

# Community Appendix

## Table of Contents

City of Adel .....	3
City of Bouton .....	23
City of Dallas Center .....	39
City of Dawson.....	59
City of De Soto.....	73
City of Dexter .....	89
City of Granger.....	107
City of Linden .....	125
City of Minburn.....	139
City of Perry .....	157
City of Redfield.....	181
City of Van Meter .....	197
City of Waukee.....	217
City of Woodward.....	241

This Page Is Intentionally Blank

## Community Profile

# City of Adel

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table ADL.1: Adel Local Planning Team**

Name	Title	Jurisdiction
<b>Kip Overton</b>	Public Works Director	City of Adel
<b>Bob Ockerman</b>	Council Member	City of Adel

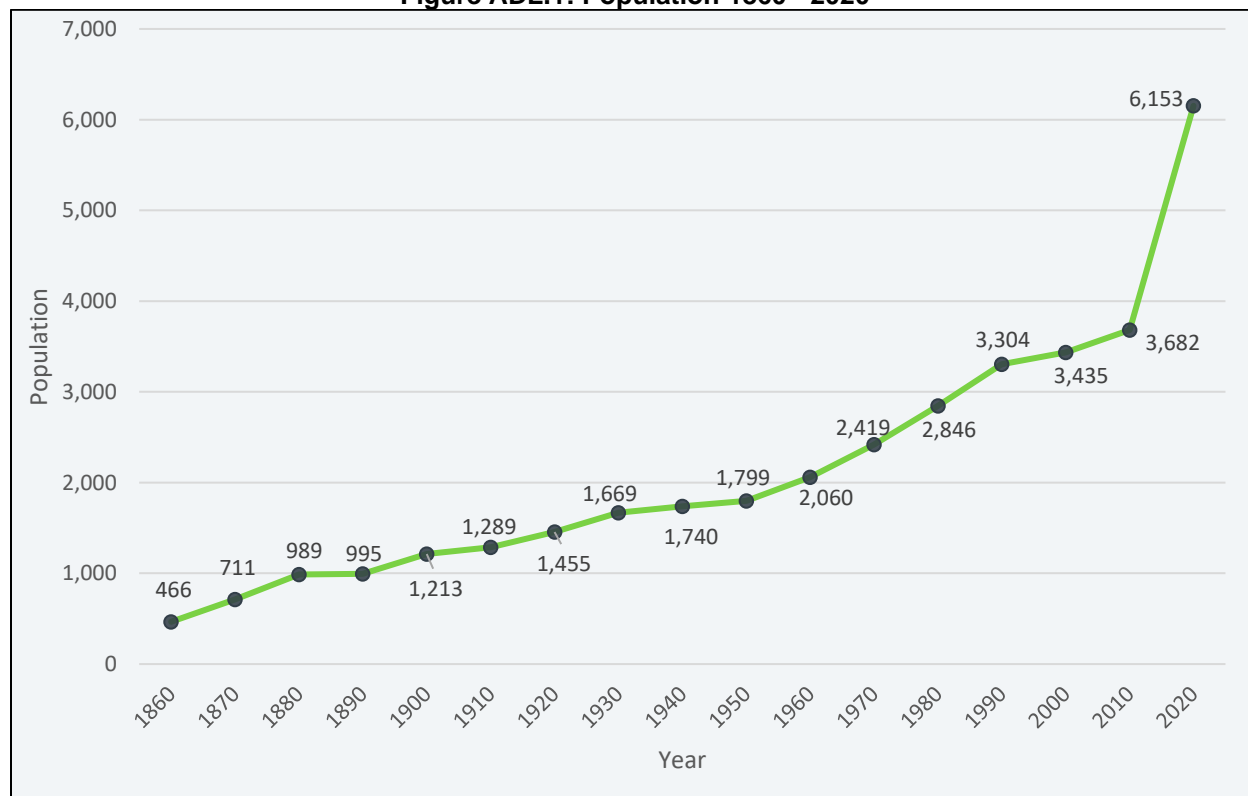
## Location and Geography

The City of Adel is located in south central Dallas County and covers an area of 5.36 square miles. Major waterways in the area include the North Raccoon River, which runs along the north and east sides of the city, and Hickory Creek.

## Demographics

Adel's population in 2020 was 6,153. The following figure displays the historical population trend from 1860 to 2020. This figure indicates that the population of Adel increased gradually from 1860 to 2010 and saw a dramatic increase from 2010 to 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Adel's population accounted for 6.2% of Dallas County's population in 2020.<sup>1</sup>

**Figure ADL.1: Population 1860 - 2020**

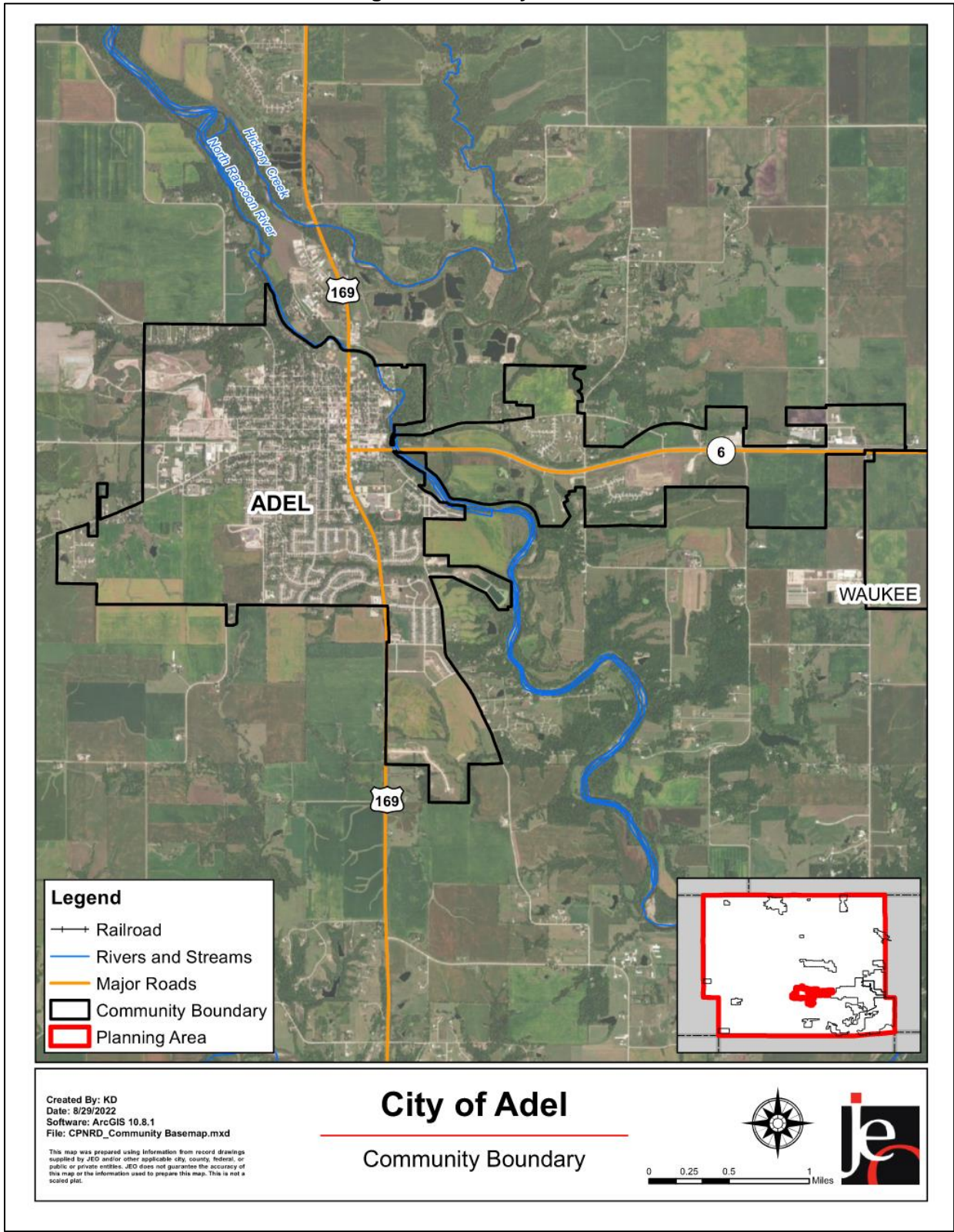


Source: U.S. Census Bureau

<sup>1</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.



Figure ADL.2: City of Adel

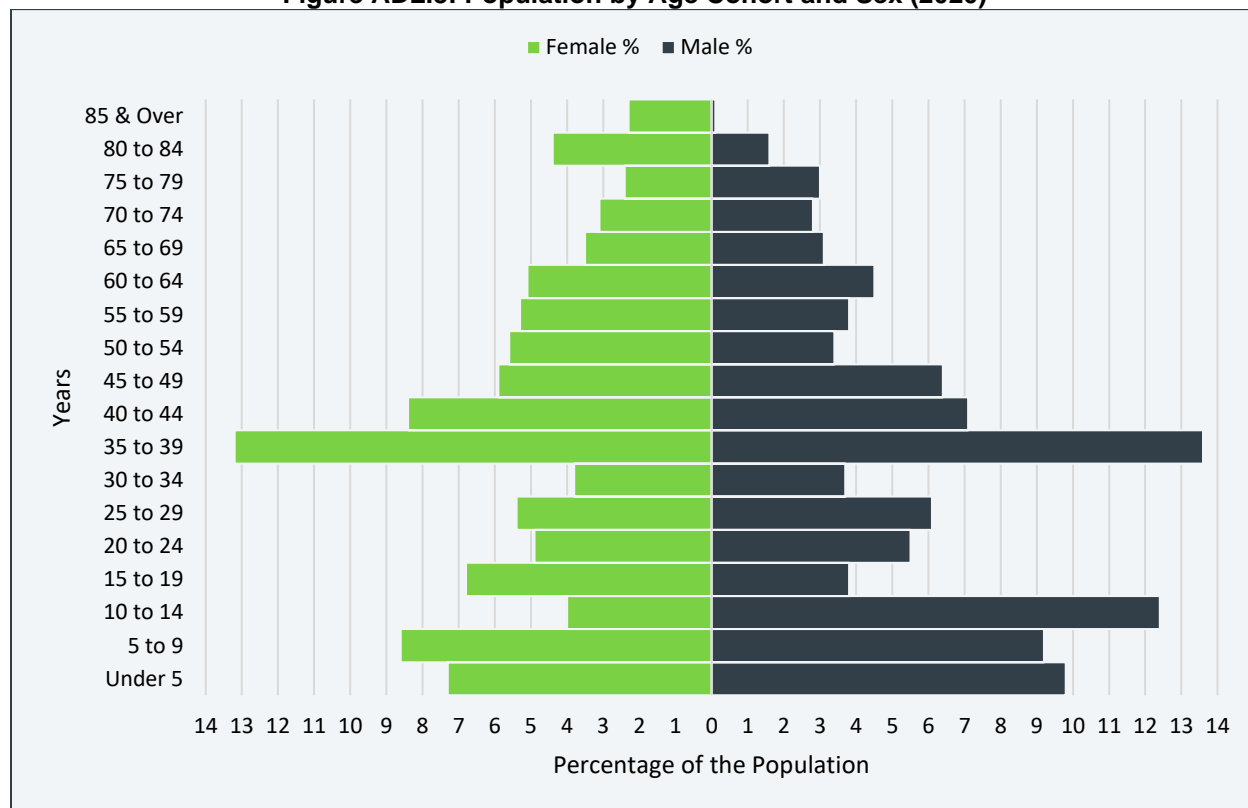


## Section Seven: City of Adel Community Profile

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

- **6.6% is non-white.** Since 2010, Adel became more racially diverse. In 2010, 2.4% of the Adel's population was non-white. By 2020, 6.6% was non-white.<sup>2 3</sup>
- **36.9 median age.** The median age of Adel was 36.9 years old in 2020. The population grew older since 2010, when the median age was 36.<sup>4 5</sup>

**Figure ADL.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>2</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>3</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>4</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>5</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **8.5% of people living below the poverty line.** The poverty rate (8.5%) in Adel was lower than the state's poverty rate (11.1%) in 2020.<sup>6</sup>
- **\$66,005 median household income.** Adel's median household income in 2020 (\$66,005) was about \$4,200 higher than the state (\$61,836).<sup>7</sup>
- **5.3% unemployment rate.** In 2020 Adel had a higher unemployment rate (5.3%) compared to the state (3.9%).<sup>8</sup>
- **35.7% of workers commuted 30 minutes or more to work.** More workers in Adel commuted 30 minutes or more to work than workers commuting less than 15 minutes (35.7% compared to 20.5%).<sup>9</sup>

### Major Employers

Major employers for the city include Dallas County and Adel-DeSoto-Minburn Schools. According to the local planning team, approximately 66% of residents commute to other communities for work, including Des Moines, West Des Moines, and Urbandale.

## Housing

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

- **42% of housing built prior to 1970.** Adel has a smaller share of housing built prior to 1970 than the state (42% compared to 50.4%).<sup>10</sup>
- **4.4% of housing units vacant.** Since 2010, Adel's vacancy rate decreased. In 2010 the vacancy rate was 4.7%. By 2020, 4.4% of housing units were vacant.<sup>11 12</sup>

<sup>6</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>7</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>8</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>9</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>10</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>11</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>12</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

## Section Seven: City of Adel Community Profile

- **1.9% mobile and manufactured housing.** The City of Adel had a smaller share of mobile and manufactured housing (1.9%) compared to the state (3.6%).<sup>13</sup>
- **28.5% renter-occupied.** The rental rate of Adel was 28.5% in 2020. The percentage decreased since 2010, when renter occupied housing was at 42.6%.<sup>14 15</sup>

The city does host two locations with a large number of mobile homes. These sites are River Vista where there are 60 mobile homes and S. 11<sup>th</sup> St where there are 20 mobile homes.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Adel has a mayor, a five-member city council, and the following offices.

- City Manager
- Clerk/Treasurer
- Attorney
- Chief of Police
- Fire Chief
- Wastewater Plant Superintendent
- Water/Sewer Superintendent
- Solid Waste Superintendent
- Street Superintendent
- City Inspector
- Library Board Chairperson
- Parks Superintendent
- GIS/Zoning Administrator
- Public Works Director

### Capability Assessment

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

---

<sup>13</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>14</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>15</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Table ADL.2: Capability Assessment

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



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

**Table ADL.3: Overall Capability**

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

## Plan Integration

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

### Grants and Funding

The City of Adel's funds are sufficient to pursue new capital projects. A large portion of municipal funds have been dedicated to two new projects, a well-water treatment plant and a wastewater treatment plant. The amount of municipal funds has increased in recent years due to population and commercial growth in the city. The municipal budget currently includes several hazard mitigation planning projects. These projects are alter/warning sirens, backup generators, and an updated stormwater system. The city applied for and was awarded the USDA/RD, WTFAP, and DOT Bridge Funding grants in the last five years.

### Building Code (2006)

The building code sets standards for constructed buildings and structures. The city has adopted the 2006 International Building Codes with multiple amendments made. These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use.

### Comprehensive Plan (2020)

The comprehensive plan is designed to guide the future actions and growth of the city. It incorporates some of the goals and objectives included in the HMP. The Comprehensive Plan discusses flood hazards and limits density in areas adjacent to known hazardous areas. It contains goals and objectives aimed at Safe Growth, encourages infill development, "clustering of development" in sensitive areas, and the preservation of open space in hazard prone areas. Currently there is no plan or timeline for the next update of the city's Comprehensive Plan, but the next update will further incorporate the HMP by identifying areas in need of emergency shelters.

### **Floodplain Regulations (2018), Floodplain Ordinance (2022), Zoning Ordinance (2013), and Subdivision Regulations (2015)**

The Zoning Ordinances are continually updated as needed and the corresponding Floodplain Ordinances is currently being updated. The Ordinances prohibit development within the floodplain and identify floodplain areas as parks of open space. They also limit population density in the floodplain and prohibit filling of wetlands. Furthermore, they limit development in the extraterritorial jurisdiction, include well setback requirements, and the ability to implement water restrictions. The ordinances do not require more than one foot of elevation above base flood elevation in the floodplain, discourage development along major transportation route, or consider wildfire and the wildland urban interface. The future ordinance updates will discourage development near chemical storage sites and future subdivision regulations will allow density transfers in hazard areas.

### **Water System Emergency Response Plan (2021)**

Water system emergency response plans ensure the drinking water systems that serve the City of Adel are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Wellhead Protection Plan (2021)**

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

## **Future Development Trends**

In the last five years, many new developments have taken place in Adel. New buildings such as houses, businesses, a new Water Treatment Plant and a new Wastewater Treatment Plan have been built. Two new wells and a transmission main have been installed. The city has also built a new park and developed new streets. A new storage facility was also built, which is located within an inundation area near the North Raccoon River. In the next five years, the southern, eastern, and western portions of Adel are scheduled for new housing developments or new business or industry areas.

## **Community Lifelines**

### **Transportation**

Adel's major transportation corridors include U.S. Highway 169 and U.S. Highway 6, which meet on the east side of the city. The most traveled route is Highway 6 with an average of 8,400 vehicles daily, 564 of which are trucks.<sup>16</sup> The Des Moines International Airport is located about 19 miles southeast of Adel. Local N. 15<sup>th</sup> Street is also a route of concern for the local planning team. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents. The local planning team has indicated that it is unknown if there are any chemicals regularly transported along local routes and that the city has never experienced a chemical spill or other

<sup>16</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

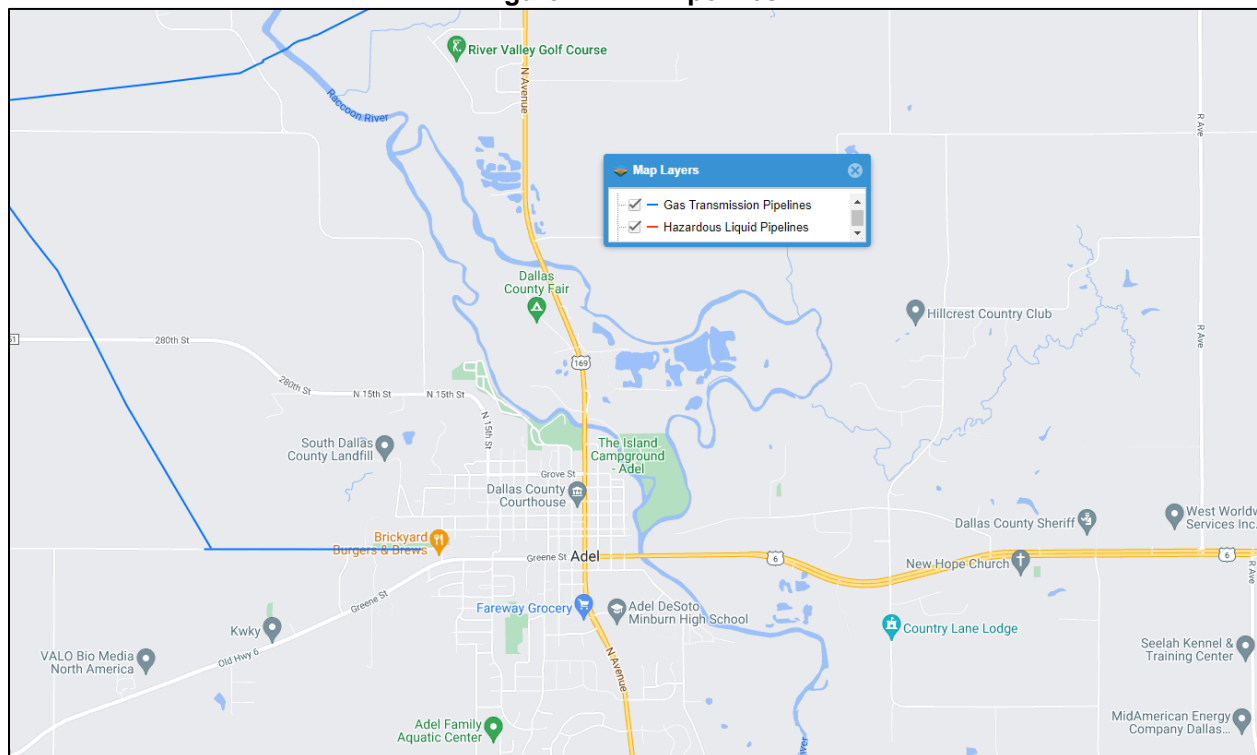
## Section Seven: City of Adel Community Profile

significant transportation event. There are also no critical facilities located along the main transportation routes.

### Hazardous Materials

There are gas transmission pipelines that travel near the city and can be seen as blue lines in the figure below.

**Figure ADL.4: Pipelines**



Source: National Pipeline Mapping System<sup>17</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are 12 chemical storage sites in Adel that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table ADL.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
Adel Maintenance No 2	516 Greene Highway	No
Adel Office & Maintenance Facility No 1	415 River Street	No
CenturyLink - Adel CO	908 Prairie Avenue	No
CIRM-- Adel Plant	301 S 6th Street	No
Dallas County Central Maintenance Facility	23380 250th Street Road	No
Ferrellgas	23601 Pasco Lane	No
Inland Coatings	26259 Highway 6	No

<sup>17</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.



Facility Name	Address	Located in Floodplain?
Landus Cooperative - Panther	23926 H Avenue	No
Manatts Inc--Adel	103 N. 19th Street	0.2% Floodplain
MidAmerican Energy-Dallas County Service Center	29817 R Ave	No
Northern Natural Gas - Redfield Production & Drill	2554 G Avenue	No
United Brick & Tile/ Glen-Gery Brickyard	1831 W Main Street	No

Source: E-Plan<sup>18</sup>

## Health and Medical Facilities

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

**Table ADL.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
Adel Acres	Nursing Facility/ Skilled Nursing Facility	1919 Greene Street	50
Mercy Clinic	Health Clinic	1120 Greene St.	0

Source: Iowa Department of Inspections and Appeals<sup>19</sup>

## Critical Facilities

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

**Table ADL.6: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Kids Corner Two	N	N	N
2	Adel City Garage	N	N	N
3	Adel City Hall	N	N	N
4	Adel Public Works	N	N	N
5	Adel Public Library	N	N	N
6	Adel Mental Health	N	N	N
7	Adel Mercy Medical Clinic	N	Y	N
8	Adel Fire Department	N	Y	N
9	Lighthouse Of Christ Church	N	N	N
10	Rapids Street Baptist Church	N	N	N
11	United Methodist Church Adel	N	N	N

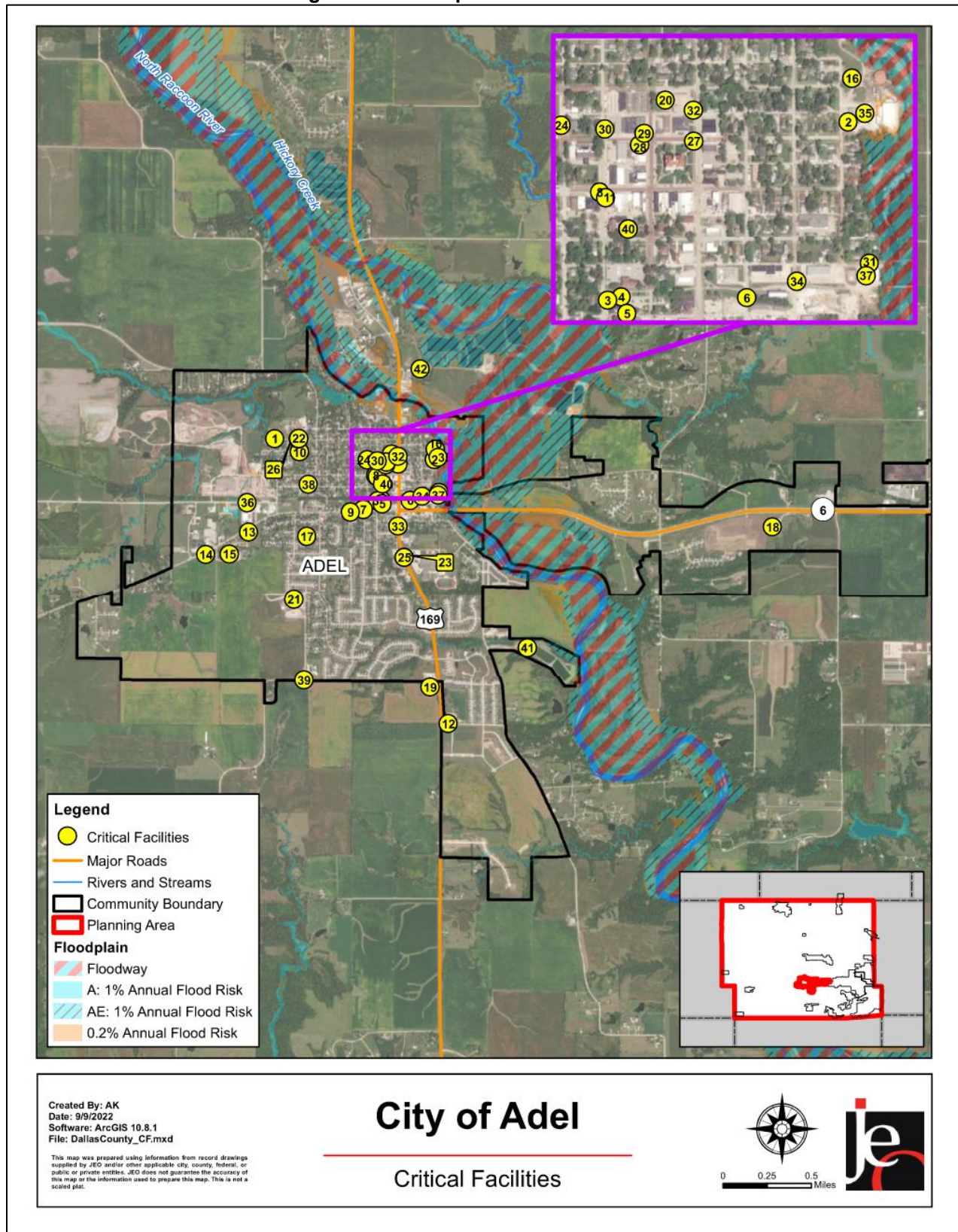
<sup>18</sup> E-Plan – Emergency Response Information System. 2022. "Facility Search." Accessed November 2022. <https://erplan.net/eplan/actions/facilitySearch.htm>.

