2 <sup>nd</sup> Street to 53 <sup>rd</sup> Street
28 <sup>th</sup> Street, 26 <sup>th</sup> Avenue to 18 <sup>th</sup> Avenue	30 <sup>th</sup> Avenue, 8 <sup>th</sup> Street to 10 <sup>th</sup> Street
27 <sup>th</sup> Street, 48 <sup>th</sup> Avenue to 26 <sup>th</sup> Avenue	26 <sup>th</sup> Avenue
27 <sup>th</sup> Street, 7 <sup>th</sup> Avenue to 3 <sup>rd</sup> Avenue	
26 <sup>th</sup> Street, 26 <sup>th</sup> Avenue to Pershing Road	23 <sup>rd</sup> Avenue
23 <sup>rd</sup> Street HWY 81/30	21 <sup>st</sup> Avenue
19 <sup>th</sup> Street, 48 <sup>th</sup> Avenue to 26 <sup>th</sup> Avenue	Pershing Road
17 <sup>th</sup> Street, 33 <sup>rd</sup> Avenue to 10 <sup>th</sup> Avenue	18 <sup>th</sup> Avenue
15 <sup>th</sup> Street, 45 <sup>th</sup> Avenue to 10 <sup>th</sup> Avenue	12 <sup>th</sup> Avenue
11 <sup>th</sup> Street, 21 <sup>st</sup> Avenue to 13 <sup>th</sup> Avenue	10 <sup>th</sup> Avenue
10 <sup>th</sup> Street, 30 <sup>th</sup> Avenue to 12 <sup>th</sup> Avenue	9 <sup>th</sup> Avenue
8 <sup>th</sup> Street, Wagner's to 1 <sup>st</sup> Avenue	8 <sup>th</sup> Avenue, 5 <sup>th</sup> Street to 8 <sup>th</sup> Street
6 <sup>th</sup> Street, 33 <sup>rd</sup> Avenue to 9 <sup>th</sup> Avenue	7 <sup>th</sup> Avenue, 23 <sup>rd</sup> Street to 27 <sup>th</sup> Street
5 <sup>th</sup> Street, 26 <sup>th</sup> Avenue to 24 <sup>th</sup> Avenue	Air-Vista Drive
4 <sup>th</sup> Street, 24 <sup>th</sup> Avenue to 12 <sup>th</sup> Avenue	5 <sup>th</sup> Avenue, 3 <sup>rd</sup> Street to 8 <sup>th</sup> Street
2 <sup>nd</sup> Street, 12 <sup>th</sup> Avenue to 7 <sup>th</sup> Avenue	
1 <sup>st</sup> Street, 21 <sup>st</sup> Avenue to 12 <sup>th</sup> Avenue	
South 5 <sup>th</sup> Street, 7 <sup>th</sup> Avenue to 1 <sup>st</sup> Avenue	

### Tornadoes and High Winds

Top concerns regarding tornadoes and high winds for the city revolve around the safety of citizens, having adequate shelters, and communications systems. In the event of a tornado, Platte County would utilize warning sirens and AlertSense to inform residents of an impending threat. The local planning team noted sirens are remotely activated and cover the entire city. The East Central Health Department was awarded a grant to build a safe room that was completed in the end of 2016. The local planning team identified a few groups within the city that are more vulnerable to tornadic events including: residents of trailer courts, limited income families, and



non-English speaking residents. Past major events have damaged trees and powerlines throughout the city.

## Mitigation Strategy

### Completed Mitigation Actions

OBJECTIVE	EVALUATE/IMPROVE BERM, FLOODWALL AND/OR LEVEE
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Evaluate/Update current or new berm, floodwall and/or levee systems</li> <li>2. Design and construct measures to protect and/or improve berm/floodwall/levee</li> </ol>
<b>Hazard(s) Addressed</b>	Flooding/ Levee Failure
<b>Estimated Cost</b>	\$4 Million
<b>Status</b>	Previous plan noted: "Levee has been improved to provide 100-year flood protection between 2018-2021."