<sup>19</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022. <https://dia-hfd.iowa.gov/>.

## Section Seven: City of Adel Community Profile

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
12	St John's Catholic Church	Y	N	N
13	Adel Acres Nursing Home	N	Y	N
14	Adel Manor Greene St	N	N	N
15	Adel Manor Van Fossen	N	N	N
16	City Of Adel Sewage Treatment Plant	N	Y	N
17	Faith Lutheran Church	Y	N	N
18	New Hope Church	Y	N	N
19	Grace Lutheran Church	Y	N	N
20	First Christian Church	N	N	N
21	Meadow View Elementary ADM	N	N	N
22	A-D-M Elementary School	Y	N	N
23	A-D-M Middle School	Y	N	N
24	A-D-M School District Administration Building	Y	N	N
25	A-D-M Senior High School	Y	N	N
26	Adel-De Soto-Minburn School District Bus Garage	N	N	N
27	Dallas County Courthouse	N	Y	N
28	County Office Building – Assessor, Planning & Development	N	Y	N
29	County Office Building – Attorney, Central Services	N	Y	N
30	County Office Building – Auditor/Jail	N	Y	N
31	County Office Building - Engineer	N	N	N
32	County Office Building - Sheriff	N	Y	N
33	Dallas County EMS - Adel Station	N	Y	N
34	CSI Concrete	N	N	N
35	City of Adel Water Plant	N	Y	N
36	Glen Gery Brick	N	N	N
37	Dallas County Shop	N	N	N
38	Adel Water Tower 1	N	N	N
39	Adel Water Tower 2	N	N	N
40	CenturyLink - Adel Co	N	Y	N
41	City of Adel STP	N	Y	N
42	Ferrellgas	N	N	N

Figure ADL.5: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table ADL.7: Adel Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
2,211	\$508,718,470	60	\$16,369,770	3%

Source: County Assessor, 2022

**Table ADL.8: Adel Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
2,211	\$508,718,470	81	\$9,198,110	4%

Source: County Assessor, 2022

**Table ADL.9: Adel Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study
LOMA	19-07-1165A-190103	5/10/2019	Portion of property is outside SFHA
LOMA	20-07-0078A-190103	12/4/2019	Structure removed from SFHA
LOMA	21-07-0384A-190103	3/2/2021	Structure removed from SFHA

Source: FEMA Flood Map Service Center<sup>20</sup>

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Flooding

According to the NCEI, there were 20 flood events in Adel from 1996 to 2021. These events resulted in \$9,923,070 in property damage, but no injuries or fatalities. The local planning team indicated that in July 1993, the Raccoon River flooded at 1.3 times the 100-year flood discharge level and damaged all of the land adjacent to the river. Other floods that occurred in 2008, 2010, and 2020 destroyed the road at Island Park, the ball fields at FK Park, and resulted in other property damage. Since then, the city has erected a berm system with HESCO Barriers for flood control. The planning team indicated that they plan to raise the bridge on Highway 169 to avoid future floods closing the road.

<sup>20</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.



Residents from Adel responded to the public survey and reported that past impacts from this hazard include flooding at Kinnick Feller Park and Island Park, closing Highway 169, and damaging housing and roads, especially in the northern area of the city.

Adel has six NFIP policies in-force for \$857,800 as of June 2022. A FEMA Flood Insurance Study for Dallas County, including Adel, was revised in December 2018, and can be viewed on FEMA's Flood Map Service Center: <https://msc.fema.gov/portal/advanceSearch>. According to the IDNR, there are zero repetitive flood loss properties in Adel.

### **Infrastructure Failure – Storm Sewer**

The local planning team identified this as a top hazard due to past occurrences of storm and sanitary sewers being inundated during any major rainstorm. The inundation of these sewers then leads to the flooding of local basements. The NCEI database records 14 instances of heavy rainfall having occurred in Adel, with 2015 and 2019 having experienced three and six heavy rainfall events respectively. The city has completed action to reduce their risk to the inundation of these sewers including upsizing and extending storm sewers with the 2017 street project and 2018 storm sewer project. Future planned actions such as new storm sewers and detention basins being installed in all new subdivisions will help increase the city's resilience against this hazard.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Adel. These storms can cause damage through heavy rain, lightning strikes, hail, and high winds. The NCEI reports 49 instances of severe thunderstorms occurring in Adel from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$9,687,000 worth of damage across the impacted zones. Additionally, the local planning team reported that the 2020 derecho and 2022 spring storms resulted in power outages, downed trees, and road closures.

The most significant concern identified by the local planning team was the loss of life due to severe thunderstorms. This could occur through fires started via lightning strikes, someone being caught by a falling tree, or electric shocks caused by downed power lines or poles. Backup power generators have been installed everywhere but City Hall and the city offers text alerts via phones for severe weather. To reduce the risk from this hazard, the city has installed outdoor warning signs, added generators at the wells of the water treatment plant and all sewage pumping stations of the sewage treatment plant, and strives to keep trees trimmed. Additionally, the local planning team has trimmed trees and added storm sirens to reduce the city's risk to severe thunderstorms.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Adel. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. In March 1990 an ice storm hit Adel and resulted in downed power lines and tree branches and power outages across the city. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. One of these storm events in 2012 resulted in 7.8 inches of snowfall in Adel. These 79 events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

## Section Seven: City of Adel Community Profile

The most significant concern identified by the local planning team was the loss of life due to severe thunderstorms. This could occur through individuals being caught out in the storms or power outages resulting in the loss of heating in homes. Currently, no loss of life or injury has occurred in Adel due to a severe winter storm. To reduce the risk from this hazard, the city keeps trees trimmed, has installed outdoor warning sirens, and has added snow removal equipment to the city's inventory. Roughly 25% of power lines within the city are buried, reducing the risk of power outage due to heavy snow and ice accumulation or downed trees. According to the local planning team, snow removal resources are sufficient to handle snow accumulation after a winter storm.

### **Tornado and Windstorms**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and two tornadoes in Adel. The first tornado event occurred in May 2004 with an F1 tornado that tracked through open fields for the most part. This tornado resulted in \$2,000 in property damage and \$5,000 in crop damage. No deaths or injuries were reported. The second tornado event occurred in May 2013 with an EF0 tornado. No injuries or other damages were reported.

The most significant concern identified by the local planning team was the loss of life. This could occur if someone is caught out in the storm and is hit by debris or if the building they are in sustained disastrous damage. To reduce the risk from this hazard, the city has installed outdoor warning sirens and added generators at the wells of the water treatment plant and all sewage pumping streets of the sewage treatment plant. In the future, to reduce risk to the community, the local planning team plans on installing storm sirens and ensure trees are kept trimmed and healthy.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	Alert/Warning Sirens
<b>Description</b>	Install additional outdoor warning siren locations within the annexation area. Upgrade the current outdoor warning system to provide direct communication to residents via an outdoor warning verbal communications device.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$40,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	5 years
<b>Priority</b>	High
<b>Lead Agency</b>	City Hall
<b>Status</b>	Completed – Updated as needed

Mitigation Action	Backup Generators
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters. The water treatment and sewer treatment facilities have been identified as needing generators.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$350,000 to \$750,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	5+ years
<b>Priority</b>	High
<b>Lead Agency</b>	City Hall
<b>Status</b>	Completed-Generators have been installed everywhere but City Hall.

**Continued Mitigation and Strategic Actions**

Mitigation Action	Flood-prone Property Acquisition
<b>Description</b>	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP. Repetitive loss structures are typically highest priority.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$250,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	5 years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Hall
<b>Status</b>	This mitigation action has not been started.

Mitigation Action	Improve Flood Control Structure
<b>Description</b>	Improve the berm/flood control structure to increase flood protection to residents and buildings. The city is vulnerable to flooding during times of excessive precipitation in the watershed. The flooding could put the city's water supply at risk to damage and puts residents in danger.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$150,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	5 years
<b>Priority</b>	High
<b>Lead Agency</b>	City Hall
<b>Status</b>	Not started. The city currently has a structure with Hesco Barriers in place for flood control.

Mitigation Action	Safe Rooms
<b>Description</b>	Construct a saferoom at the aquatic center.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$75,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Hall
<b>Status</b>	This mitigation action has not been started.



Mitigation Action	<b>Stormwater System and Drainage Improvements</b>
<b>Description</b>	The feeder to Butler Creek needs to be upgraded and expanded as well as additional improvements to the stormwater system to carry water away during times of flash flooding. The system needs to be bigger to carry a larger volume of water to allow for redirection of the flash flood water.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$1,000,000 to \$3,000,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	5-10 years
<b>Priority</b>	High
<b>Lead Agency</b>	City Hall
<b>Status</b>	This project is in progress

Mitigation Action	<b>Stream Bank Stabilization/ Grade Control Structures/ Channel Improvements</b>
<b>Description</b>	Stabilize 1200 ft. of streambank along the waterway from S. 6 <sup>th</sup> Street to S. 10 <sup>th</sup> Street along the bike path. Stream bed/grade stabilization improvements can serve to protect structures, increase conveyance, prevent down cutting, and provide flooding benefits more effectively.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$100,000-\$150,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	3 years
<b>Priority</b>	Low
<b>Lead Agency</b>	City Hall
<b>Status</b>	This project is in progress

## Plan Maintenance

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

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the Public Works Director and a member of the City Council. The plan will be reviewed annually. The City Council Management will be responsible for including the public in the review and revision process.

This Page Is Intentionally Blank

## Community Profile

# City of Bouton

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table BOU.1: Bouton Local Planning Team**

Name	Title	Jurisdiction
Jim Uthe	City Clerk	City of Bouton

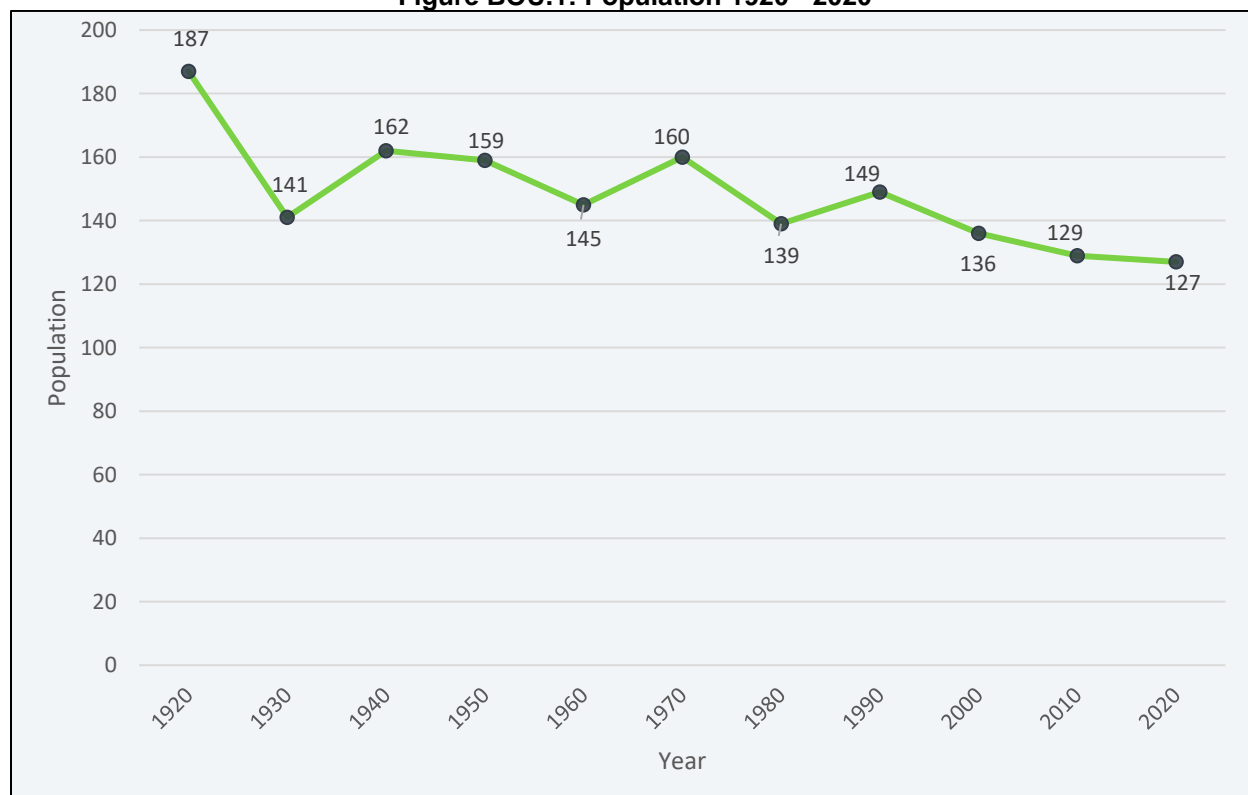
## Location and Geography

The City of Bouton is located in north central Dallas County and covers an area of 0.11 square miles. Major waterways in the area include Beaver Creek and Little Beaver Creek.

## Demographics

Bouton's population in 2020 was 127. The following figure displays the historical population trend from 1920 to 2020. This figure indicates that the population of Bouton fluctuated from 1920 to 1990 but has since gradually decreased. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Bouton's population accounted for 0.1% of Dallas County's population in 2020.<sup>21</sup>

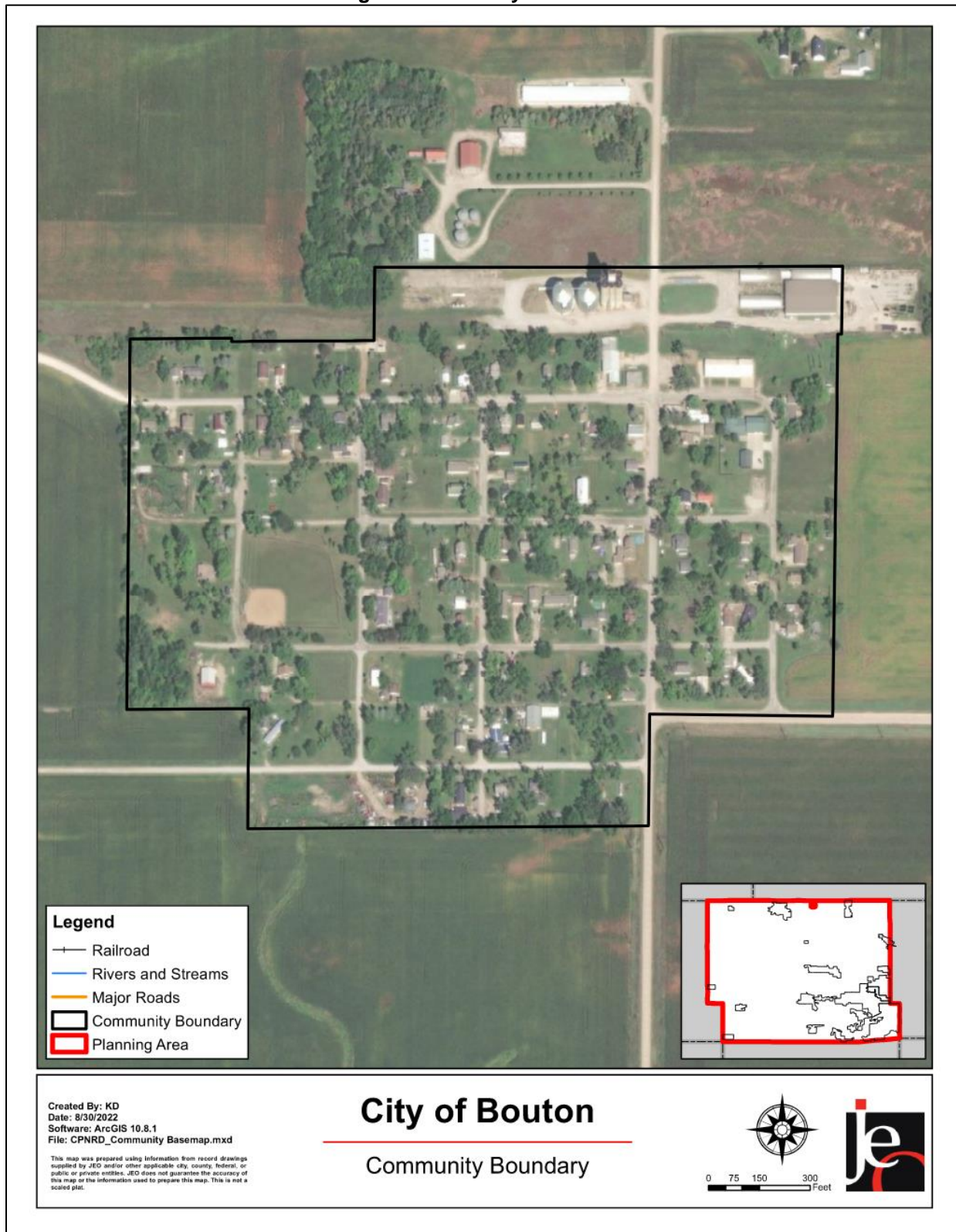
**Figure BOU.1: Population 1920 - 2020**



Source: U.S. Census Bureau

<sup>21</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

Figure BOU.2: City of Bouton

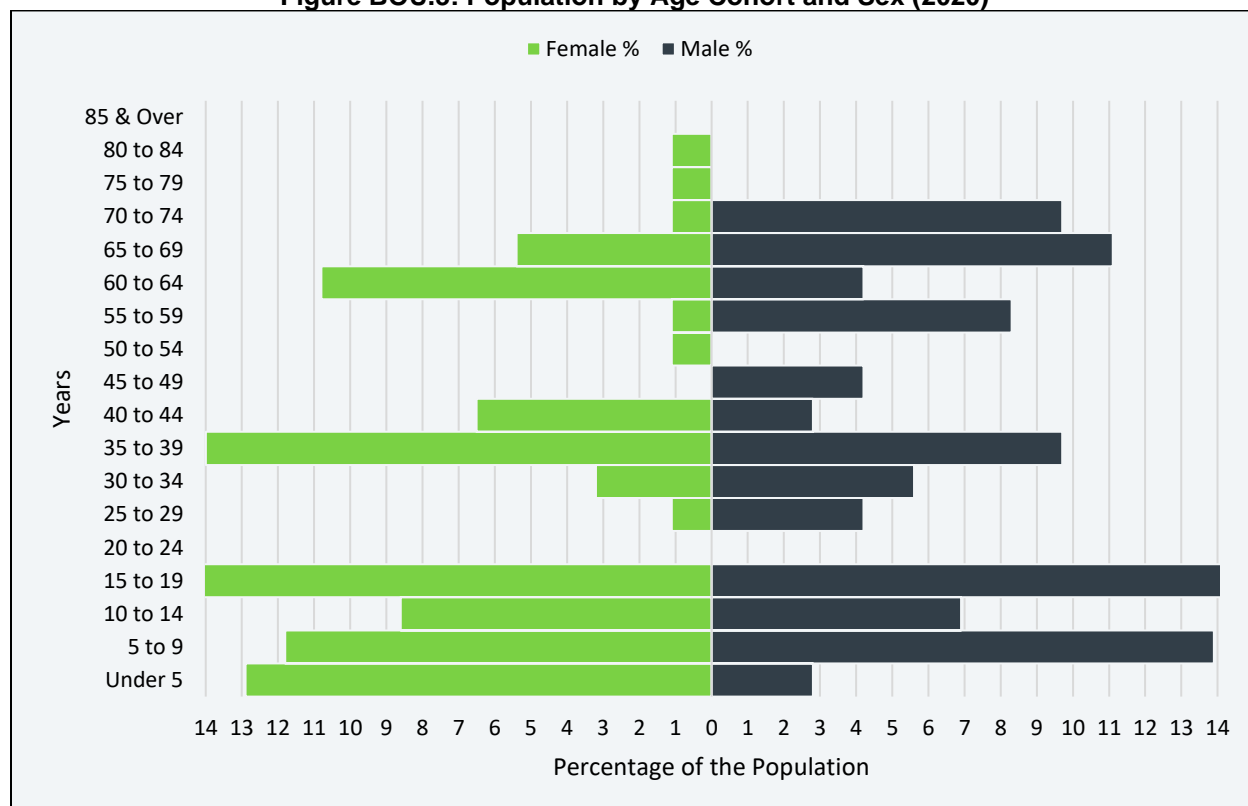


## Section Seven: City of Bouton Community Profile

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

- **12.6% is non-white.** Since 2010, Bouton became more ethnically diverse. In 2010, 1.6% of the Bouton population was non-white. By 2020, 12.6% was non-white.<sup>22 23</sup>
- **29.5 median age.** The median age of Bouton was 29.5 years old in 2020. The population became younger since 2010, when the median age was 51.<sup>24 25</sup>

**Figure BOU.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>22</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>23</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>24</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>25</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **17.6% of people living below the poverty line.** The poverty rate (17.6%) in Bouton was greater than the state's poverty rate (11.1%) in 2020.<sup>26</sup>
- **\$48,750 median household income.** Bouton's median household income in 2020 (\$48,750) was about \$13,000 lower than the state (\$61,836).<sup>27</sup>
- **0% unemployment rate.** In 2020 Bouton had a lower unemployment rate (0%) compared to the state (3.9%).<sup>28</sup>
- **57.6% of workers commuted 30 minutes or more to work.** More workers in Bouton commuted 30 minutes or more to work than workers commuting less than 15 minutes (57.6% compared to 11.9%).<sup>29</sup>

According to the planning team, there are no major employers in the city. Most residents commute to other communities such as Perry and Des Moines for work.

## Housing

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

- **72.3% of housing built prior to 1970.** Bouton has a greater share of housing built prior to 1970 than the state (72.3% compared to 50.4%).<sup>30</sup>
- **10.6% of housing units vacant.** Since 2010, Bouton's vacancy rate decreased. In 2010 the vacancy rate was 35.4%. By 2020, 10.6% of housing units were vacant.<sup>31 32</sup>
- **12.8% mobile and manufactured housing.** The City of Bouton had a larger share of mobile and manufactured housing (12.8%) compared to the state (3.6%).<sup>33</sup>

<sup>26</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>27</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>28</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>29</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>30</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>31</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>32</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>33</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



- **14.3% renter-occupied.** The rental rate of Bouton was 14.3% in 2020. The percentage decreased since 2010, when renter occupied housing was at 19%.<sup>34 35</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Bouton has a mayor, a five-member city council, and a city clerk.

## Capability Assessment

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

**Table BOU.2: Capability Assessment**

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

<sup>34</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>35</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



Survey Components/Subcomponents		Yes/No
<b>Capability</b>	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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 BOU.3: Overall Capability

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

## Plan Integration

The City of Bouton does not have its own building codes, zoning ordinances, or a comprehensive plan in place. Should any planning documents be prepared, hazard mitigation will be considered in their development, where applicable.

City funds are limited to maintaining current facilities and municipal systems. The amount of municipal funds has increased slightly in recent years. The city was awarded the Bock Family Grant and an I-CAP grant in the last five years.

## Future Development Trends

In the last five years, there has been some new housing, a new street, and a new parking lot built. No new housing or business developments are currently planned for the next five years.

## Community Lifelines

### Transportation

Bouton's major transportation corridors include State Highway 141 and U.S. Highway 169. The most traveled route is Highway 141 with an average of 8,500 vehicles daily, 608 of which are trucks.<sup>36</sup> Particular areas of concern include the school bus stop, the box culvert on the west side of town (128th Place), and the bridge on 130<sup>th</sup> Street, between Bouton and Woodward. According to the planning team, farming chemicals are regularly transported along the city's two main roads. The nearest airport, Perry Municipal Airport, is located about eight miles southwest of Bouton. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

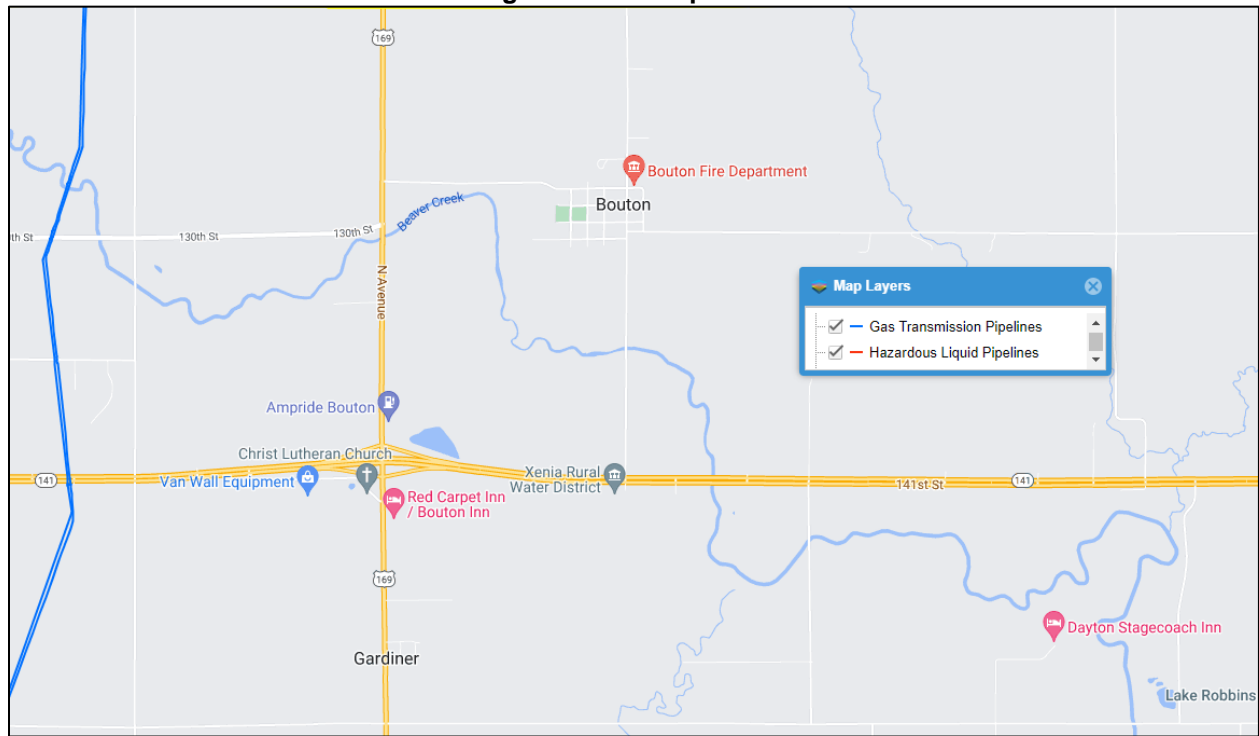
### Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

---

<sup>36</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

**Figure BOU.4: Pipelines**



Source: National Pipeline Mapping System<sup>37</sup>

<sup>37</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

## Section Seven: City of Bouton Community Profile

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there is one chemical storage site in Bouton that contains hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table BOU.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
New Cooperative Inc. - Bouton	13773 N Avenue	No

Source: Iowa Department of Natural Resources<sup>38</sup>

### Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.<sup>39</sup>

### Critical Facilities

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

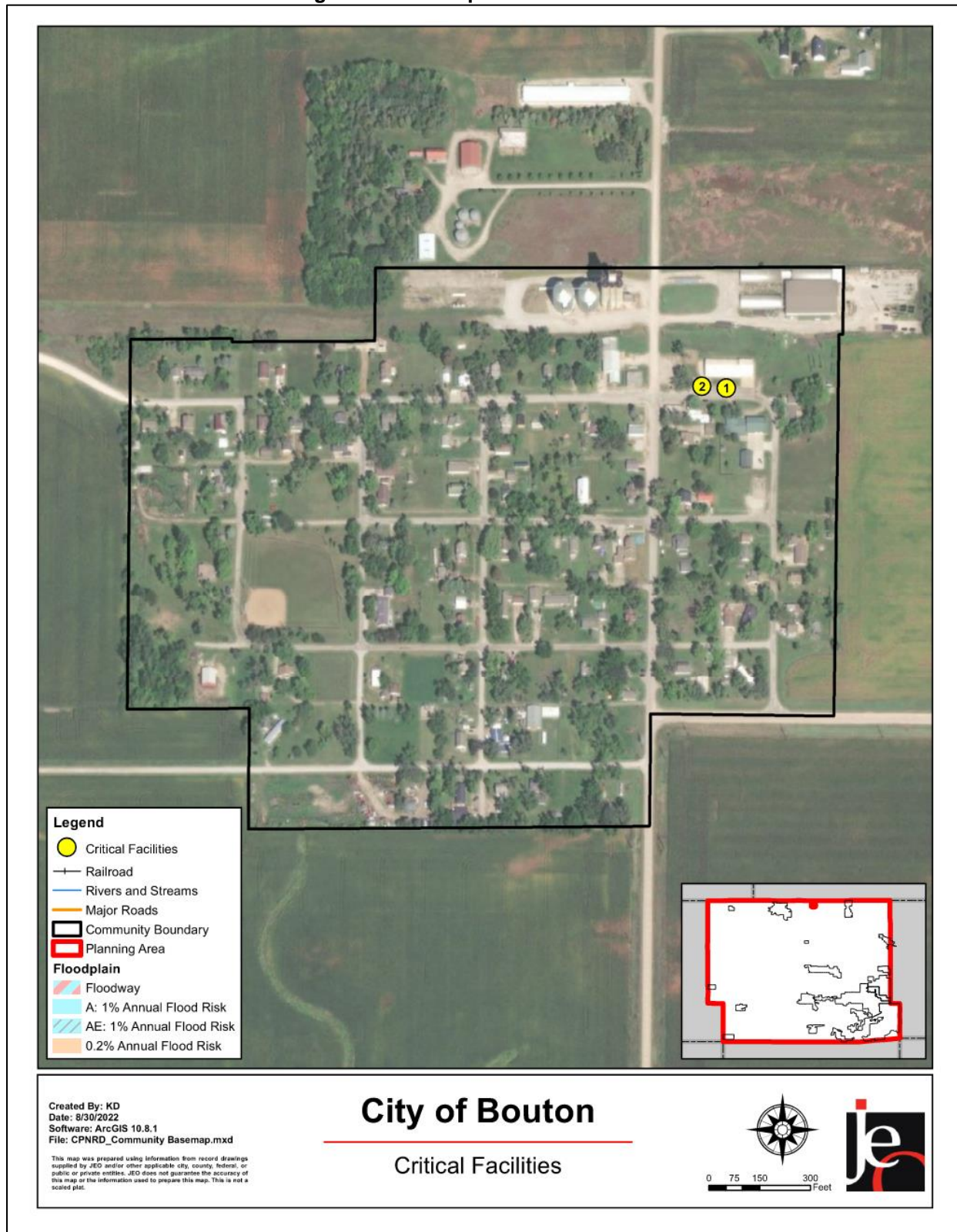
**Table BOU.5: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Bouton City Hall	N	N	N
2	Bouton Fire Station	N	Y	N

<sup>38</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022.  
<https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

<sup>39</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022.  
<https://dia-hfd.iowa.gov/>.

**Figure BOU.5: Map of Critical Facilities**



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
106	\$5,125,440	0	-	-

Source: County Assessor, 2022

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
106	\$5,125,440	0	-	-

Source: County Assessor, 2022

**Table BOU.8: Bouton Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>40</sup>

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Flooding

The local planning team identified flooding as a top hazard of concern for Bouton. According to the NCEI, there were four flood events in Bouton from 1996 to 2021. These events resulted in \$150,000 in property damage, but no injuries or fatalities. The planning team indicated that flooding in 2019 was particularly impactful. Top concerns for this hazard include flooded roads and culvert/drainage systems. The city repaired the culvert on 4th Street to help with stormwater drainage. No projects are currently planned to reduce risk for flooding.

As of June 2022, Bouton did not have NFIP policies in-force. A FEMA Flood Insurance Study for Dallas County, including Bouton, was revised in December 2018, and can be viewed on FEMA's Flood Map Service Center: <https://msc.fema.gov/portal/advanceSearch>. According to the IDNR, there are zero repetitive flood loss properties in Bouton.

<sup>40</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are common occurrences in Bouton. As such, the planning team identified it as a top concern. The NCEI recorded 11 severe thunderstorm events from 1996 to 2021, resulting in \$94,000 in property damages. No injuries or fatalities were reported.

The top concerns for this hazard include power outages, communication/alerts, and damage to trees and structures. According to the local planning team, multiple critical facilities have been damaged in the past from hail or severe thunderstorms including the Community Hall, Maintenance Building, Shelter House, and Park Restrooms. To reduce the impact of severe thunderstorms the Fire Department performs storm spotting and critical facilities are equipped with weather radios to provide advance warning of incoming storms. No projects are currently planned to reduce risk for flooding.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Bouton. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

Top concerns identified by the local planning team include the efficiency of equipment and power outages. According to the local planning team, the city has not sustained damage to critical facilities due to severe winter storms in the past. To reduce the risk from this hazard, the city does use snow fences located at the empty lots west of 1<sup>st</sup> Street and the snow removal resources are sufficient to deal with snow accumulation after a storm. No projects are currently planned to reduce risk for severe winter storms.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and one tornado in Bouton. The tornado event occurred in August 2014 with an EF0 tornado only damaging crops in its path. No injuries or other damages were reported. A derecho in August 2020 impacted the community and caused extensive damage. Top concerns for this hazard include power outages, alerts/communication during an event, and damage to trees and structures.

To minimize the effects of tornadoes and windstorms, the planning team indicated that the tornado siren needs to be updated, along with other city equipment. Backup generators are also needed.



## Mitigation Strategy

### New Mitigation and Strategic Actions

Mitigation Action	Storm Shelter/Restrooms
<b>Description</b>	Construct a community storm shelter/restroom on the new trail expansion
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Estimated Cost</b>	\$250,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Council
<b>Status</b>	Not started.

### Continued Mitigation and Strategic Actions

Mitigation Action	Community Saferoom
<b>Description</b>	Construct a community saferoom on city-owned property near existing community center for approximately 75 residents in 10 block area.
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Estimated Cost</b>	\$250,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	3-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	City Council
<b>Status</b>	This project is currently waiting on funding.

Mitigation Action	Stormwater System and Drainage Improvements
<b>Description</b>	Upgrade the city's stormwater drainage system as existing drain tiles are insufficient for capacity during intense rainfall events. Drainage from farm fields does not drain properly into existing stormwater system.
<b>Hazard(s)</b>	Flash Floods
<b>Estimated Cost</b>	\$60,000
<b>Funding</b>	HMA
<b>Timeline</b>	4 years
<b>Priority</b>	High
<b>Lead Agency</b>	Maintenance Department
<b>Status</b>	This project is approximately 65% complete.



## Plan Maintenance

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

The 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 Mayor and City Clerk. The plan will be reviewed annually. The public will be included in the review and revision process via council meetings.

This Page is Intentionally Blank

## Community Profile

# City of Dallas Center

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table DCR.1: Dallas Center Local Planning Team**

Name	Title	Jurisdiction
<b>Danny Beyer</b>	Mayor	City of Dallas Center
<b>Cindy Riesselman</b>	City Administrator	City of Dallas Center
<b>Brian Slaughter</b>	Director of Public Works	City of Dallas Center
<b>Joel Hofland</b>	Fire Chief	City of Dallas Center
<b>Robert King</b>	Member of Multiple Boards	City of Dallas Center

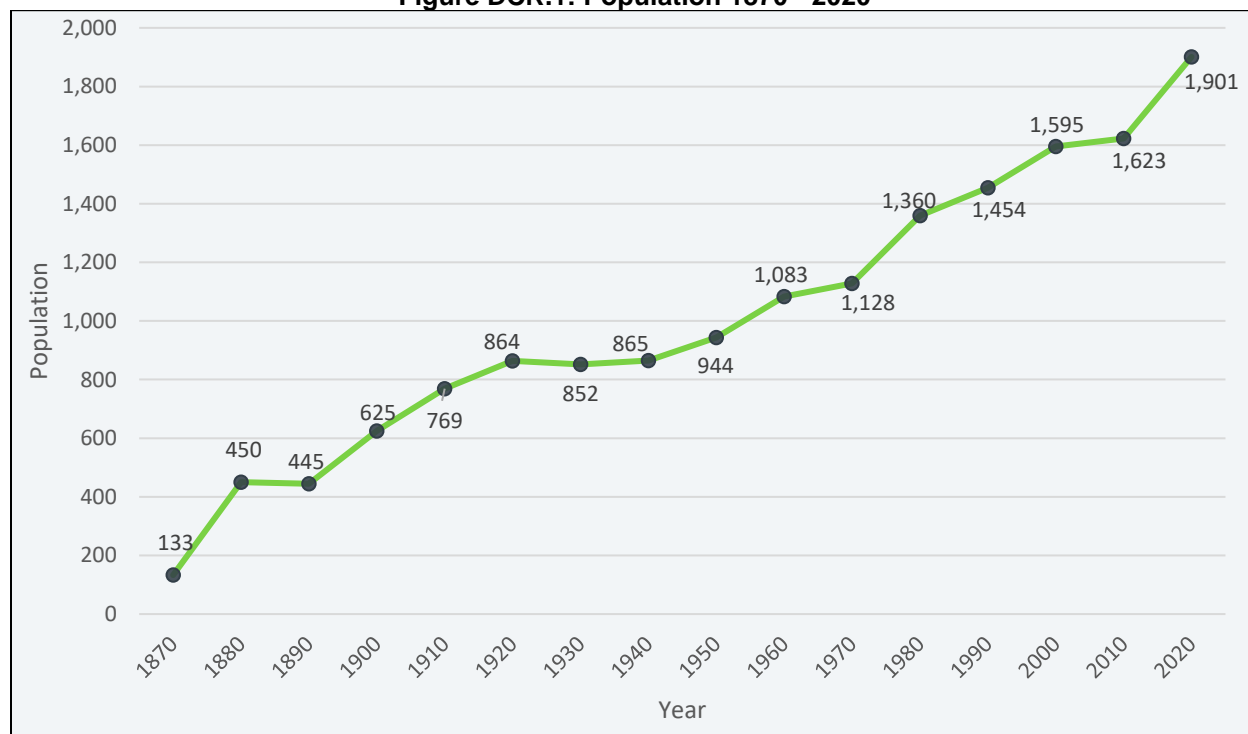
## Location and Geography

The City of Dallas Center is located in central Dallas County and covers an area of 5.28 square miles. Major waterways in the area include the North Racoon River, which runs along the west side of the city.

## Demographics

Dallas Center's population in 2020 was 1,901. The following figure displays the historical population trend from 1870 to 2020. This figure indicates that the population of Dallas Center generally increased from 1870 to 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Dallas Center's population accounted for 1.9% of Dallas County's population in 2020.<sup>41</sup>

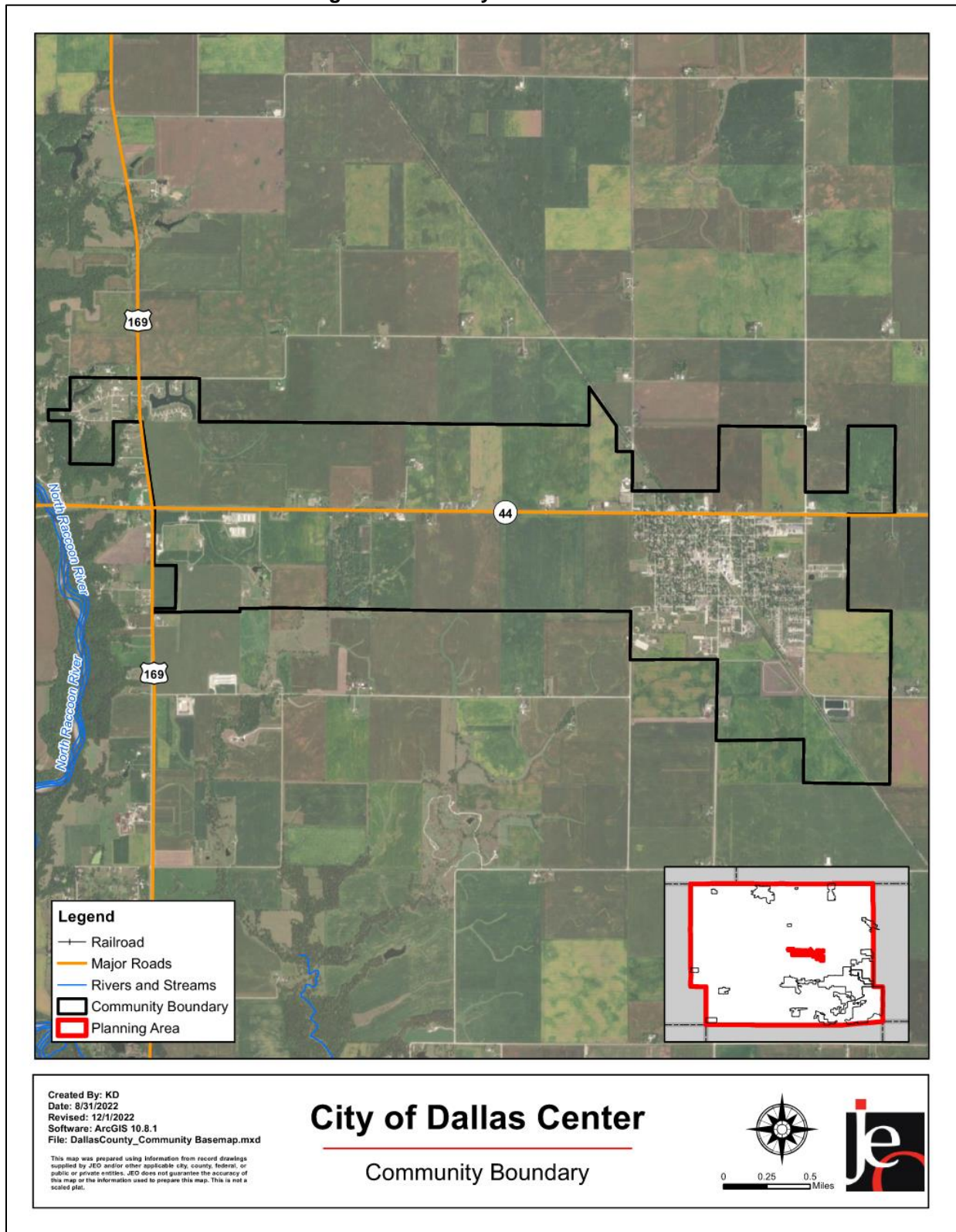
**Figure DCR.1: Population 1870 - 2020**



Source: U.S. Census Bureau

<sup>41</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

Figure DCR.2: City of Dallas Center

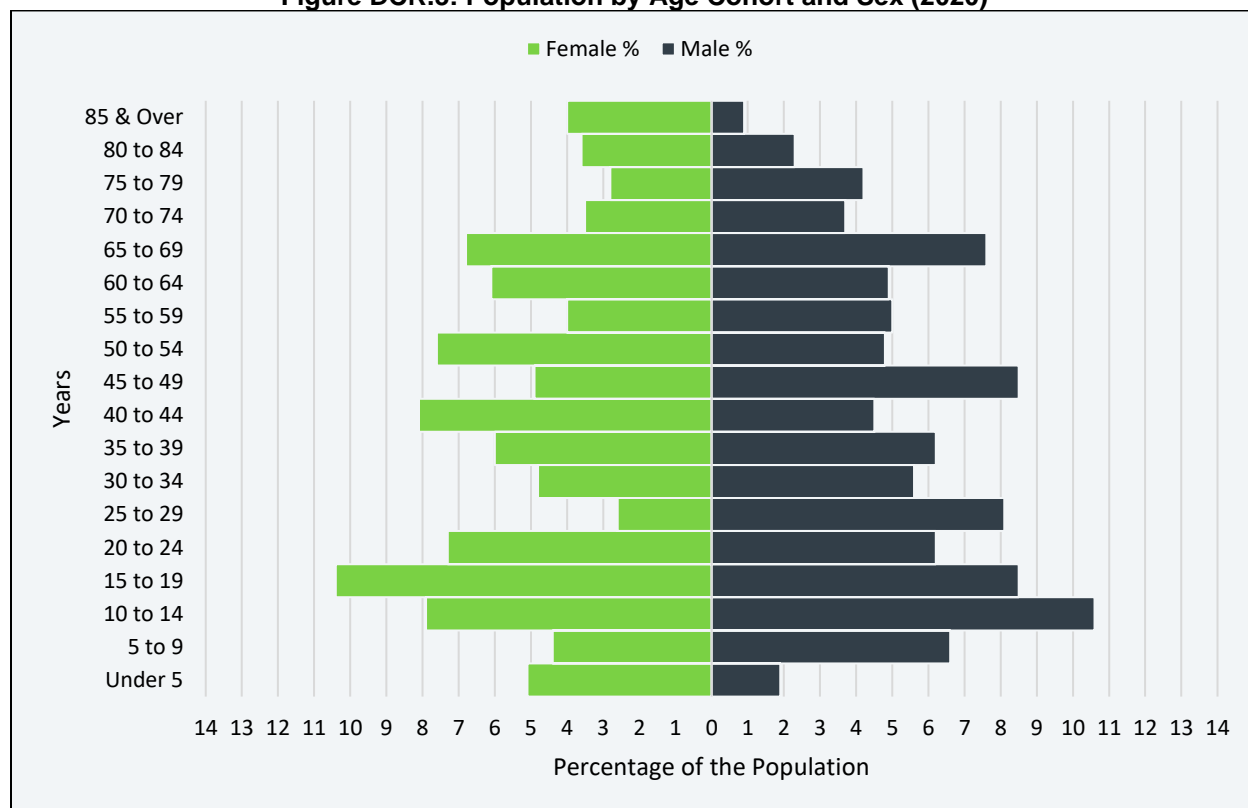


## Section Seven: City of Dallas Center Community Profile

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

- **5.1% is non-white.** Since 2010, Dallas Center became more racially diverse. In 2010, 1.8% of the Dallas Center's population was non-white. By 2020, 5.1% was non-white.<sup>42 43</sup>
- **39.3 median age.** The median age of Dallas Center was 39.3 years old in 2020. The population became younger since 2010, when the median age was 43.5.<sup>44 45</sup>

**Figure DCR.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Dallas Center's population percentage broken down by sex and five-year age groups. Dallas Center's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

<sup>42</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>43</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>44</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>45</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **7.5% of people living below the poverty line.** The poverty rate (7.5%) in Dallas Center was lower than the state's poverty rate (11.1%) in 2020.<sup>46</sup>
- **\$68,333 median household income.** Dallas Center's median household income in 2020 (\$68,333) was about \$6,500 higher than the state (\$61,836).<sup>47</sup>
- **1.6% unemployment rate.** In 2020 Dallas Center had a lower unemployment rate (1.6%) compared to the state (3.9%).<sup>48</sup>
- **36.9% of workers commuted 30 minutes or more to work.** More workers in Dallas Center commuted 30 minutes or more to work than workers commuting less than 15 minutes (36.9% compared to 27.4%).<sup>49</sup>

### Major Employers

Major employers for the city include Spurgeon Manor, Dallas Center - Grimes Community School District, Midwest Oil Seed, and Hy-Line International. According to the local planning team, a large percentage of residents commute to nearby metro communities for work.

## Housing

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

- **51.4% of housing built prior to 1970.** Dallas Center has a greater share of housing built prior to 1970 than the state (51.4% compared to 50.4%).<sup>50</sup>
- **8.1% of housing units vacant.** Since 2010, Dallas Center's vacancy rate increased. In 2010 the vacancy rate was 0.4%. By 2020, 8.1% of housing units were vacant.<sup>51 52</sup>

<sup>46</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>47</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>48</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>49</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>50</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>51</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>52</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



- **0.5% mobile and manufactured housing.** The City of Dallas Center had a smaller share of mobile and manufactured housing (0.5%) compared to the state (3.6%).<sup>53</sup>
- **20.9% renter-occupied.** The rental rate of Dallas Center was 20.9% in 2020. The percentage increased since 2010, when renter occupied housing was at 14.1%.<sup>54 55</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Dallas Center has a mayor, a five-member city council, and the following offices.

- City Administrator
- City Clerk
- Attorney
- Fire Chief
- Public Works Director
- City Inspector/Zoning Administrator (Veenstra & Kimm, Inc.)
- Library Board Chairperson
- Parks and Recreation Board Chair
- Planning and Zoning Board Chair
- Tree Board Chair

## Capability Assessment

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

**Table DCR.2: Capability Assessment**

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

<sup>53</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>54</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>55</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

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

**Table DCR.3: Overall Capability**

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

## Plan Integration

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

### Grants and Funding

The City of Dallas Center's funds are sufficient to pursue major projects and maintain facilities. For projects beyond those already planned, the city would acquire bonds to help pay for them. A large portion of municipal funds have been dedicated to the water system upgrades and sanitary sewer upgrade projects. The amount of municipal funds has increased in recent years. The city has funded a hazard mitigation plan to replace all three of our storm sirens, which is currently in progress. Over the last five years, the city has applied for several grants, receiving the FEMA storm siren grant, Trees Forever grant, Trees Please grant, Wellmark BCBS small matching grant, and the Dallas County Foundation Grant.

### Building Codes (2012)

The building code sets standards for constructed buildings and structures. The city has adopted the 2012 International Building Codes with multiple amendments made. These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use.

### Capital Improvements Plan (2022)

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identifies in the plan include stormwater projects, improving transportation routes for drainage, installing new municipal wells, and installing emergency generators in critical facilities. Additionally, the plan includes projects such as street improvement, sewer pipe lining, water distribution improvements, well field exploration, a new sanitary sewer lift station, and a swimming pool. The city plans to construct a new fire hall, a new public works/public safety facility, and improve the existing water treatment facility.

### Comprehensive Plan (2022)

The comprehensive plan is designed to guide the future actions and growth of the city. The city's plan contains growls aimed at Safe Growth. The plan does not encourage infill development or identifies areas that need emergency shelters. The plan was recently updated, and the city will not be updating it again for several years.

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

The city's Zoning Ordinances are continually updates as needed. The city's Floodplain Regulations contain floodplain maps but do not prohibit or discourage development within the floodplain. The city's Zoning Ordinance does not regulate many aspects of development but does include a well setback requirement.