OBJECTIVE	REDUCE STORM WATER DAMAGE
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Conduct stormwater drainage study to evaluate restrictions, capacity, level of protection, alternative improvements, prioritize improvements, etc.</li> <li>2. Evaluate and implement recommendations or comparable measures (open ditch and culvert improvements, underground piping, retention and detention facilities to decrease runoff, etc.)</li> <li>3. Implement improved Storm Water Ordinance</li> </ol>
<b>Hazard(s) Addressed</b>	Flooding
<b>Status</b>	Completed. The City has made updates to the Stormwater Ordinance and Stormwater Management Program to reduce potential damages.

### Continued Mitigation Actions

<b>OBJECTIVE</b>	<b>PUBLIC SAFE ROOMS &amp; POST-DISASTER STORM SHELTERS</b>
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Identify and evaluate existing safe rooms and/or storm shelters</li> <li>2. Improve and/or construct safe rooms and/or storm shelters</li> <li>3. Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, etc.</li> </ol>
<b>Hazard(s) Addressed</b>	Tornadoes, High Winds, Severe Thunderstorms
<b>Estimated Cost</b>	\$150/sf for retrofit; \$300/sf for new construction
<b>Potential Funding</b>	HMGP, PDM, County General Fund, Private Funding
<b>Timeline</b>	5+ years
<b>Priority</b>	High
<b>Lead Agency</b>	Platte County EMA
<b>Status</b>	Completed safe room for the health department in late 2016. Currently identifying proper locations for additional safe rooms and funding opportunities.

<b>OBJECTIVE</b>	<b>BACKUP AND EMERGENCY GENERATORS</b>
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Identify and evaluate current backup and emergency generators</li> <li>2. Obtain additional generators based on identification and evaluation</li> <li>3. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters</li> </ol>
<b>Hazard(s) Addressed</b>	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
<b>Estimated Cost</b>	\$20,000 to \$75,000 + per generator
<b>Potential Funding</b>	HMGP, PDM, County General Fund, Communities' General Fund, Private Funding
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Platte County EMA
<b>Status</b>	Identifying locations in need of generator as well as funding opportunities. Wastewater facility needs a generator.

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<b>OBJECTIVE</b>	<b>IMPROVE WARNING SYSTEMS</b>
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Evaluate current warning systems</li> <li>2. Improve warning systems/develop new warning system</li> <li>3. Obtain/Upgrade warning system equipment and methods</li> <li>4. Conduct evaluation of existing alert sirens for replacement or placement of new sirens</li> <li>5. Identify location of weather warning radios</li> <li>6. Improve weather radio system</li> <li>7. Obtain/Upgrade weather radios</li> </ol>
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Varies by Project
<b>Potential Funding</b>	HMGP, PDM, County General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	High
<b>Lead Agency</b>	Platte County EMA
<b>Status</b>	Installed 10 warning sirens throughout the county. 4 of the sirens are located within Columbus, and 1 is located within Monroe. Emergency Manager is examining locations in need of warning sirens.

<b>OBJECTIVE</b>	<b>IMPROVE EMERGENCY COMMUNICATIONS</b>
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Develop/Improve Emergency Communication Action plan</li> <li>2. Implement Emergency Communication Action Plan</li> <li>3. Establish inner-operable communications</li> <li>4. Obtain/Upgrade Emergency Communication Facilities/Equipment</li> <li>5. Obtain/Upgrade/Distribute Weather Warning Radios</li> </ol>
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$5,000+
<b>Potential Funding</b>	County General Fund
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	LLNRD, Platte County EMA, City Engineer
<b>Status</b>	In the process of developing Emergency Action Plan and Emergency Preparedness Plan as a part of the ongoing levee work.

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OBJECTIVE	STUDY/IMPROVE DRINKING WATER SUPPLY
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Study water supply deficiencies, identify alternative solutions, locate new sources</li> <li>1. Implement cost effective measures to increase/improve supply and/or fire protection</li> </ol>
<b>Hazard(s) Addressed</b>	Drought, Grass/Wildfire
<b>Estimated Cost</b>	\$25,000 for study; \$350,000+ for new well/transmission
<b>Potential Funding</b>	Columbus General Fund, LLNRD
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	LLNRD, Platte County EMA, City Engineer
<b>Status</b>	This project has not yet been started.