### **Water System Emergency Response Plan (2008)**

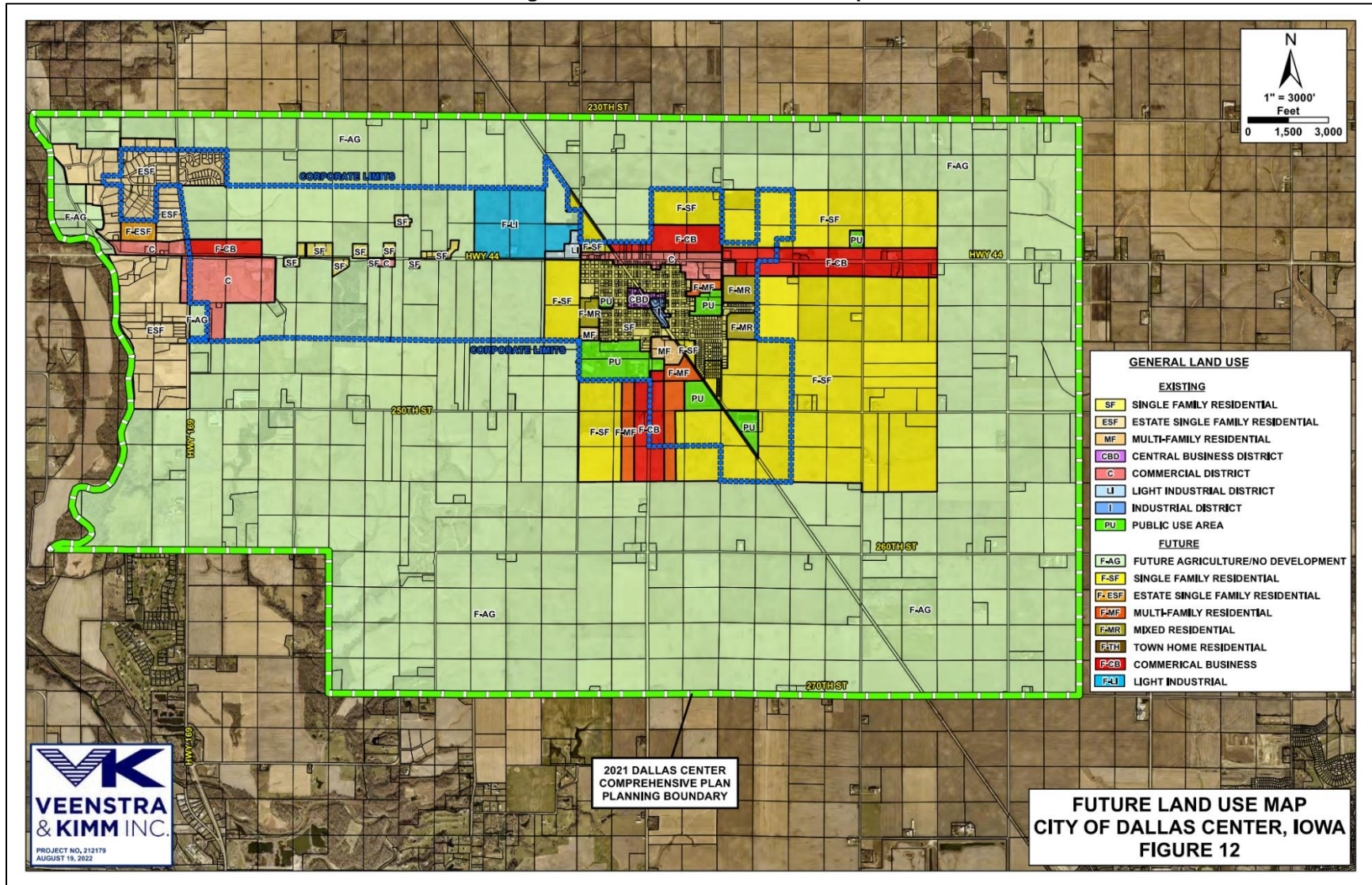
Water system emergency response plans ensure the drinking water systems that serve the City of Dallas Center are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Future Development Trends**

In the past five years, the city has begun building four new housing developments – Lynn Crest Plats 2-5, Cross Country Estates Plat 6, The Neighborhood, and Skye View Estates. Major business changes include the expansion of Elite Electric, the addition of Dollar General, the removal of buildings and addition of a large new building by Hy-Line International, and the expansion of Midwest Oilseed's employee base. In the next five years, the city plans for new housing developments to be built north, west, and east of town and a new business east of town. A future land use map for the city can be seen in the following figure.



Figure DCR.4: Future Land Use Map



## Community Lifelines

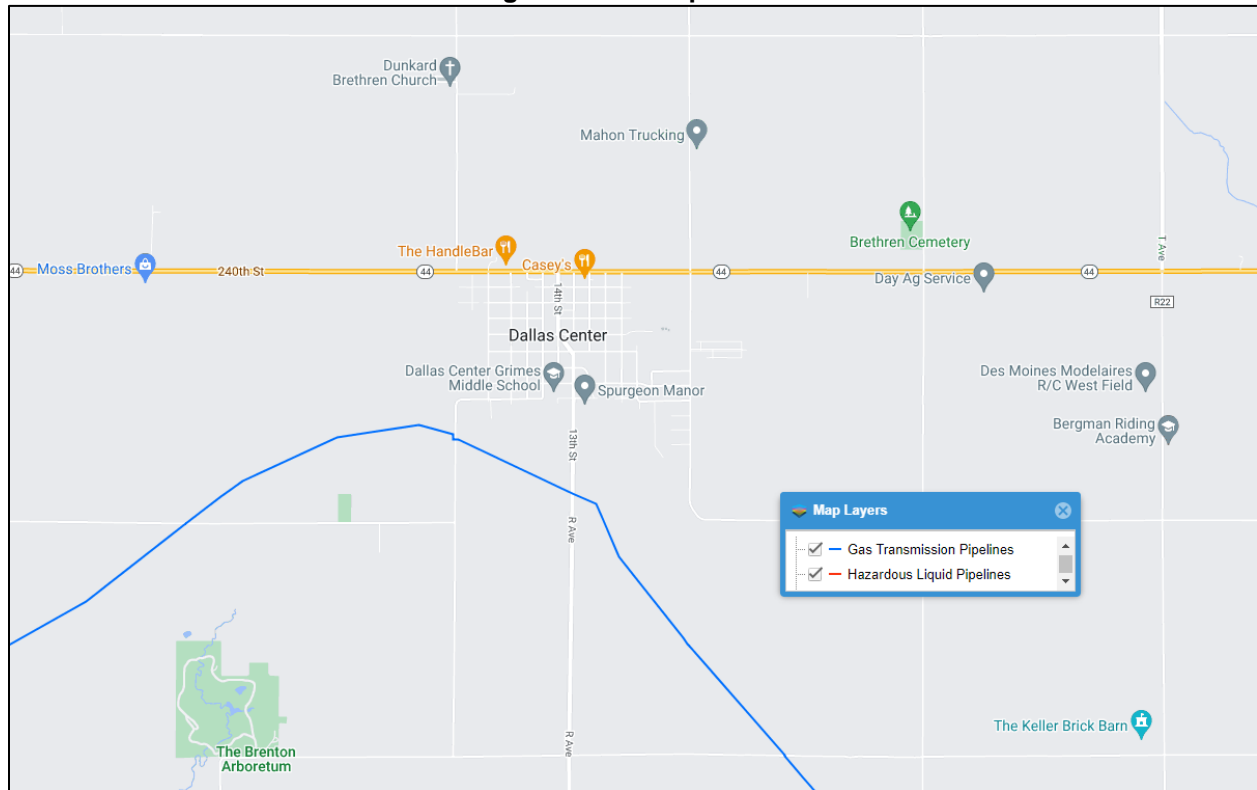
### Transportation

Dallas Center's major transportation corridors include State Highway 44 and U.S. Highway 169, which intersect on the western edge of the city. The most traveled route is Highway 44 with an average of 5,700 vehicles daily, 568 of which are trucks.<sup>56</sup> The city's major water lines run along Highway 44 west of town and telecommunication lines are buried along most local routes. Heartland Cooperative transports anhydrous ammonia from the center of town along these local routes. There have been no recent chemical spills or other significant transportation events locally. The nearest airport, Husband Field Airport, is located on the southwest edge of the city. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

**Figure DCR.5: Pipelines**



Source: National Pipeline Mapping System<sup>57</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are two chemical storage sites in Dallas Center that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

<sup>56</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.

<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

<sup>57</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

**Table DCR.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>Corteva Dallas Center</b>	205 Fair View Dr	No
<b>Heartland Co-op</b>	1107 Sycamore Street	No

Source: Iowa Department of Natural Resources<sup>58</sup>

## Health and Medical Facilities

The following medical and health facilities are located within the community

**Table DCR.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
<b>Dallas Center Medical Associates</b>	Rural Health Clinic	507 14th Street	0
<b>Spurgeon Assisted Living</b>	Assisted Living	1006 Linden Street	64
<b>Spurgeon Manor</b>	Nursing/Skilled Nursing Facility	1204 Linden Street	55
<b>Spurgeon Manor</b>	Residential Care	1204 Linden Street	30

Source: Iowa Department of Inspections and Appeals<sup>59</sup>

## Critical Facilities

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

**Table DCR.6: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Kids Corner	N	N	N
2	Dallas Center City Hall	N	Y	N
3	Dallas Center Maintenance Shed	N	N	N
4	Dallas Center Library	N	N	N
5	Hy-Line International	N	N	N
6	Dallas Center Medical Associates	N	N	N
7	Dallas Center Fire Department	N	N	N
8	First Presbyterian Church	N	N	N
9	Spurgeon Manor	N	Y	N
10	Dallas Center-Grimes Elementary School	N	N	N
11	Dallas Center-Grimes Middle School and Athletic Complex	N	N	N

<sup>58</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

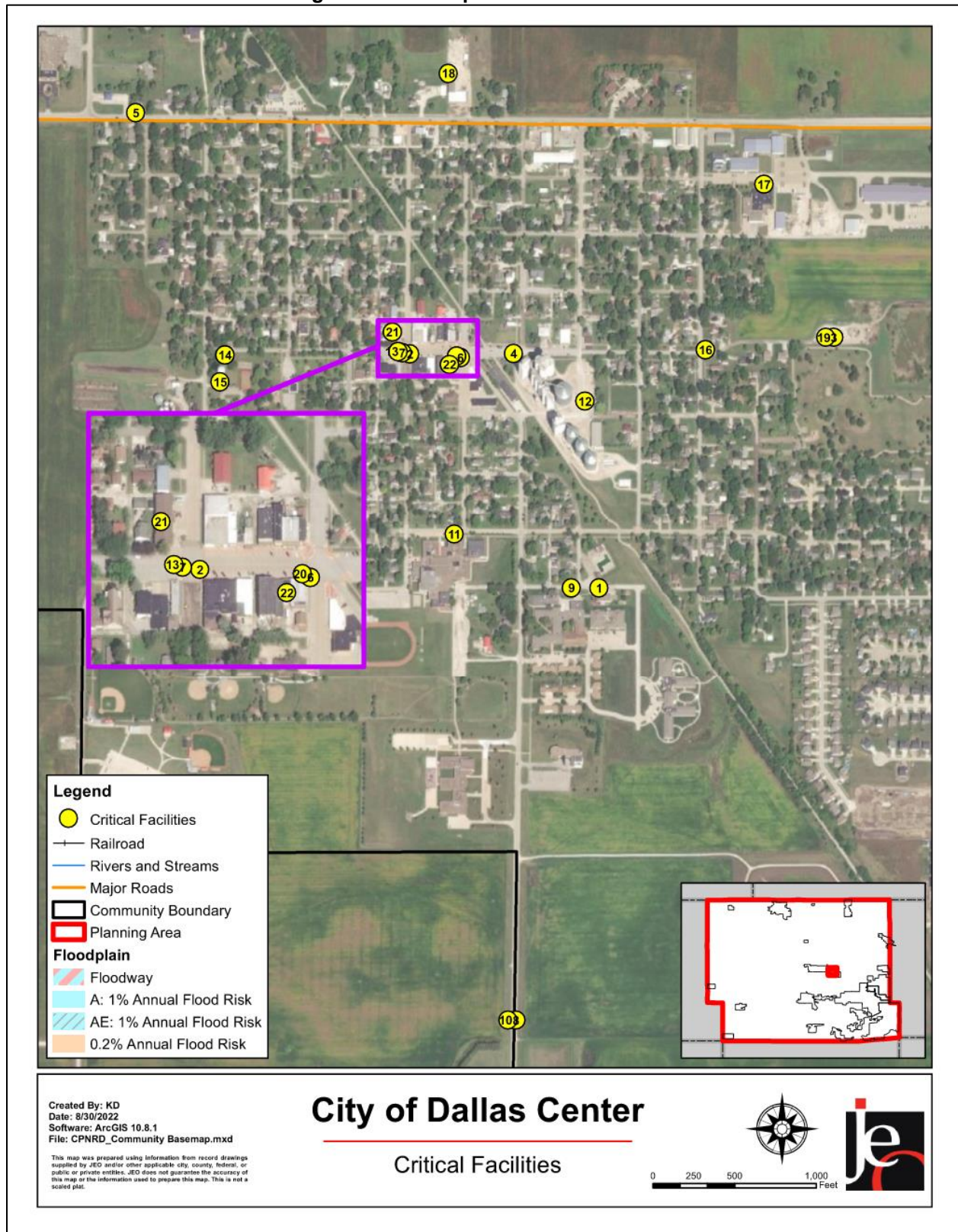
<sup>59</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022. <https://dia-hfd.iowa.gov/>.



Section Seven: City of Dallas Center Community Profile

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
<b>12</b>	Heartland Co-Op, Dallas Center	N	N	N
<b>13</b>	Dallas Center Sewage Treatment Plant	N	Y	N
<b>14</b>	Dallas Center Underground Water Storage	N	Y	N
<b>15</b>	Dallas Center Water Tower	N	Y	N
<b>16</b>	EBank	N	N	N
<b>17</b>	Midwest Oilseed	N	N	N
<b>18</b>	Elite Electric	N	N	N
<b>19</b>	Minburn Communications	N	N	N
<b>20</b>	CenturyLink Communications	N	N	N
<b>21</b>	K&E Distributing	N	N	N
<b>22</b>	Sonntag Roofing and Gutters	N	N	N

Figure DCR.6: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table DCR.7: Dallas Center Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
803	\$188,852,220	31	\$10,657,910	4%

Source: County Assessor, 2022

**Table DCR.8: Dallas Center Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
803	\$188,852,220	9	\$2,726,140	1%

Source: County Assessor, 2022

**Table DCR.9: Dallas Center Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>60</sup>

\*For a complete list of FIRM Panels, please see Table 72 in *Section Four: Risk Assessment*

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Animal and Plant Disease

In 2014, 2015, and 2022, one of the city's major employers, Hy-Line International, was threatened by the avian flu. Keeping the flocks free of avian flu incurred significant costs. Hy-Line's valuable laying flocks provide the genetic basis for over 40% of the laying flocks throughout the world. If the avian flu had impacted their flock, the loss of birds could have had disastrous effects on Hy-Line and commercial egg production throughout the world. The local planning team identified their top concerns for this hazard as helping Hy-Line in keeping wild flocks of birds away from the Hy-Line layers and staff working with the chickens and providing the best bio-security measures possible to avoid spreading the avian flu.

To help reduce the community's risk to animal and plant disease, the city maintains and enforces a strict no backyard bird policy. According to the local planning team, it would help reduce risk to the community if the county passed a similar policy against small backyard flocks within a specific mileage of Hy-Line facilities to protect their critical infrastructure.

<sup>60</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

Residents from Dallas Center responded to the public survey and reported that past disease events also include trees being destroyed from the Emerald Ash Borer and Dutch Elm Disease.

### **Hazardous Materials Release**

The city of Dallas Center has not experienced a known hazardous materials release within the past decade. However, a large distribution system for anhydrous ammonia and other farm chemicals is maintained in the center of the city by Heartland Cooperative. Portable tanks move through the city on a regular basis and the large grain storage facilities are a known risk for explosions and fires. The local planning team has identified their top concerns for this hazard as a lack of knowledge regarding Heartland Cooperatives safety procedures and emergency response plans in the event a hazardous material is released through an accident or natural disaster. The city believes a future joint meeting with Dallas County and the Heartland Cooperative staff to discuss prevention and mitigation plans will reduce risk to the community.

### **Infrastructure Failure**

The local planning team has identified infrastructure failure as a hazard of concern due to a history of inadequate storm water drainage within the city. During the major rainfall event of April 2018, when 5" or more of rain fell within a 24-hour period, the city experienced major basement flooding. The city's water system was damaged in 2021 due to capacity reduction to handle dissolved minerals and particulates. The city's top concern for infrastructure failure is the collection and removal of storm water. The soil beneath Dallas Center is made up of imperious clay that does not allow the water to seep into the earth. As the city grows, water system demands will rise and cause stress on the community water treatment system.

To help reduce the risk of infrastructure failure, the city has completed Phase 1 of a major storm water system. The city believes flooding in the west portion of town will be greatly reduced during the next major rainfall. Additionally, the city had implemented significant upgrades to the city's water treatment system and has reduced the water hardness and particulate load. In the future the city plans on completing Phase 2 of the storm water system when funding becomes available.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and two tornadoes in Dallas Center. The two brief tornado events occurred in April 2004 and September 2019 with an F0 and EFU ratings respectively. No injuries or other damages were reported. Derechos in August 2020 and July 2022 impacted the community and caused significant tree damage and disrupted electrical services for several days.

To minimize the effects of tornadoes and windstorms, the city has begun removing large trees that have been weakened by disease or age and removing tree limbs deemed a threat to overhead power lines. The city is looking at continuing with tree removal and trimmings, installing severe weather sirens, and performing a study to identify tornado shelter facilities within town.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	Alert/Warning Sirens
<b>Description</b>	Purchase additional outdoor warning sirens
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Estimated Cost</b>	\$50,000 to \$100,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2-3 years
<b>Priority</b>	High
<b>Lead Agency</b>	Fire Department
<b>Status</b>	Warning sirens have been purchased

Mitigation Action	Backup Generators
<b>Description</b>	Purchase three generators and the electric transfer gear for our water treatment plant. At the present time, the city is unable to run the sewer plant, water treatment plant, water storage facilities, and city hall during a power outage.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$50,000 to \$100,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2-3 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Public Works
<b>Status</b>	Completed

### Continued Mitigation and Strategic Actions

Mitigation Action	Emerald Ash Borer Education
<b>Description</b>	Educate citizens on the effects of the Emerald Ash Borer through education and awareness of hazards and how to mitigate losses.
<b>Hazard(s)</b>	Animal and Plant Disease
<b>Estimated Cost</b>	<\$10,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	3-4 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Parks and Recreation Board
<b>Status</b>	The city has been actively removing dead and dying trees and planting new insect and weather tolerant trees.



Mitigation Action	<b>Emergency Operation Center/Safe Room</b>
<b>Description</b>	Construct an Emergency Operations Center with a safe room to protect Dallas Center citizens in the event of a tornado or windstorm.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$500,000 to \$1,000,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	4-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	
<b>Status</b>	The project has not yet been initiated.

Mitigation Action	<b>Public Awareness and Education</b>
<b>Description</b>	Outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. In addition, educate citizens on erosion control and water conservation.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	<\$10,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	1-2 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Fire Department
<b>Status</b>	The project has not yet been initiated.

Mitigation Action	<b>Stormwater System and Drainage Improvements</b>
<b>Description</b>	Improve stormwater drainage throughout the city. During heavy rains, several streets in town flood due to inadequate stormwater systems.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$500,000 to \$1,000,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	4-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Public Works
<b>Status</b>	Phase 1 has been completed at a cost of over 3 million dollars. Phase 2 has not been initiated.

## Plan Maintenance

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

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The planning team will include the City Administrator, the Public Works Director, and the City Clerk. The plan will be reviewed and updated bi-annually. The public will be involved in the review and revision process through the city website and other social media updates as well as reports to the City Council and all City Boards.



This Page is Intentionally Blank

## Community Profile

# City of Dawson

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table DSN.1: Dawson Local Planning Team**

Name	Title	Jurisdiction
<b>Robin Wolfe</b>	City Clerk	City of Dawson
<b>Clarence Morman</b>	Councilman	City of Dawson
<b>Colton Morman</b>	Citizen/former Mayor	City of Dawson

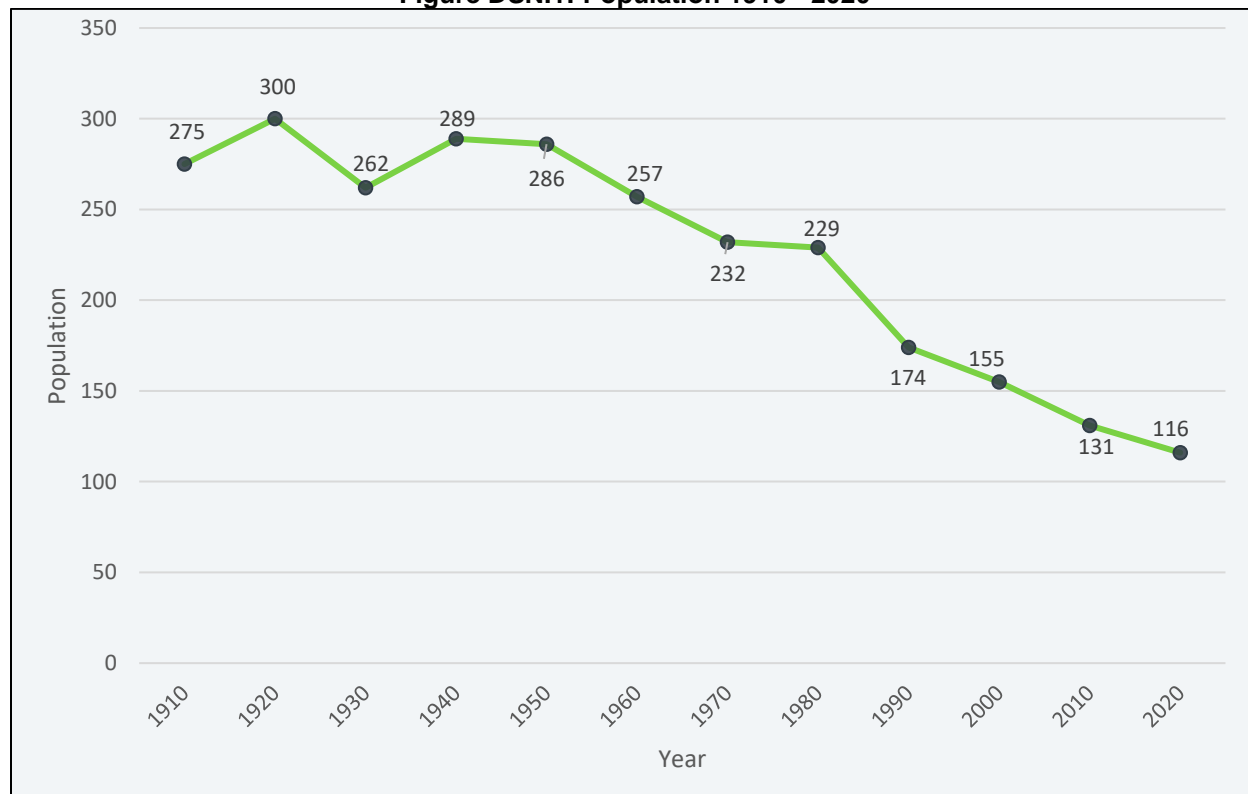
## Location and Geography

The City of Dawson is located in northwest Dallas County and covers an area of 0.49 square miles. Major waterways in the area include the North Raccoon River, which runs along the north side of the city.

## Demographics

Dawson's population in 2020 was 116. The following figure displays the historical population trend from 1910 to 2020. This figure indicates that the population of Dawson fluctuated from 1910 to 1940. Since then, the population has gradually decreased. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Dawson's population accounted for 0.1% of Dallas County's population in 2020.<sup>61</sup>

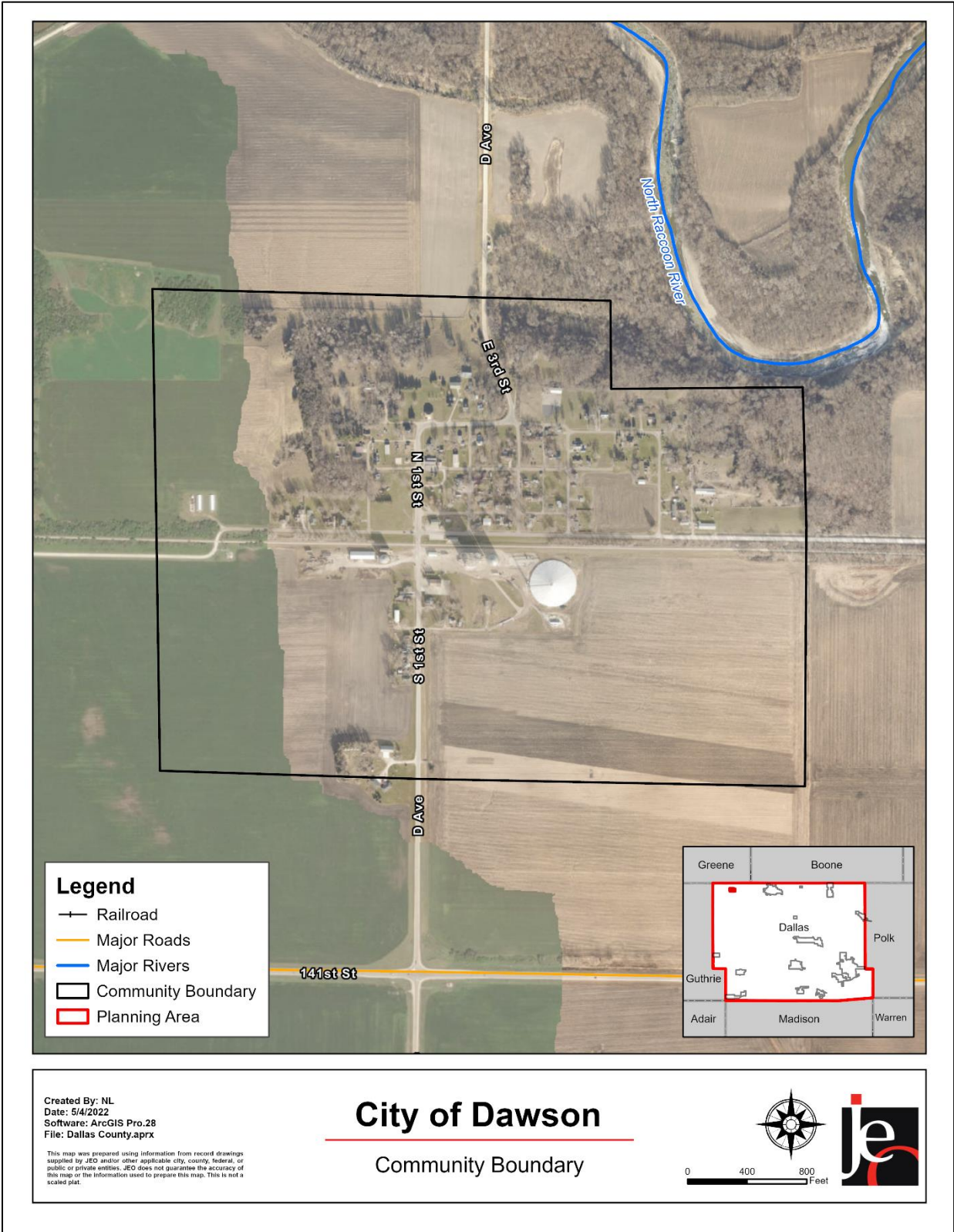
**Figure DSN.1: Population 1910 - 2020**



Source: U.S. Census Bureau

<sup>61</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

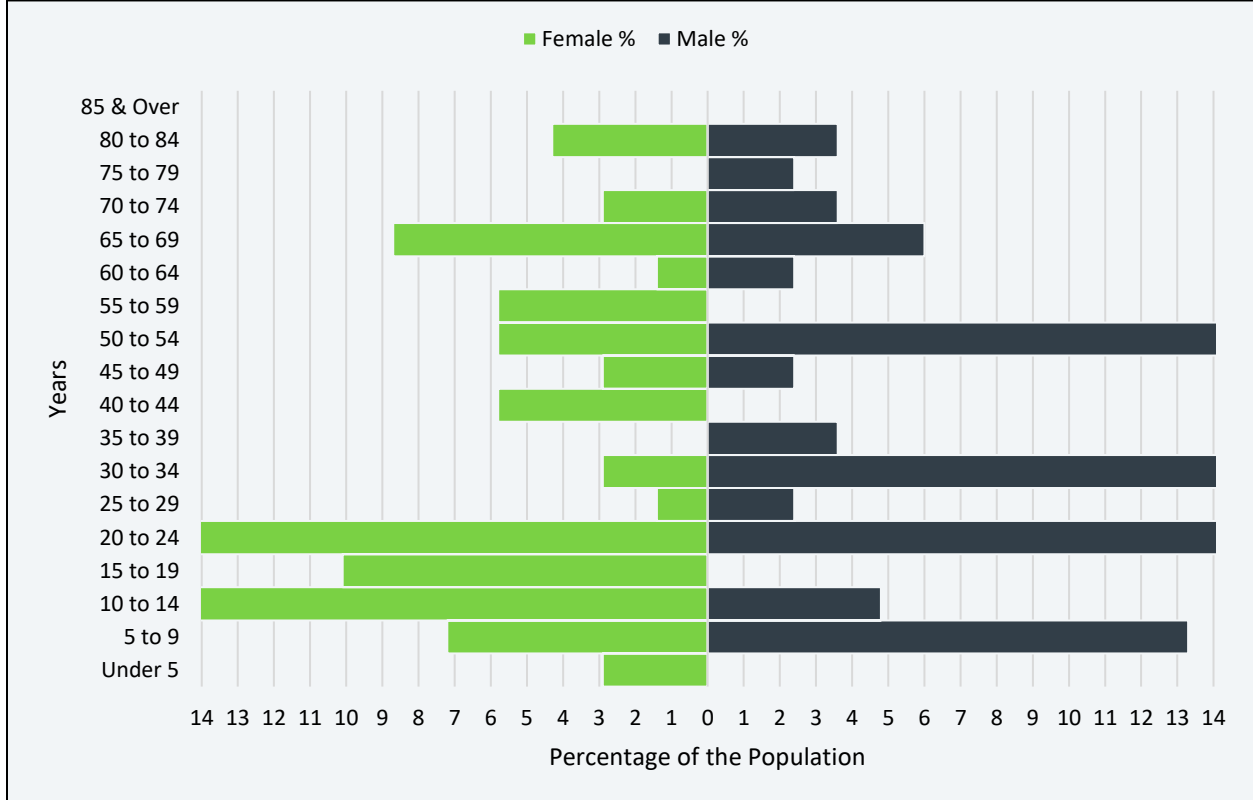
Figure DSN.2: City of Dawson



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

- **11.2% is non-white.** Since 2010, Dawson became more racially diverse. In 2010, 6.9% of the Dawson's population was non-white. By 2020, 11.2% was non-white.<sup>62 63</sup>
- **30.4 median age.** The median age of Dawson was 30.4 years old in 2020. The population became younger since 2010, when the median age was 37.7.<sup>64 65</sup>

**Figure DSN.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>62</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>63</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>64</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>65</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **1.4% of people living below the poverty line.** The poverty rate (1.4%) in Dawson was lower than the state's poverty rate (11.1%) in 2020.<sup>66</sup>
- **\$55,662 median household income.** Dawson's median household income in 2020 (\$55,662) was about \$6,200 lower than the state (\$61,836).<sup>67</sup>
- **0% unemployment rate.** In 2020 Dawson had a lower unemployment rate (0%) compared to the state (3.9%).<sup>68</sup>
- **25.1% of workers commuted 30 minutes or more to work.** Fewer workers in Dawson commuted 30 minutes or more to work than workers commuting less than 15 minutes (25.1% compared to 40.2%).<sup>69</sup>

### Major Employers

The city's major employer is the Landus Cooperation. According to the local planning team, approximately 100% of residents commute to other communities for work, including Perry, Des Moines Metro, and Boone.

## Housing

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

- **94.8% of housing built prior to 1970.** Dawson has a greater share of housing built prior to 1970 than the state (94.8% compared to 50.4%).<sup>70</sup>
- **30.2% of housing units vacant.** Since 2010, Dawson's vacancy rate decreased. In 2010 the vacancy rate was 10.7%. By 2020, 30.2% of housing units were vacant.<sup>71 72</sup>

<sup>66</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>67</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>68</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>69</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>70</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>71</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>72</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

## Section Seven: City of Dawson Community Profile

- **3.1% mobile and manufactured housing.** The City of Dawson had a smaller share of mobile and manufactured housing (3.1%) compared to the state (3.6%).<sup>73</sup>
- **14.9% renter-occupied.** The rental rate of Dawson was 14.9% in 2020. The percentage increased since 2010, when renter occupied housing was at 10%.<sup>74 75</sup>

The city has four mobile homes located in different locations, but does not have a large mobile home park.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Dawson has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Water/Sewer Superintendent

### Capability Assessment

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

**Table DSN.2: Capability Assessment**

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

<sup>73</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>74</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>75</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



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

Table DSN.3: Overall Capability

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

## Plan Integration

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

### Funding and Grants

The City of Dawson's funds are sufficient to pursue new capital projects. The city has a large portion of municipal funds dedicated to improving transportation routes that run through town. The city's municipal funds have increased over recent years. All projects identified in the hazard mitigation plan are included in the municipal budget. The county roads department applied for a grant to pay for the new roads being brought through town and was awarded it.

### Comprehensive Plan (2019)

The comprehensive plan is designed to guide the future actions and growth of the city. The city recently updated their plan in 2019.

## Future Development Trends

Over the past five years, the city has not performed many development projects. Four houses have been demolished and the city has allowed the lots to be transformed into green space. There are currently no housing, business, or industry plans in place for the next five years.

## Community Lifelines

### Transportation

Dawson's major transportation corridors include State Highway 141 and County Highway P46. The most traveled route is Highway 141 with an average of 3,220 vehicles daily, 443 of which are trucks.<sup>76</sup> According to the local planning team, chemicals are regularly transported along local routes such as P46 traveling north and south and Railroad Ave. traveling east and west. These are typically farm chemicals being transported such as anhydrous. The Perry/Dawson fire station, an identified critical facility, is located along a main transportation route of on P46 and 1<sup>st</sup> Street. The P46 Dawson Water pump house is also located along a main transportation route north out of town. The nearest airport, Perry Municipal Airport, is located about 3 miles east of Dawson. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

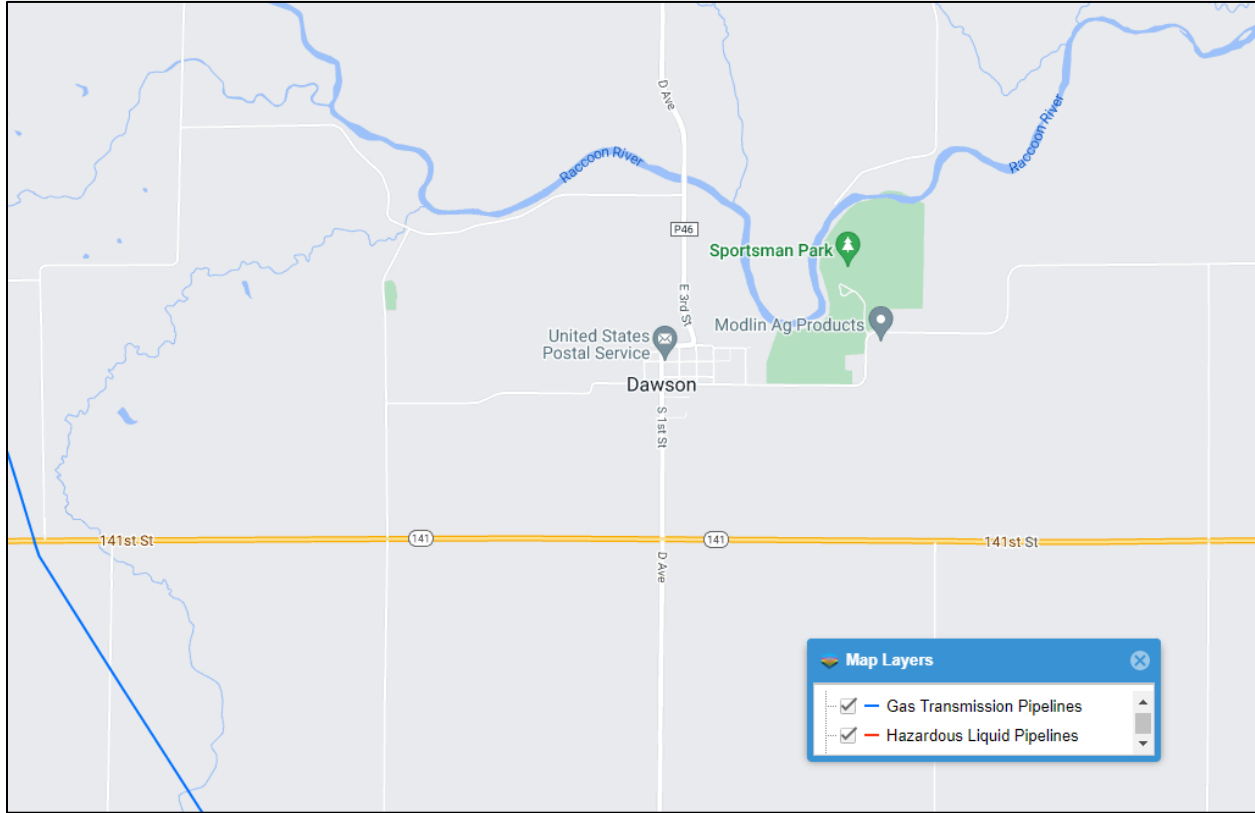
---

<sup>76</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

## Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

**Figure DSN.4: Pipelines**



Source: National Pipeline Mapping System<sup>77</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there is one chemical storage site in Dawson that contains hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table DSN.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>Landus Cooperative - Dawson</b>	212 S First Street	No

Source: Iowa Department of Natural Resources<sup>78</sup>

## Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

<sup>77</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

<sup>78</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

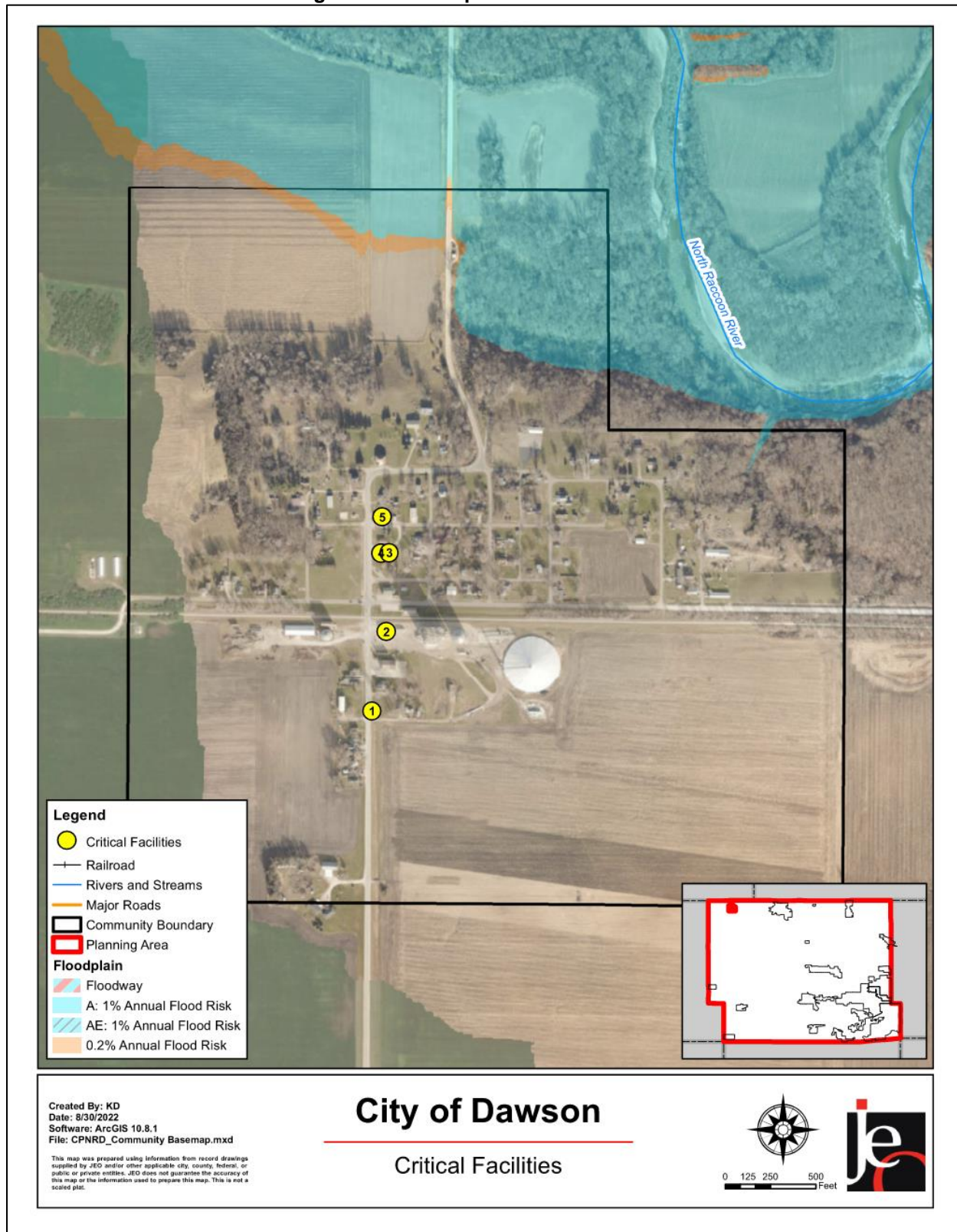
### Critical Facilities

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

**Table DSN.5: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Dawson Fire Station	Y	N	N
2	Landus Coop - Dawson	N	N	N
3	Water Tower	N	N	N
4	Pump House	N	N	Y
5	City Hall	Y	N	N

**Figure DSN.5: Map of Critical Facilities**



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
78	\$4,429,480	2	\$85,540	3%

Source: County Assessor, 2022

**Table DSN.7 Dawson Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
78	\$4,429,480	1	\$54,020	1%

Source: County Assessor, 2022

**Table DSN.8: Dawson Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>79</sup>

<sup>79</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.



## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### **Severe Thunderstorms (includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Dawson. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 22 instances of severe thunderstorms occurring in Dawson from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles due to high winds. These storms caused a total of \$382,000 worth of structural damage. The most damaging storm occurred in 2008 and resulted in numerous trees uprooted and closing all but one road. Three house sustained tree damage, a few LP tanks leaked due to tree damage, and a grain elevator sustained damage in town. The top concern identified by the local planning team was the loss of power. To reduce risk and impacts to this hazard, the city has placed their powerlines underground.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Van Meter. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021. According to the local planning team a snowstorm in 2008 closed the town for multiple day. Downed trees covered roads and snow made road impassable.

Significant concerns identified by the local planning team are the loss of power and water plants shutting down. The city has not experienced any structural damage to critical facilities from severe winter storms. To reduce risk and impacts to this hazard, the city has placed 99% of the powerlines underground of them having been buried and arranged for an emergency use generator. According to the local planning team, the city's snow removal resources are sufficient.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County. No tornadoes have been reported in Dawson. According to the local planning team, derecho winds have impacted the city and resulted in damage to cars and buildings from downed trees. The top concern of the planning team is the loss of power and damage to the water tower or pumphouse. To minimize the effects of tornadoes and windstorms, the city has placed their powerlines underground.

## Mitigation Strategy

### New Mitigation and Strategic Actions

Mitigation Action	Backup Generator
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$40,000+
<b>Funding</b>	City General Fund
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Hall
<b>Status</b>	Not started

## Plan Maintenance

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

The 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 Mayor and City Clerk. The plan will be reviewed annually. The public will be included in the review and revision process via letters to residents, council meetings, and social media updates.

## Community Profile

# City of De Soto

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table DSO.1: De Soto Local Planning Team**

Name	Title	Jurisdiction
<b>Marcia Thomas</b>	City Clerk	City of De Soto
<b>Dan Van Langen</b>	Public Works Director	City of De Soto

## Location and Geography

The City of De Soto is located in south central Dallas County and covers an area of 1.75 square miles. Major waterways in the area include South Racoon River and Bulger Creek.

## Demographics

De Soto's population in 2020 was 915. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of De Soto remained relatively stable from 1880 to 1970, saw a dramatic increase from 1970-1980, and leveled off again from 1980 to 2010. Over the past decade, however, the number has decreased. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. De Soto's population accounted for 0.9% of Dallas County's population in 2020.<sup>80</sup>

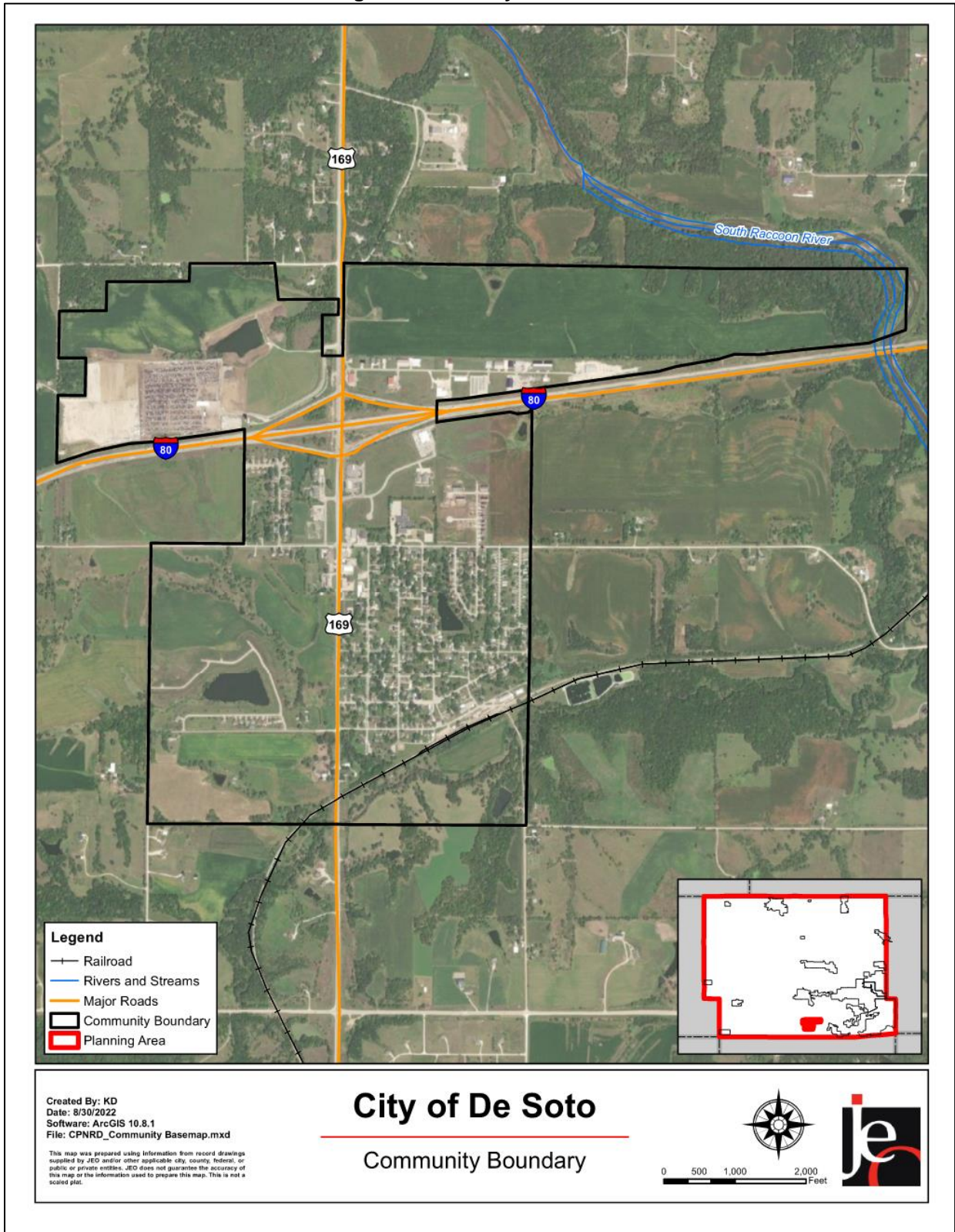
**Figure DSO.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>80</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

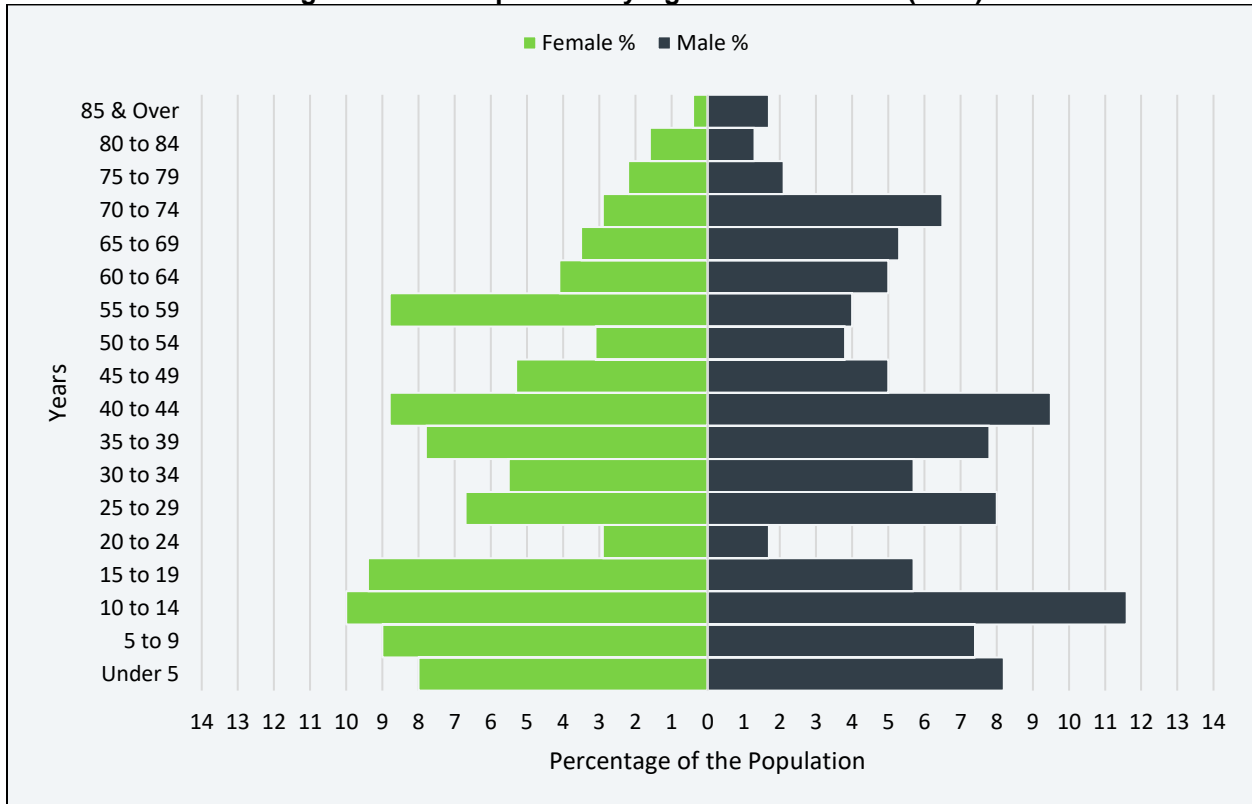
Figure DSO.2: City of De Soto



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

- **8.6% is non-white.** Since 2010, De Soto became more racially diverse. In 2010, 3.4% of the De Soto's population was non-white. By 2020, 8.6% was non-white.<sup>81 82</sup>
- **35.1 median age.** The median age of De Soto was 35.1 years old in 2020. The population became younger since 2010, when the median age was 35.8.<sup>83 84</sup>

**Figure DSO.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows De Soto's population percentage broken down by sex and five-year age groups. De Soto's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

<sup>81</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>82</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>83</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>84</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.



## Employment and Economics

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

- **3.6% of people living below the poverty line.** The poverty rate (3.6%) in De Soto was lower than the state's poverty rate (11.1%) in 2020.<sup>85</sup>
- **\$73,021 median household income.** De Soto's median household income in 2020 (\$73,021) was about \$11,200 higher than the state (\$61,836).<sup>86</sup>
- **3.7% unemployment rate.** In 2020 De Soto had a lower unemployment rate (3.7%) compared to the state (3.9%).<sup>87</sup>
- **24.8% of workers commuted 30 minutes or more to work.** Fewer workers in De Soto commuted 30 minutes or more to work than workers commuting less than 15 minutes (24.8% compared to 26.5%).<sup>88</sup>

### Major Employers

Major employers for the city include Dollar General, Casey's, Kum and Go, Kwik Star, and All States Ag. According to the local planning team, a large percentage of residents commute to other communities for work such as West Des Moines and Des Moines.