OBJECTIVE	REDUCE WATER DEMAND/IMPROVE DROUGHT EDUCATION
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Conduct water use study to evaluate/implement methods to conserve water/reduce consumption</li> <li>2. Evaluate/implement water use restriction ordinance</li> <li>3. Identify/evaluate current/additional potable water sources</li> <li>4. Develop or obtain drought education materials to conduct multi-faceted public education and awareness program</li> </ol>
<b>Hazard(s) Addressed</b>	Drought
<b>Estimated Cost</b>	Study \$5,000+
<b>Potential Funding</b>	Columbus General Fund, LLNRD
<b>Timeline</b>	5+ Years
<b>Priority</b>	Low
<b>Lead Agency</b>	LLNRD, City Engineer, Platte County EMA
<b>Status</b>	This project has not yet been started.

OBJECTIVE	DEVELOP/IMPLEMENT HAZARD/EMERGENCY OPERATIONS & RESPONSE PLAN
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Identify and evaluate current hazards, response plan and procedures</li> <li>2. Develop/Update multi-hazard emergency plan and procedures</li> <li>3. Obtain additional response equipment and material</li> <li>4. Train additional team members/maintain high training level for all team members</li> </ol>
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Unknown
<b>Potential Funding</b>	Columbus General Fund, County General Fund, LLNRD
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Low
<b>Lead Agency</b>	LLNRD, Platte County EMA
<b>Status</b>	This project has not yet been started.

SECTION SEVEN: CITY OF COLUMBUS COMMUNITY PROFILE

OBJECTIVE	DEVELOP/UPDATE FLOODPLAIN INFORMATION
Description	1. Conduct mapping/remapping of floodplain 1. Revise floodplain /insurance maps
Hazard(s) Addressed	Flooding
Estimated Cost	Unknown
Potential Funding	Columbus General Fund, LLNRD
Timeline	2-5 Years
Priority	Medium
Lead Agency	Floodplain Administrator
Status	Updated maps are currently under review by FEMA.

OBJECTIVE	FACILITY FLOOD PROOFING
Description	1. Explore possibility of flood proofing facilities which fall within HAZUS 1% flood inundation areas 1. Conduct flood proofing feasibility study for structures and implement identified measures
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by number and size of structure(s)
Potential Funding	Columbus General Fund, LLNRD
Timeline	2-5 Years
Priority	Low
Lead Agency	LLNRD, City Engineer
Status	This project has not yet been started.

OBJECTIVE	REDUCE TREE DAMAGE & DAMAGE FROM TREES
Description	1. Conduct tree inventory 2. Develop tree maintenance/trimming program 3. Implement tree maintenance/trimming program 4. Remove hazardous limbs and/or trees
Hazard(s) Addressed	Tornadoes, Severe Winter Storms, Severe Thunderstorms, Grass/Wildfire
Estimated Cost	\$0 to \$5,000 to develop program; implementation varies
Potential Funding	Columbus General Fund
Timeline	2-5 Years
Priority	Low
Lead Agency	LLNRD, City Engineer
Status	This project has not yet been started.

OBJECTIVE	IMPROVE STREAM BED/BANK STABILIZATION
<b>Description</b>	<ol style="list-style-type: none"> <li>1. Evaluate current stream bed and bank stabilization needs</li> <li>2. Implement stream bed and bank stabilization improvements including grade control structures, rock rip rap, vegetative cover, etc.</li> </ol>
<b>Hazard(s) Addressed</b>	Flooding
<b>Estimated Cost</b>	\$25,000 to \$500,000+
<b>Potential Funding</b>	Columbus General Fund, FEMA
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Engineer
<b>Status</b>	This project has not yet been started.

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (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 City Administrator, City Engineer, and Public Works Director. The local planning team will review the plan bi-annually or as changes occur and will include the public in the review and revision process by updating the city website and sharing information at city council meetings.