## Housing

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

- **19.5% of housing built prior to 1970.** De Soto has a smaller share of housing built prior to 1970 than the state (19.5% compared to 50.4%).<sup>89</sup>
- **9.6% of housing units vacant.** Since 2010, De Soto's vacancy rate increased. In 2010 the vacancy rate was 5.2%. By 2020, 9.6% of housing units were vacant.<sup>90 91</sup>

<sup>85</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>86</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>87</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>88</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>89</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>90</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>91</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

## Section Seven: City of De Soto Community Profile

- **20.4% mobile and manufactured housing.** The City of De Soto had a greater share of mobile and manufactured housing (20.4%) compared to the state (3.6%).<sup>92</sup>
- **16.7% renter-occupied.** The rental rate of De Soto was 16.7% in 2020. The percentage increased since 2010, when renter occupied housing was at 14.5%.<sup>93 94</sup>

The city has approximately 60 trailer homes at the Holiday Terrace Mobile Home Park with the potential for up to 99 mobile homes to be located here.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. De Soto has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Attorney
- Chief of Police
- Fire Chief
- Wastewater Plant Superintendent
- Water/Sewer Superintendent
- Street Superintendent
- City Inspector
- Library Board Chairperson
- GIS/Zoning Administrator
- Public Transportation Director

### Capability Assessment

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

**Table DSO.2: Capability Assessment**

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

<sup>92</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>93</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>94</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Survey Components/Subcomponents		Yes/No
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	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
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</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 DSO.3: Overall Capability**

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

## Plan Integration

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

### Grants and Funding

The City of De Soto's funds are limited to covering maintenance of current facilities and municipal systems only. A large portion of funds had been allocated to the recently completed new water treatment facility and no new projects are on the horizon for the city. Municipal funds have increased with the passing of the Local Option Sale Tax as well as new commercial and residential development. In recent years, the city has applied for CDBG grants and was awarded two \$500,000 CDBG grants.

### Comprehensive Plan

The comprehensive plan is designed to guide the future actions and growth of the city. The city's plan contains goals aimed at Safe Growth. The city updates the plan per City Council discussion when needed.

### Zoning Ordinance (2020), Floodplain Ordinance, Subdivision Regulation

The Zoning Ordinances and Floodplain Ordinances are updated any time the State of Iowa makes legal changes or when the City Attorney recommends updates. The Floodplain Ordinances contains floodplain maps, prohibits development within the floodplain, and limits population density in the floodplain. They also identify floodplain areas as parks or open space. The Zoning Ordinances include well setback requirements and will include the ability to implement water restrictions in future updates. The Subdivision Regulations do not allow density transfers in hazard areas or restrict subdivision of land within or adjacent to the floodplain.

### Building Codes (2015)

The building code sets standards for constructed buildings and structures. The city has adopted the 2015 International Building Codes and the current Iowa Statewide Urban Design and Specifications (SUDAS). These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use.

### Water System Emergency Response Plan (2021)

Water system emergency response plans ensure the drinking water systems that serve the City of De Soto are prepared to supply customers with drinking water in the event of an emergency. It

includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Wellhead Protection Plan (2012)**

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

## **Future Development Trends**

Over the past five years, the city has had new residential housing built and a new Kwik Star business come to town. In the next five years, a new housing development is planned east of De Soto School, a new business is planned to be built either behind the Kum & Go or north of the interstate within the Industrial area. A future land use map for the city can be seen in the following figure.

## **Community Lifelines**

### **Transportation**

De Soto's major transportation corridors include U.S. Highway 169 and Interstate 80. Highway 169 has an average of 5,700 vehicles daily, 308 of which are trucks. Interstate 80 has an average of 23,800 vehicles daily, with 7,680 of those being trucks.<sup>95</sup> As a rural area, farming chemicals are frequently transported through town, however a dairy tanker truck spilling into a water way by the Kum & Go has been the only recorded chemical spill to occur locally according to the local planning team. Other significant transportation incidents in town include tall loads having struck the I-80 bridge and impacting traffic flow on Highway 169. De Soto has one rail line, the Iowa Interstate Railroad, which travels along the southern edge of the community. The Des Moines International Airport is located about 18 miles east of De Soto. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

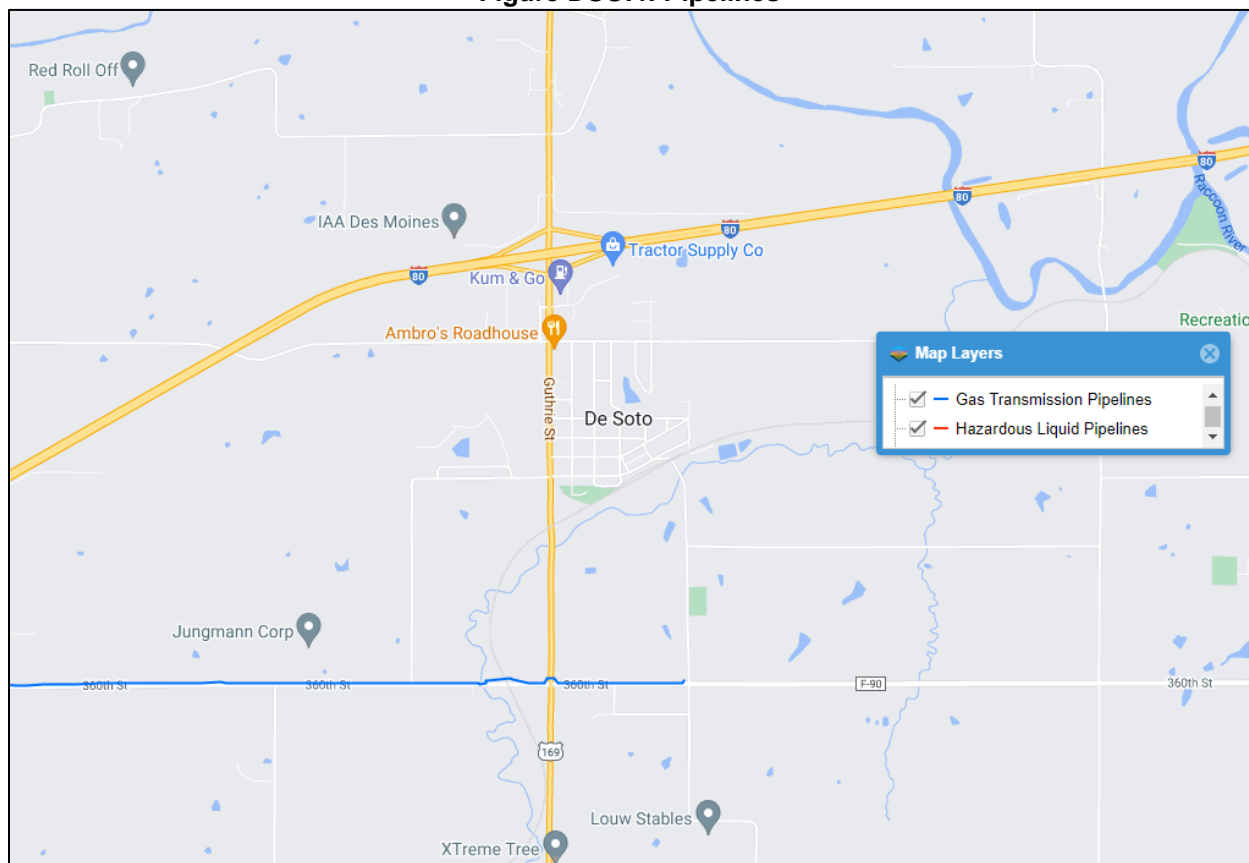
---

<sup>95</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

## Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

**Figure DSO.4: Pipelines**



Source: National Pipeline Mapping System<sup>96</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are no chemical storage sites in De Soto that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table DSO.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
De Soto Water Treatment Plant	33814 Overton Circle	1% Floodplain

Source: Iowa Department of Natural Resources<sup>97</sup>

## Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

<sup>96</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

<sup>97</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.



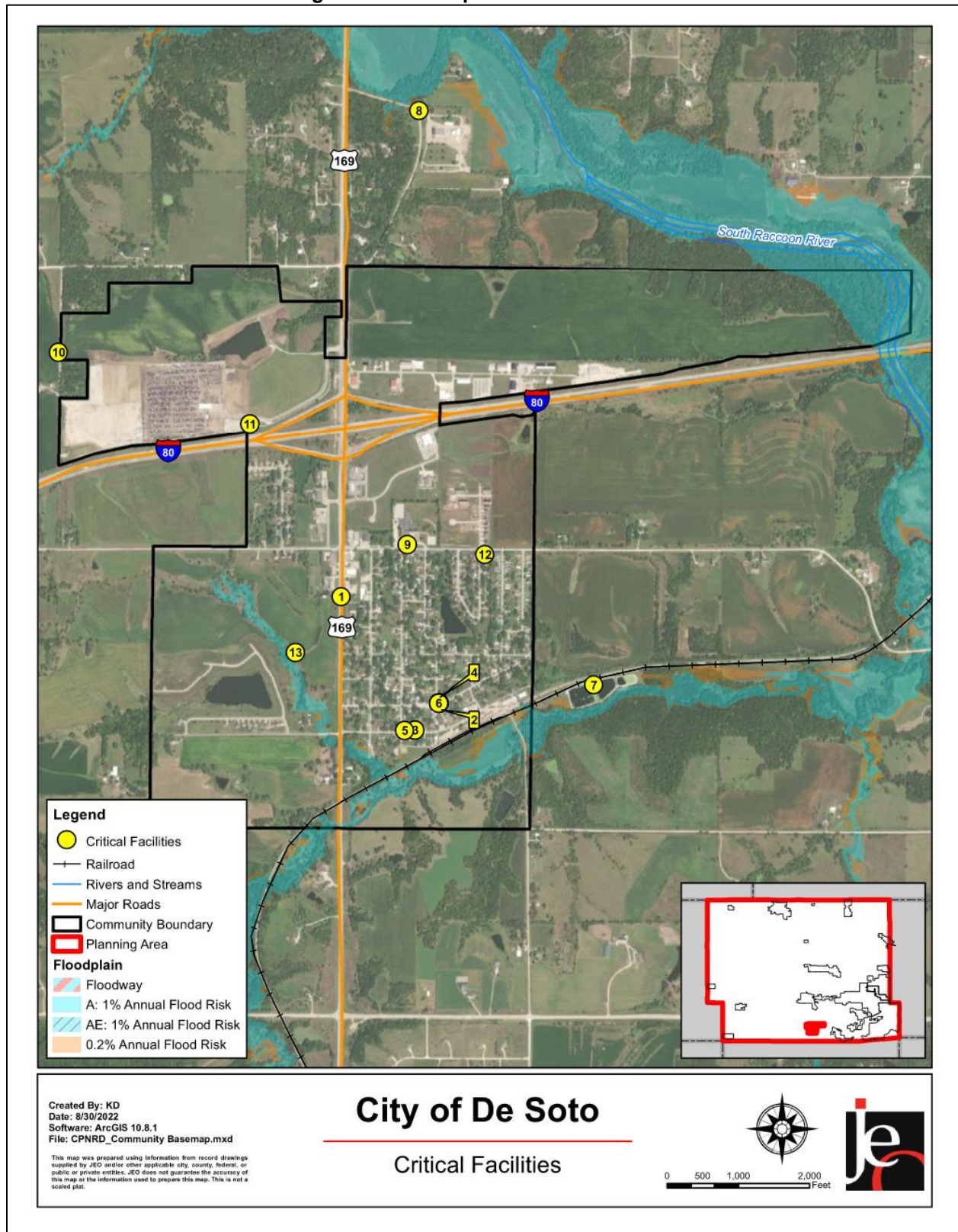
### Critical Facilities

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

**Table DSO.5: Critical Facilities**

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
<b>1</b>	100 Acre Woods Child Care Center	N	N	N
<b>2</b>	De Soto City Hall	N	N	N
<b>3</b>	De Soto Public Works	N	Y	N
<b>4</b>	De Soto Library	N	N	N
<b>5</b>	De Soto Fire Department	N	Y	N
<b>6</b>	De Soto Police Department	N	Y	N
<b>7</b>	De Soto Wastewater Plant	N	Y	N
<b>8</b>	De Soto Water Treatment Plant	N	Y	Y
<b>9</b>	De Soto Intermediate School	N	N	N
<b>10</b>	Xenia Water - Water Booster	N	Y	N
<b>11</b>	De Soto Water Tower (New Tower)	N	Y	N
<b>12</b>	De Soto Water Tower (Old Tower)	N	N	N
<b>13</b>	Oak Hill Lift Station	N	N	N

**Figure DSO.5: Map of Critical Facilities**



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table DSO.6: De Soto Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
400	\$65,371,350	4	\$237,820	1%

Source: County Assessor, 2022

**Table DSO.7: De Soto Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
400	\$65,371,350	3	\$235,600	1%

Source: County Assessor, 2022

**Table DSO.8: De Soto Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>98</sup>

<sup>98</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Severe Thunderstorms (Includes Hail and Lightning)

Severe thunderstorms are a regular part of the climate and weather for De Soto. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 11 instances of severe thunderstorms occurring in De Soto from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$192,000 worth of damage across Dallas County. Additionally, the local planning team reported on one event that were not included in the NCEI database. In 2008, a lightning strike hit the city's water well pumps and the water treatment plant. The city was under a boil water order for three days while repairs were made.

The local planning team's main concern for this hazard was the damage sustained to infrastructure during storms. To reduce risk and impacts to this hazard, the city has equipped the new water treatment plant with a generator.

### Severe Winter Storms

Severe winter storms are a regular part of the climate and weather for De Soto. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events in the county from 2000 to 2021.

The local planning team reports that there have been various past occurrences of major snowfall. The top concern identified by the local planning team was traffic control during a storm. The planning team indicated that a storm shelter/community building was needed in the future to reduce risk to the community. Snow removal resources were reported to be sufficient.

### Tornado and Windstorm

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and three tornadoes in De Soto. The first tornado event occurred in June 1998 with an F1 tornado with winds in excess of 100 MPH that did not cause excessive damage in De Soto. The second reported tornado was in April 1999 and was an F3 tornado with no injuries or deaths reported. The third tornado occurred March 2003 and was an F0 level tornado that briefly touched down in an open field with no damages.

The local planning team's top concern with windstorm and tornado events is potential powerline damage. To minimize the effects of these events, the city has removed several dead trees in powerline right of ways.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	Backup Generator
<b>Description</b>	Purchase and install new standby generator for the water treatment plant.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$10,000 to \$50,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Medium
<b>Lead Agency</b>	Public Works
<b>Status</b>	A new backup generator was purchased and installed at the water treatment plant.

### New Mitigation and Strategic Actions

Mitigation Action	Storm Shelter
<b>Description</b>	Construct a new building to be used as a community storm shelter.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$250,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Public Works
<b>Status</b>	Not started

## Plan Maintenance

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

The local planning team is responsible for reviewing and updating this community profile as changes can occur before or after a major event. The local planning team will include the Police Chief, Public Works Director, and the City Clerk. The plan will be reviewed bi-annually. The public will be included in the review and revision process via council meetings.

This Page is Intentionally Blank



## Community Profile

# City of Dexter

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table DEX.1: Dexter Local Planning Team**

Name	Title	Jurisdiction
Dave Venema	Mayor	City of Dexter
Brad Vry	Fire Chief	City of Dexter
Eli Canfield	Public Works	City of Dexter

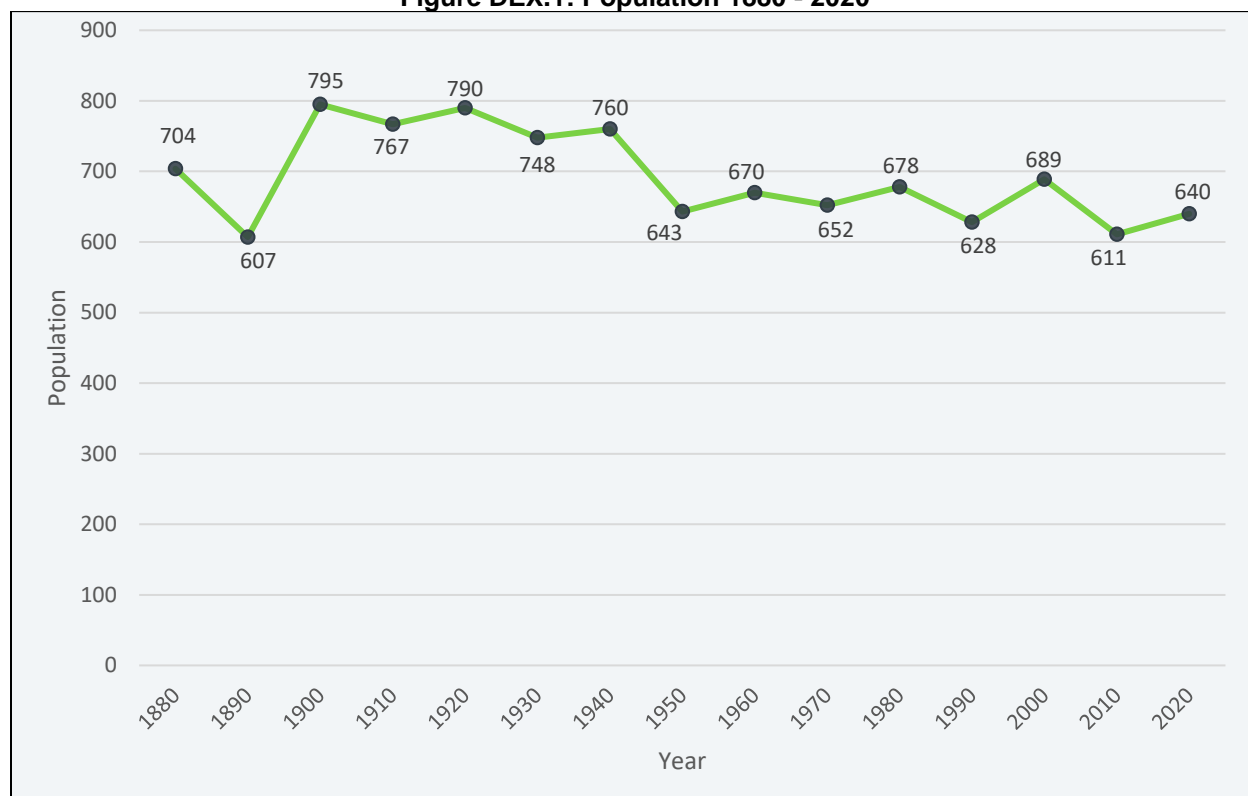
## Location and Geography

The City of Dexter is located in southwest Dallas County and covers an area of 1.25 square miles. Waterways in the area include Jim Creek and Long Branch.

## Demographics

Dexter's population in 2020 was 640. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of Dexter has generally fluctuated from 1880 to 2020. However, the city saw an increase in population over the past decade. 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. Dexter population accounted for 0.6% of Dallas County's population in 2020.<sup>99</sup>

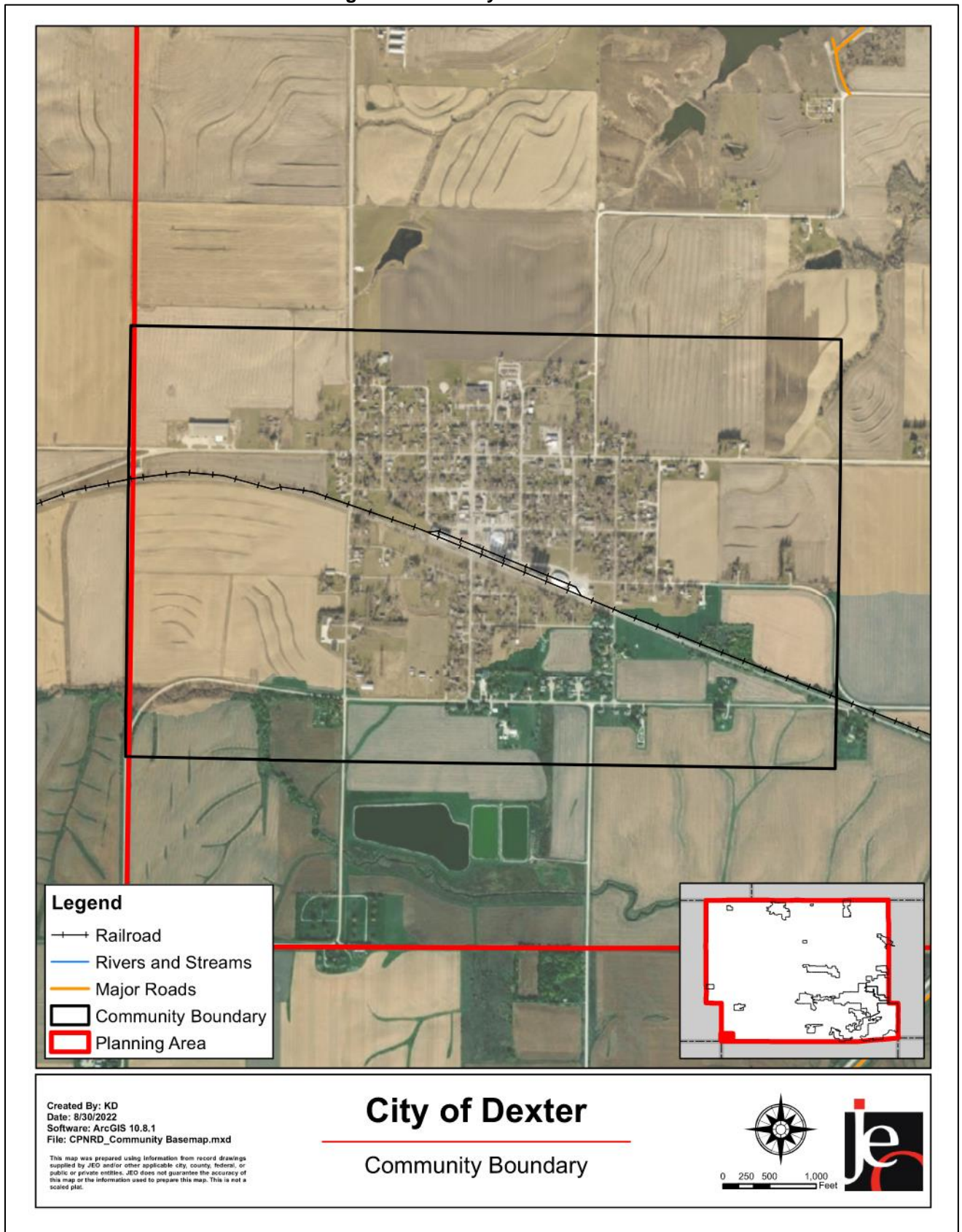
**Figure DEX.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>99</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

Figure DEX.2: City of Dexter

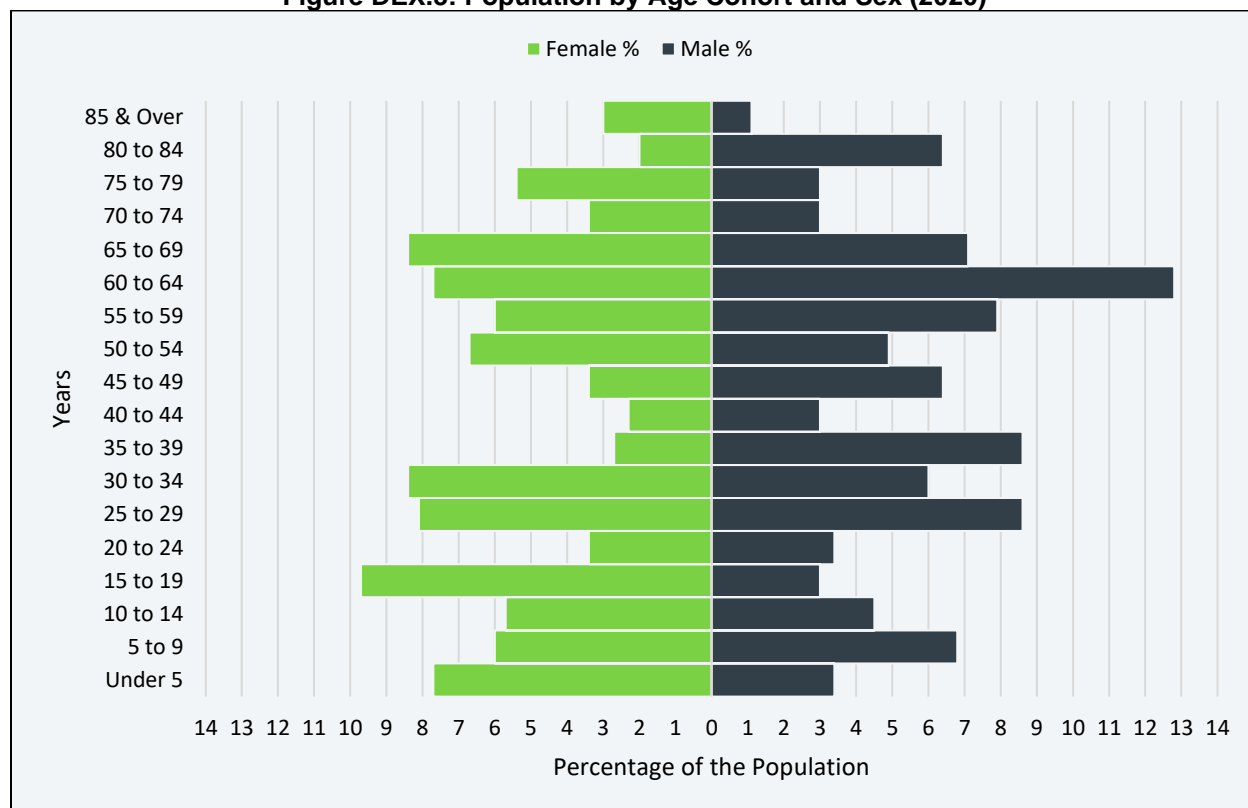


## Section Seven: City of Dexter Community Profile

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

- **5.9% is non-white.** Since 2010, Dexter became more racially diverse. In 2010, 1.5% of the Dexter's population was non-white. By 2020, 5.9% was non-white.<sup>100 101</sup>
- **41.8 median age.** The median age of Dexter was 41.8 years old in 2020. The population grew older since 2010, when the median age was 38.5.<sup>102 103</sup>

**Figure DEX.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Dexter's population percentage broken down by sex and five-year age groups. Dexter's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

## Employment and Economics

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

<sup>100</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>101</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>102</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>103</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

- **7% of people living below the poverty line.** The poverty rate (7%) in Dexter was lower than the state's poverty rate (11.1%) in 2020.<sup>104</sup>
- **\$58,125 median household income.** Dexter's median household income in 2020 (\$58,125) was about \$3,700 lower than the state (\$61,836).<sup>105</sup>
- **2.1% unemployment rate.** In 2020 Dexter had a lower unemployment rate (2.1%) compared to the state (3.9%).<sup>106</sup>
- **59.3% of workers commuted 30 minutes or more to work.** More workers in Dexter commuted 30 minutes or more to work than workers commuting less than 15 minutes (59.3% compared to 24.5%).<sup>107</sup>

## Major Employers

Major employers for the city include Heartland Co-op, West Central Valley School, Midwest Trencher, the Rusty Duck, Casey's, and the United States Postal Service. According to the local planning team, a large percentage of residents commute to other communities for work, such as Des Moines and West Des Moines.

## Housing

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

- **69.7% of housing built prior to 1970.** Dexter has a greater share of housing built prior to 1970 than the state (69.7% compared to 50.4%).<sup>108</sup>
- **6% of housing units vacant.** Since 2010, Dexter's vacancy rate decreased. In 2010 the vacancy rate was 9.6%. By 2020, 6% of housing units were vacant.<sup>109 110</sup>
- **6% mobile and manufactured housing.** The City of Dexter had a greater share of mobile and manufactured housing (6%) compared to the state (3.6%).<sup>111</sup>

<sup>104</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>105</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>106</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>107</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>108</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>109</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>110</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>111</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

- **21% renter-occupied.** The rental rate of Dexter was 21% in 2020. The percentage increased since 2010, when renter occupied housing was at 12.9%.<sup>112 113</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Dexter has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Attorney
- Fire Chief
- Wastewater Plant Superintendent
- Water/Sewer Superintendent
- Solid Waste Superintendent
- Street Superintendent
- City Inspector
- SWIPCO
- SICOG
- Library Board Chairperson
- Parks Superintendent
- GIS/Zoning Administrator

## Capability Assessment

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

**Table DEX.2: Capability Assessment**

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

<sup>112</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>113</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



Survey Components/Subcomponents		Yes/No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

**Table DEX.3: Overall Capability**

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

## Plan Integration

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

### Funding and Grants

The City of Dexter's municipal funds are limited to maintaining current facilities and municipal systems. There are currently no large projects planned for within the city's funds. Municipal funds have increased over recent years. In the last five years the city has applied for several grants, including ones for safety signs, weather sirens, and the DMACC Water Environmental Technology (WET) program. The city was awarded a DMACC WET grant.

### Building Codes

The building code sets standards for constructed buildings and structures. These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use.

### Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include improving transportation routes for drainage, installing water meters for residential structures, constructing a new fire hall, improving the existing water treatment facility, and improving other existing community owned structures. The city plans to update the plan in the coming years and hopes to include upsizing water distribution pipes, installing emergency generators in critical facilities, and constructing a new police headquarters in the future update.

### Zoning Ordinance and Subdivision Regulations

The city currently has a Zoning Ordinance in place that includes well setback requirements and allows the city the ability to implement water restrictions. The ordinances do not discourage development along major transportation routes. The city's subdivision regulations do not allow density transfers in hazard areas nor do they restrict subdivision of land within or adjacent to the floodplain.

### Water System Emergency Response Plan

Water system emergency response plans ensure the drinking water systems that serve the City of Dexter are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

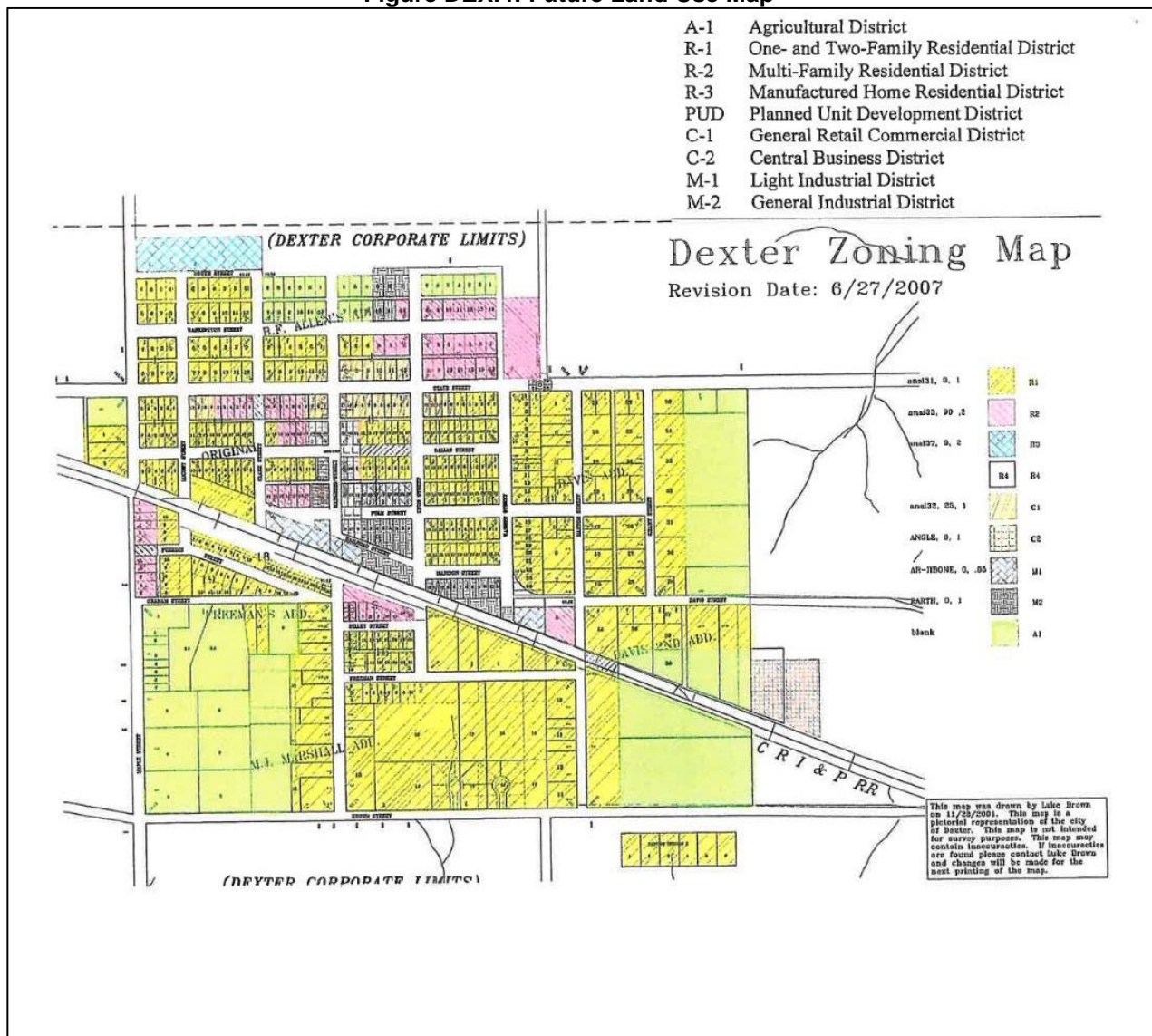
## Wellhead Protection Plan

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

## Future Development Trends

In the last five years, there have been three houses demolished and two new houses built in the city. The city has resurfaced various roads as well. Currently there are no new housing developments or new businesses planned for the next five years. A future land use map for the city can be seen in the following figure

Figure DEX.4: Future Land Use Map



## Community Lifelines

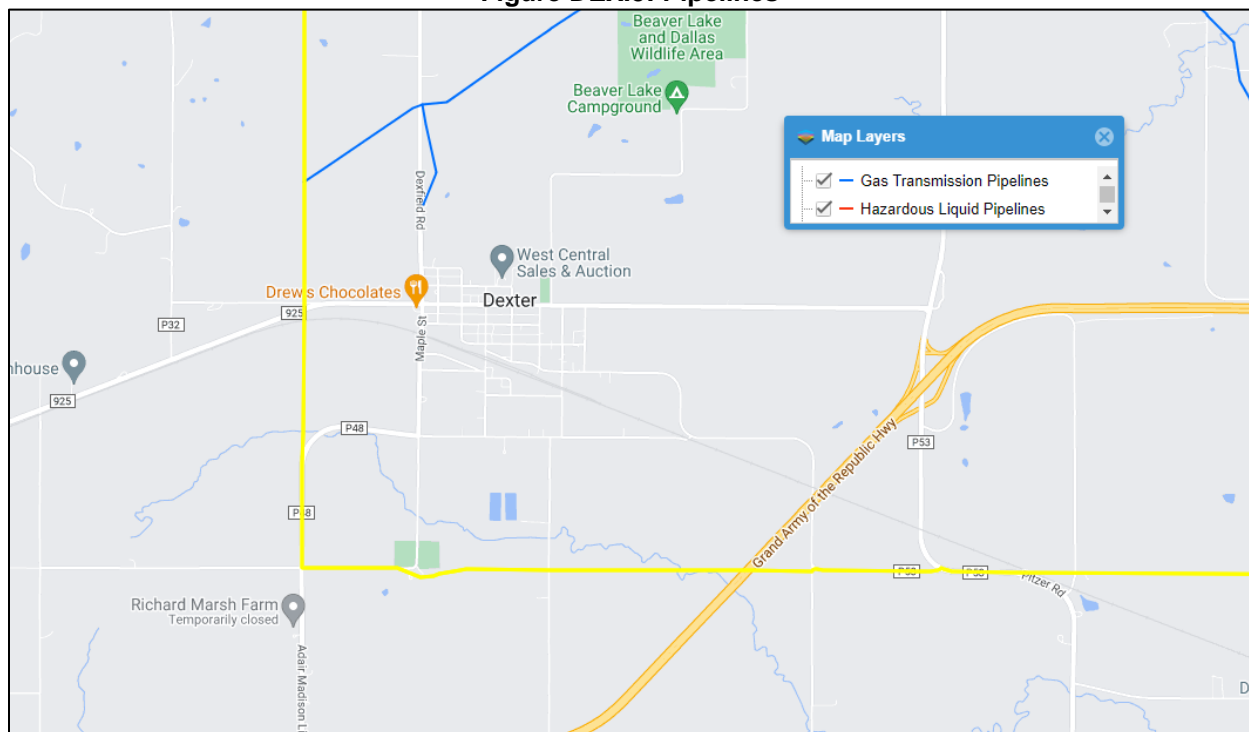
### Transportation

Dexter's major transportation corridors include County Highway P48 and County Highway F65. Interstate 80 also runs near the city. Highway P48 has an average of 320 vehicles. Highway F65 has a daily average of 2,580 vehicles.<sup>114</sup> Dexter has one rail line, the Iowa Interstate Railroad, which travels through the community. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents. This fire station is the only critical facility located along the city's main transportation routes. Dexter has agricultural chemicals regularly transported along local routes with none of the chemicals spilling locally to date. If a multi-vehicle pileup occurs on the interstate, the detour route brings a high flow of vehicles through Dexter.

### Hazardous Materials

There are gas transmission pipelines that travel near the city and can be seen as blue lines in the figure below.

**Figure DEX.5: Pipelines**



Source: National Pipeline Mapping System<sup>115</sup>

<sup>114</sup> Iowa Department of Transportation. 2016. "Iowa Traffic Data". Accessed May 2022.

<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

<sup>115</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there is one chemical storage site in Dexter that contains hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table DEX.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>MidAmerican Energy - Arbor Hill Substation</b>	1259 York Ave, Dexter, IA 50070	No
<b>Casey's</b>	803 State St, Dexter, IA 50070	No
<b>Midwest Trenchers</b>	375 State St, Dexter, IA 50070	No

Source: Iowa Department of Natural Resources<sup>116</sup>

### Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

### Critical Facilities

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

**Table DEX.5: Critical Facilities**

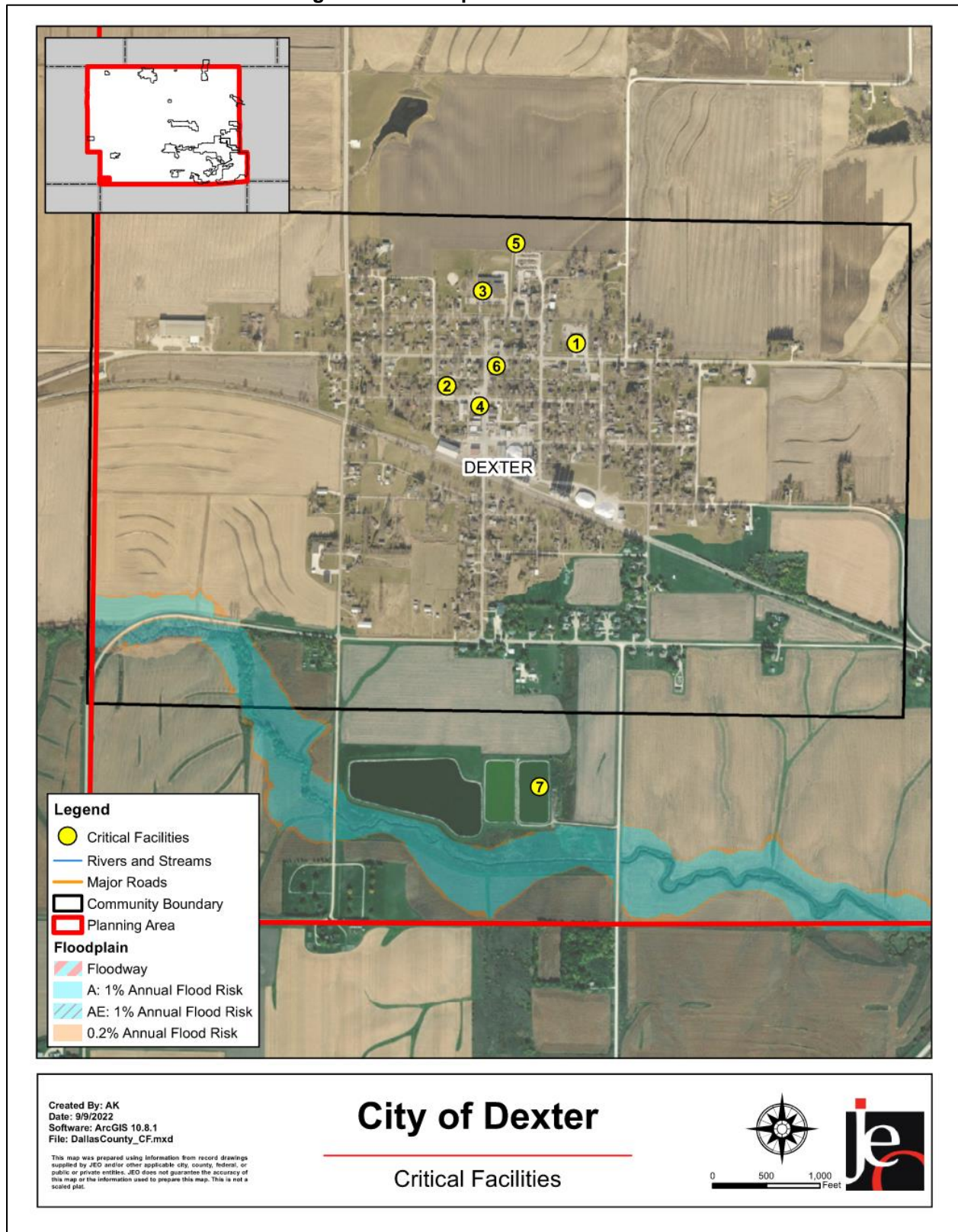
CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Dexter City Hall	N	N	N
	Dexter Fire Department	N	Y	N
2	Roundhouse	Y	N	N
3	Dexter Elementary School	Y	N	N
4	Dexter Library	N	N	N
5	Water Supply Standpipe	N	N	N
6	Water Tower	N	N	N
	Jordan Well #1	N	N	N
7	Lagoon	N	N	N
8*	Dexter Water Treatment	N	N	N

\*Treatment plant is not mapped but is located south of Redfield.

<sup>116</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.



Figure DEX.6: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.



## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
353	\$43,841,680	2	\$158,570	1%

Source: County Assessor, 2022

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
353	\$43,841,680	2	\$158,570	1%

Source: County Assessor, 2022

**Table DEX.8: Dexter Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>117</sup>

### National Flood Insurance Program (NFIP)

Dexter is not a member of the NFIP. The initial FIRM for the community was delineated on January 19, 2000, and the current effective map date is December 7, 2018. (See Figure DEX.6) The community currently lacks the staff and resources necessary to manage the NFIP. However, the city will reevaluate participation if additional resources become available along with public support from the community to participate in the NFIP.

<sup>117</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Animal and Plant Disease

The destruction of the Emerald Ash Borer has heavily impacted the City of Dexter's ash tree populations. The dead ash trees become hazardous as they weaken and fall. In 2021, the city had an ash tree fall over the highway. Before it could be removed, a car crashed into it at highway speeds. The local planning team's top concern is more dead trees falling and causing injuries and fatalities, power outages, and more traffic incidents. To reduce the risk of these concern, the city has started removing infected Ash trees throughout the city.

### Infrastructure Failure

The local planning team is concerned about infrastructure failure impacting the city water system, resulting in the loss of adequate water supply. The city has experienced past events of well or water plant failures that have caused the city to activate the emergency water supply. The emergency water supply is not intended for long term activation, which raises concerns of the local planning team. The city is currently updating the water system and water alarm system to reduce the risk of infrastructure failure.

### Severe Winter Storms

Severe winter storms are a regular part of the climate and weather for Dexter. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021. The local planning team reports past occurrences of excess snowfall blocking emergency routes and ice storms causing power failure in the city.

The top concern identified by the local planning team was the safety of residents' lives during a storm. To reduce risk and impacts to this hazard, the city has hired additional part time public works employees for snow removal and uses snow fences on the east side of town along the northern sides of State Street and Davis Street and in the western portion of town along the west side of Marshall Street. The city has entered into mutual aid agreements for interstate incidents and approximately 40-50% of powerlines within the city are buried. For future reduction of risk, the local planning team would like to install backup generators, improve tree removal, and increase Fire and EMS staffing and training for traffic incidents. The city's snow removal resources are reported as being sufficient.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and one tornado in Dexter. The brief tornado event occurred in May 2004 with an EF0 tornado only briefly touching down in open fields. No injuries or other damages were reported. Derechos in 2020 impacted the community and caused power outages, uprooted trees, and damaged structures. The local planning team's top concerns for this hazard included infrastructure failure, power outages, mass destruction, and even the potential for fatalities.

To minimize the effects of tornadoes and windstorms, the city has had members of the fire department attend storm spotter trainings for early alert activations. The city is looking to continuing the training and implement a strong back up power supply.

### **Transportation Incident**

This hazard was identified as a top hazard due to the city's proximity to Interstate 80 that partially runs along the southern border of the city. The city has experienced multiple past motor vehicle collisions resulting in injuries and fatalities. The top concerns noted by the local planning team are those of fatalities, injuries, hazardous material spills resulting in environmental impacts, and secondary incidents. In a major incident, loss of life, environmental damage, hazardous releases, or economic disruption could impact the city.

To help reduce the risk of transportation incidents, the city is working to implement a four way stop at a main intersection to help reduce collisions. Speed limits in town are being reduced and the fire department has attended extraction trainings. In the future, the city plans to increase local EMS staffing as well.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	Safe Rooms/Storm Shelters
<b>Description</b>	Designate emergency safe buildings for residents in the event of a tornado, windstorm, or other hazard event. Supply water and first aid materials.
<b>Hazard(s)</b>	All Hazards
<b>Estimated Cost</b>	<\$10,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Low
<b>Lead Agency</b>	Fire Department
<b>Status</b>	Completed

Mitigation Action	Water Storage
<b>Description</b>	Construct additional in-ground water tower/storage
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$1,000,000+
<b>Funding</b>	City General Fund
<b>Timeline</b>	3-5 years
<b>Priority</b>	Low
<b>Lead Agency</b>	Public Works Department
<b>Status</b>	Completed

### Continued Mitigation and Strategic Actions

Mitigation Action	Backup Generators
<b>Description</b>	Install Emergency Generators at Water Treatment Plant and Standpipe Pump
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$7,000 per generator
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2 years
<b>Priority</b>	Low
<b>Lead Agency</b>	Water Superintendent
<b>Status</b>	Project is in progress

Mitigation Action	Hazardous Tree Removal
<b>Description</b>	Identify and remove hazardous limbs and/or trees. Contact Mid America or a combination of contracting tree services.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	<\$10,000
<b>Funding</b>	In-Kind (Donated)
<b>Timeline</b>	1-3 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Superintendent
<b>Status</b>	Not started

Mitigation Action	Public Awareness and Education
<b>Description</b>	Additional public information is needed to ensure citizens know what to do to prepare for and respond to emergencies/disasters. Fire Department will prepare posters and educational materials.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	Staff Time
<b>Funding</b>	City General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Low
<b>Lead Agency</b>	Fire Department
<b>Status</b>	Not started

## Plan Maintenance

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

The 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 Mayor, Fire Chief, and a member of the City Council. The plan will be reviewed annually. The public will be included in the review and revision process via board council meetings and website updates.

This Page is Intentionally Blank



## Community Profile

# City of Granger

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table GRA.1: Granger Local Planning Team**

Name	Title	Jurisdiction
Kristy Trzeciak	City Clerk	City of Granger

## Location and Geography

The City of Granger is located in northeast Dallas County and covers an area of 1.67 square miles. Major waterways in the area include Beaver Creek and Des Moines River.

## Demographics

Granger's population in 2020 was 1,654. The following figure displays the historical population trend from 1910 to 2020. This figure indicates that the population of Granger remained relatively stable from 1910 to 1950, saw a significant increase from 1950 to 1970, and then gradually decreased until 2000. Since 2000, the population has dramatically increased. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Granger's population accounted for 1.7% of Dallas County's population in 2020.<sup>118</sup>

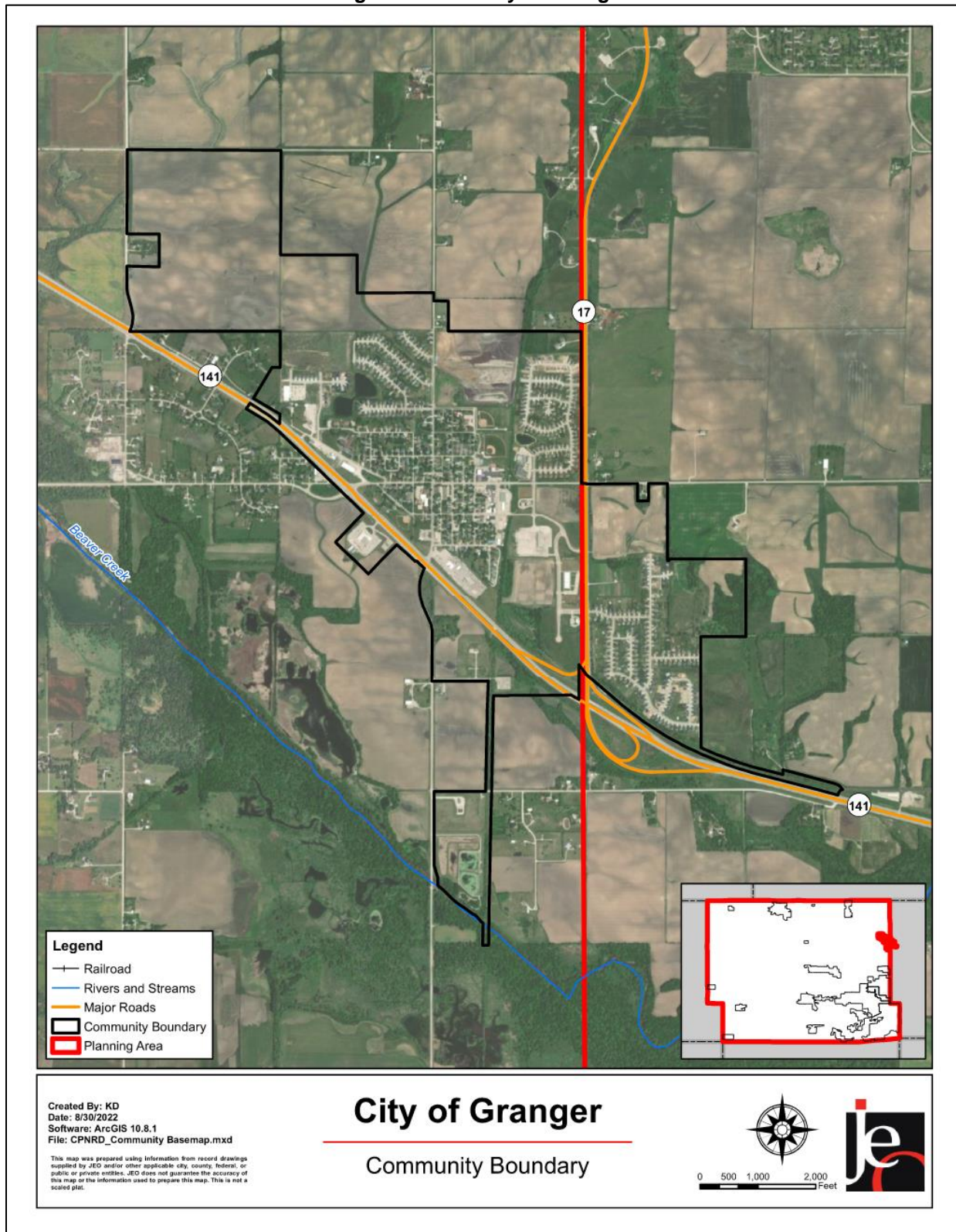
**Figure GRA.1: Population 1910 - 2020**



Source: U.S. Census Bureau

<sup>118</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

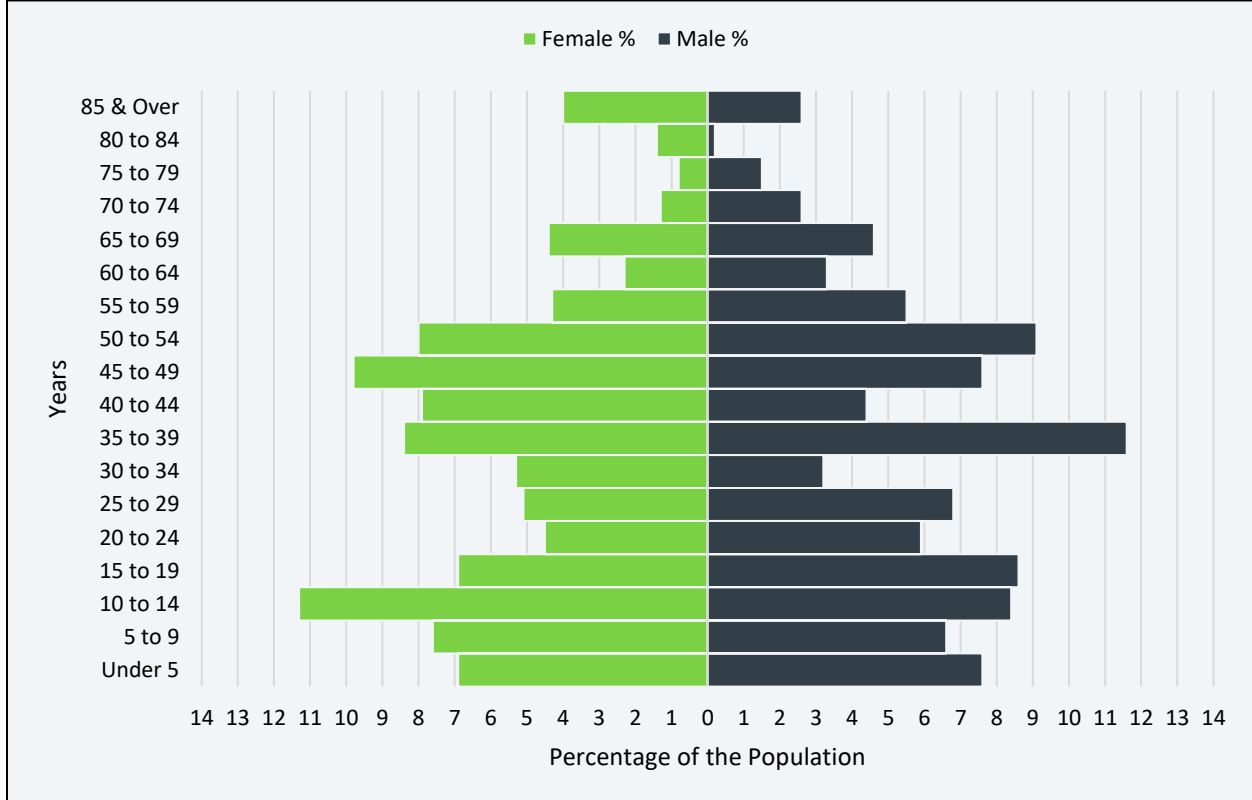
Figure GRA.2: City of Granger



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

- **6 % is non-white.** Since 2010, Granger became more racially diverse. In 2010, 1.5% of the Granger's population was non-white. By 2020, 6% was non-white.<sup>119 120</sup>
- **37 median age.** The median age of Granger was 37 years old in 2020. The population grew older since 2010, when the median age was 34.6.<sup>121 122</sup>

**Figure GRA.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>119</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>120</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>121</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>122</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **4.3% of people living below the poverty line.** The poverty rate (4.3%) in Granger was lower than the state's poverty rate (11.1%) in 2020.<sup>123</sup>
- **\$96,027 median household income.** Granger's median household income in 2020 (\$96,027) was about \$34,200 higher than the state (\$61,836).<sup>124</sup>
- **2.8% unemployment rate.** In 2020 Granger had a lower unemployment rate (2.8%) compared to the state (3.9%).<sup>125</sup>
- **33.4% of workers commuted 30 minutes or more to work.** More workers in Granger commuted 30 minutes or more to work than workers commuting less than 15 minutes (33.4% compared to 18.5%).<sup>126</sup>

### Major Employers

Major employers for the city include Granger Nursing and Rehab Center, Absolute Group, Barr-Nunn Transportation, Casey's General Store, Earlham Savings Bank, Granger Motors, Willis Automotive, Woodward-Granger Schools, Grandwood School, and Granger Children's Center. A large percentage of residents do commute to other communities for work such as Grimes, Des Moines, West Des Moines, and Waukee.

## Housing

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

- **28% of housing built prior to 1970.** Granger has a smaller share of housing built prior to 1970 than the state (28% compared to 50.4%).<sup>127</sup>
- **5.8% of housing units vacant.** Since 2010, Granger's vacancy rate increased. In 2010 the vacancy rate was 4.4%. By 2020, 5.8% of housing units were vacant.<sup>128 129</sup>

<sup>123</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>124</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>125</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>126</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>127</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>128</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>129</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

## Section Seven: City of Granger Community Profile

- **3.1% mobile and manufactured housing.** The City of Granger had a smaller share of mobile and manufactured housing (3.1%) compared to the state (3.6%).<sup>130</sup>
- **20.7% renter-occupied.** The rental rate of Granger was 20.7% in 2020. The percentage decreased since 2010, when renter occupied housing was at 24.4%.<sup>131 132</sup>

The city does have one location where less than 15 mobile homes are located at 2205 Court St., Granger, IA.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Granger has a mayor, a five-member city council, and the following offices.

- City Administrator
- City Clerk/Treasurer
- Attorney
- Deputy Clerk
- Chief of Police/Director of Public Safety
- Fire Chief/EMS Chief
- Public Works Director
- Water Operator
- Wastewater Operator
- Building Official
- Library Board
- Parks Operator
- Zoning Administrator
- Parks and Recreation Director
- Parks and Recreation Board
- City Engineer
- Plan and Zoning Commission
- Trails Committee
- Library Director
- Board of Adjustment

### Capability Assessment

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

<sup>130</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>131</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>132</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



Table GRA.2: Capability Assessment

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

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

**Table GRA.3: Overall Capability**

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

## Plan Integration

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

### Grants and Funding

The City of Granger's funds are limited to maintaining current facilities and municipal systems. A large portion of municipal funds have been dedicated to three projects, Highway 17's sewer and water extension, improvements to State Street, and Highway 17 turn lanes with Iowa DOT. The amount of municipal funds is increasing due to an increase in development within the city. The municipal budget does not currently include any hazard mitigation projects identified in the HMP. Over the last five years, the city has applied for and been awarded multiple grants. Some of the grants the city has been awarded include Wellmark Foundation Grant, Dallas County Foundation Grant, grants from the State of Iowa, and many others.

### Building Codes (2015)

The building code sets standards for constructed buildings and structures. The city has adopted the 2015 International Building Codes with multiple amendments made. These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use. The city will be updating building codes in the end of 2022 and early 2023.

### Capital Improvement Plans (2019)

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include regular maintenance for drainage structures, regular maintenance for the storm sewer system, and widening roadways that would improve evacuations if they were required. The city plans to upsize water distribution pipes, install water meters for residential structures, and install emergency generators in critical facilities. Construction of a new fire hall, new police headquarter, and other community owned structures are planned. The

existing community center has planned improvements. The capital improvement plan also includes projects revolving around vehicles, personnel, sidewalks, trails, a new city hall, sanitary sewer linings, street repair and equipment repair, park renovations, and the addition of an aquatic center. This plan is updated every 5 years and the city will be updating it in late 2022/early 2023. The future update of the plan will include installing new municipal wells, constructing a new public works facility, a new community storm shelter, and improvements to the existing water treatment facility.

### **Comprehensive Plan (2013)**

The comprehensive plan is designed to guide the future actions and growth of the city. It incorporates some of the goals and objectives included in the HMP and discusses the natural hazards of flooding, severe winter storms, and tornadoes. The comprehensive plan contains goals and objectives aimed at Safe Growth, limits density in areas adjacent to known hazardous areas, identifies areas that need emergency shelters, and encourages preservation of open space in hazard-prone areas.

### **Zoning Ordinance (2017), Floodplain Ordinance (2009), and Subdivision Regulations (2013)**

The city's Floodplain Ordinance prohibits development within the floodplain and requires more than one foot of elevation above Base Flood Elevation in the floodplain. The ordinance also prohibits filling of wetlands. The Zoning Ordinances and Subdivision Regulations do not discourage or limit development in areas near potentially hazardous locations. The Subdivision Regulations do not allow density transfers in hazard areas.

### **Community Wildfire Protection Plan (2014)**

The City of Granger participated in the Saylorville Flood Plain Community Wildfire Protection Plan (CWPP), which was developed in 2014. The Saylorville floodplain is located along the Des Moines River. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses area-specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies.

## **Future Development Trends**

In the last five years, there have been 198 new housing permits awarded, a new business called Absolute Group has been established in the city and Grandwood Schools opened their doors. The city began their Sidewalk Improvement Program while also improving the Trail Bub Plaza. A few new plats were added to the city as well, including Ironwood Estates Plat 3 and 4, and the Landing at Oxley Creek Plat 1, 2, and 3. Three new developments are planned to occur in the next five years including a Fairway Stores within the Oak Creek PUD, and a Flex Space and Perficut within Oak Creek Plat 4. A future land use map for the city can be seen in the following figure.

## Community Lifelines

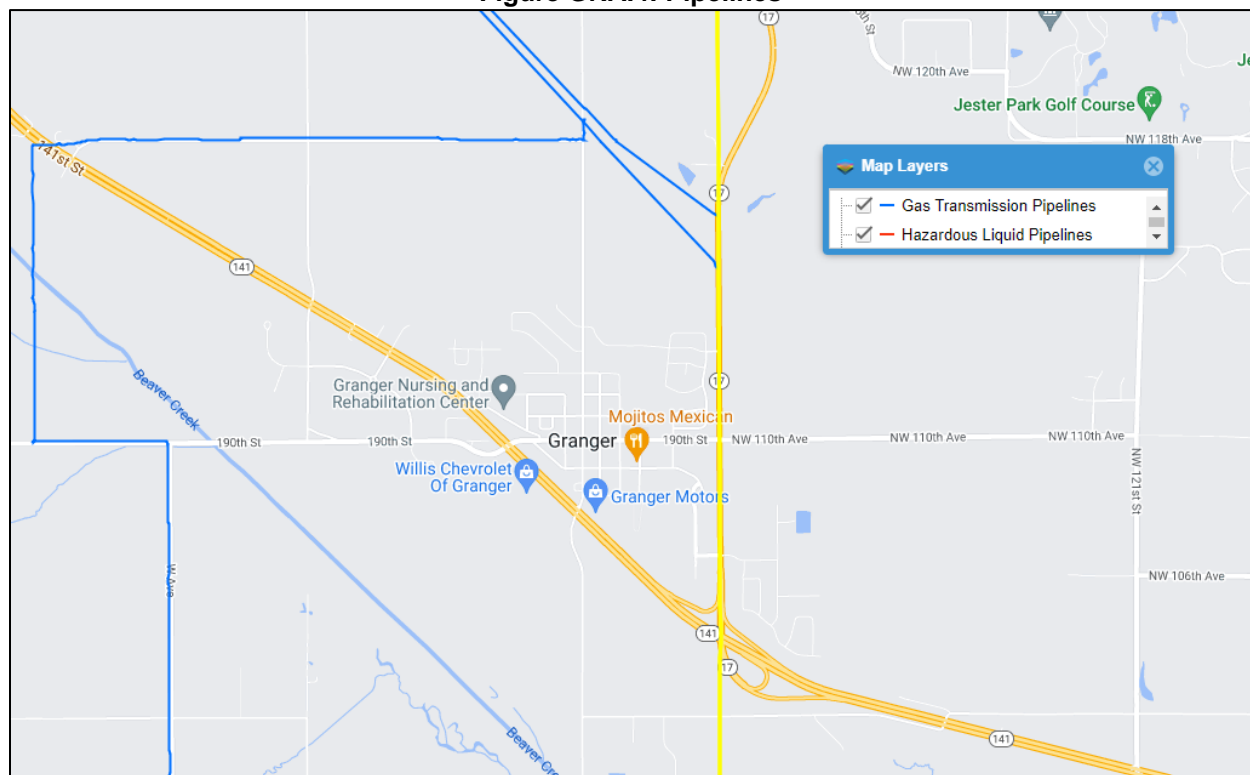
### Transportation

Granger's major transportation corridors include State Highway 141 and State Highway 17. The most traveled route is Highway 141 with an average of 9,900 vehicles daily, 656 of which are trucks.<sup>133</sup> According to the planning team, no chemicals are regularly transported along the local routes and no chemical spills or other significant transportation events have occurred locally. The nearest airport, Ankeny Regional Airport, is located about 14 miles southeast of Granger. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

There are gas transmission pipelines that travel near the city and can be seen as blue lines in the figure below.

**Figure GRA.4: Pipelines**



Source: National Pipeline Mapping System<sup>134</sup>

<sup>133</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.

<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

<sup>134</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there is one chemical storage site in Granger that contains hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table GRA.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
Dallas County Maintenance Building	2111 West Kennedy Blvd.	No

Source: E-Plan<sup>135</sup>

## Health and Medical Facilities

The following medical and health facilities are located within the community

**Table GRA.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
Granger Nursing and Rehabilitation Center	Nursing Facility/ Skilled Nursing Facility	2001 Kennedy Blvd.	67

Source: Iowa Department of Inspections and Appeals<sup>136</sup>

## Critical Facilities

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

**Table GRA.6: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Granger Children's Center	Y	N	N
2	Granger City Hall	N	Y	N
3	Granger Community Center	N	N	N
4	Granger Public Library	N	N	N
5	Granger Public Works Shop	N	N	N
6	Granger Nursing & Rehabilitation Center	Y	Y	N
7	Granger Fire Station	N	Y	N
8	Granger Police Department	N	N	N
9	Woodward-Granger Elementary School – 2200 State St.	Y	Y	N
10	Woodward-Granger Elementary School – 2000 Oak St.	Y	N	N
11	Grandwood School	Y	N	N

<sup>135</sup> E-Plan – Emergency Response Information System. 2022. "Facility Search." Accessed November 2022. <https://erplan.net/eplan/actions/facilitySearch.htm>.

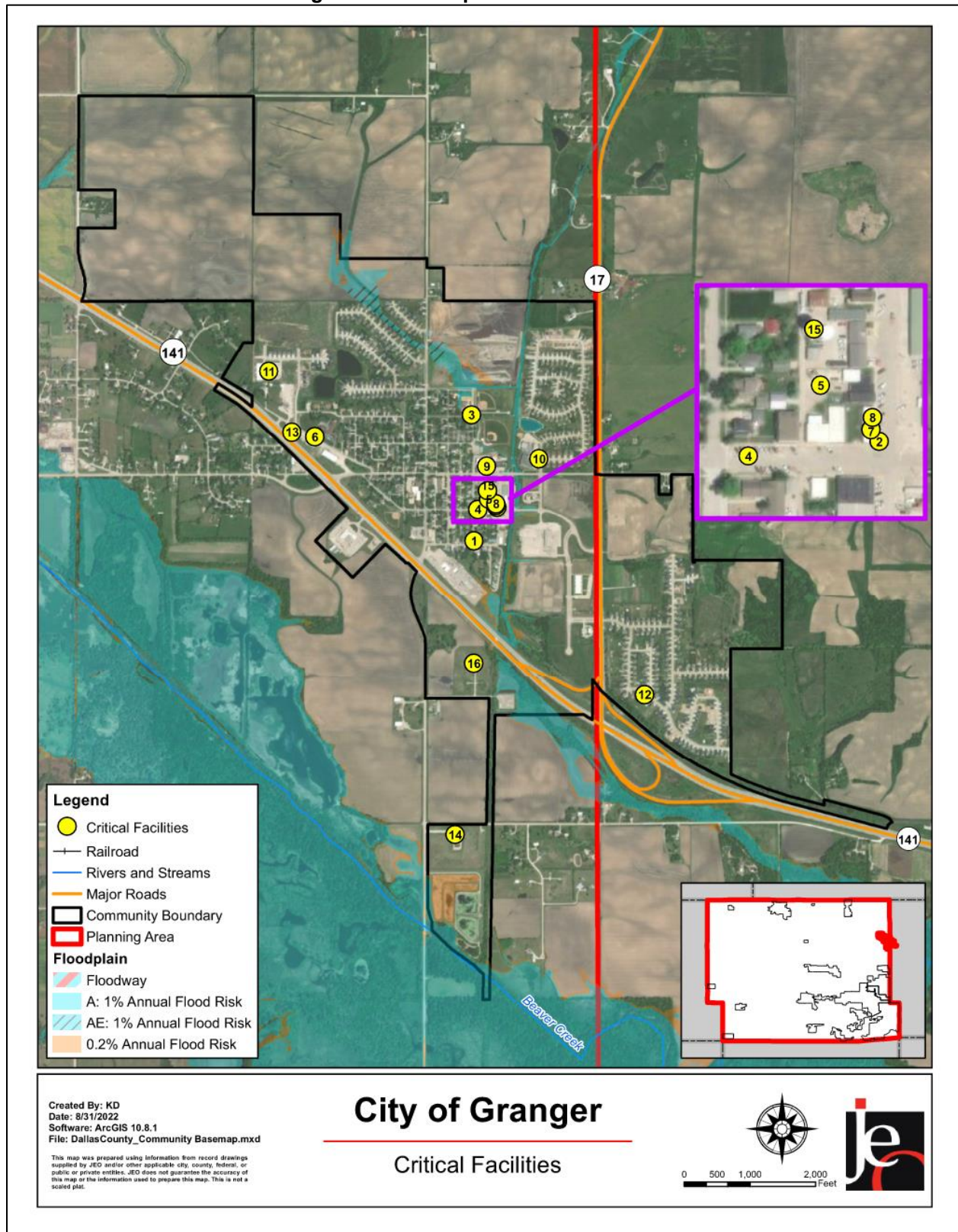
<sup>136</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022. <https://dia-hfd.iowa.gov/>.

## Section Seven: City of Granger Community Profile

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
<b>12</b>	Granger Lift Station	N	Y	N
<b>13</b>	Granger Maintenance Building	N	N	N
<b>14</b>	Granger Sewage Treatment Plant	N	Y	N
<b>15</b>	Granger Water Tower	N	N	N
<b>16</b>	Granger Water Treatment Plant	N	Y	N



Figure GRA.5: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.



## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table GRA.7: Granger Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
537	\$114,213,890	55	\$27,136,200	10%

Source: County Assessor, 2022

**Table GRA.8: Granger Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
537	\$114,213,890	22	\$6,532,210	4%

Source: County Assessor, 2022

**Table GRA.9: Granger Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study
LOMA	19-07-0890A-190104	4/17/2019	Structure (residence) removed from SFHA

Source: FEMA Flood Map Service Center<sup>137</sup>

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Infrastructure Failure

The local planning team is concerned about infrastructure failure as it could result in the disruption to households and businesses and may result in events such as business closures, utility disruptions in water, gas, and electric, or in the most extreme cases, calls for evacuation of the city. While there have not been any past occurrences of infrastructure failure, the consequences could include economic losses, high clean-up costs, a reduction of communication, or even potentially hazardous impacts to the health of the city's citizens and the environment. No actions or projects have been completed to reduce the city's risk of infrastructure failure. The local planning team has identified future actions or projects that are needed to help reduce the risk of infrastructure failure to the community. These actions or projects start with documenting each risk in detail, including potential impacts to the community, and assessing the risk associated with

<sup>137</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

each hazard. These hazards must then be prioritized and mitigated against. An increase in the community's awareness and education regarding these hazards is also desired.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Granger. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 10 instances of severe thunderstorms occurring in Granger from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$5,060,000 worth of damage across Dallas County. Additionally, the local planning team reported on two events that were not included in the NCEI database. In October 2018, two lightning strikes as the wastewater plan which led to needing replacing a new ethernet switch, an analog input module, a plc processor, a transducer, a new T2400 Wireless AC, an alarm dialer, a DO probe, and a sampler. The sonic wall also had to be troubleshot to ensure it suffered no damage. Secondly, a storm in August 2020 brought Derecho Hail to the city and caused roof damage.

Significant concerns identified by the local planning team included the damage to homes, vehicles, and/or businesses by downed trees on roads, loss or interruption of utilities, power outages, fires due to lightning strikes, flash flooding, disrupted cellphone service and other communication methods, economic loss, and even death. To reduce risk and impacts to this hazard, the city has installed outdoor warning sirens and has implemented an emergency plan and purchased insurance for the city. In the future, to reduce risk to the community, the local planning team hopes to educate citizens in how to listen for sirens, develop their own emergency plan, report any downed trees or power lines, and keep personal insurance for homes and vehicles. Purchasing backup power systems for the outdoor warning sirens and backup generators for the city are also actions identified as future projects to reduce risk to the community.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and two tornados in Granger. The first tornado event occurred in June 1998 with an F2 tornado with winds in excess of 100 MPH. The track was intermittent, indicating either one tornado touching down occasionally, or one or more weak tornadoes rotating around the meso circulation. A duplex was flattened by the winds. Two injuries were reported. The second reported tornado was on May 30, 2000. This quick touchdown did not result in any damage, injuries, or deaths and was ranked as an F0.

To minimize the effects of tornadoes and windstorms, the city has installed outdoor warning sirens and an emergency plan in place. The city also has insurance. The city is looking to install a second outdoor warning siren and installing a backup power system for the sirens. the local planning team hopes to educate citizens in how to listen for sirens, develop their own emergency plan, report any downed trees or power lines, and keep personal insurance for homes and vehicles. The city also plans to incorporate a storm shelter with a new public safety building and increase the backup generators owned by the city.

### **Transportation Incident**

This hazard was identified as a top hazard due to the city's proximity to Highway 141 on the southern border of the city as well as Highway 17 bordering the eastern side. The city has

performed traffic studies to assess speeds on Highway 17. The main concerns noted by the local planning team is that any major transportation incident can shut down the main roadways in the community. In a major incident, loss of life, environmental damage, hazardous releases, or economic disruption could impact the city.

The city is working with the Department of Transportation as they plan to put in turning lanes at the intersection of Highway 17 and State Street to help with congestion on the highway. Future traffic studies will be conducted to assess speed with future growth. Emphasis on an increase in traffic safety communication and education will also be focused on by the city.

## Mitigation Strategy

### New Mitigation and Strategic Actions

New Mitigation Action	Safe Room
<b>Description</b>	Install and build a saferoom for the city.
<b>Estimated Cost</b>	\$500,000
<b>Local Funding Source</b>	City General Fund
<b>Timeline</b>	2-5 Years
<b>Priority</b>	High
<b>Lead Agency</b>	Fire Department and Police Department
<b>Status</b>	Not started

### Continued Mitigation and Strategic Actions

Mitigation Action	Alert/Warning Sirens
<b>Description</b>	Purchase and install two new sirens placed strategically at designated areas to provide full coverage to the city.
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Estimated Cost</b>	\$60,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	2 years
<b>Priority</b>	High
<b>Lead Agency</b>	Fire Department and Police Department
<b>Status</b>	The city is in the process of assessing needs with future growth.

Mitigation Action	Emergency Services Building
<b>Description</b>	Construct a new Emergency Services Building. Due to the population growth, the city has outgrown the existing building. The building would be used to store vital city records and used as an EOC during/after a disaster.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$3,500,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	2 years
<b>Priority</b>	High
<b>Lead Agency</b>	Fire Department and Police Department
<b>Status</b>	Planning and Design Stage

Mitigation Action	NIMS Certification
<b>Description</b>	Require all city employees to take the online NIMS classes. U.S Department of Homeland Security recommends all local governments receive training on the National Incident Management System (NIMS).
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	Staff Time
<b>Funding</b>	City General Fund
<b>Timeline</b>	3 months
<b>Priority</b>	Low
<b>Lead Agency</b>	Fire Department
<b>Status</b>	The Fire Chief is currently working on implementing.

Mitigation Action	Stormwater Management, Soil Erosion and Sediment Control
<b>Description</b>	These improvements can serve to move effectively convey runoff within cities and towns, preventing interior localized flooding. May also reduce the risk of illness/ disease by eliminating standing water. Current goal focuses on expansion or daylighting of current large drainage areas, reduction of impervious areas where feasible and collaborating on private stormwater facilities to work in conjunction with the city's drainage system.  Implement ordinances to reduce flooding due to heavy rains for developers to follow due to growth.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$500,000 to \$1,000,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Engineer
<b>Status</b>	This project has entered the planning and design stage.

Mitigation Action	Water Storage
<b>Description</b>	Construct additional 500,000-gallon water tower/storage. More water capacity is needed due to population growth of the City of Granger.
<b>Hazard(s)</b>	Drought
<b>Estimated Cost</b>	\$1,000,000+
<b>Funding</b>	City General Fund
<b>Timeline</b>	2 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	Water Department
<b>Status</b>	This project has entered the planning and design stage.

## Plan Maintenance

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

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, the Police Chief/Director of Public Safety, the Fire Chief, and the Public Works Director. The plan was last updated on July 5, 2022, and will be reviewed annually. The public will be included in the review and revision process via city council meetings, public forums, city website updates, city newsletters, and social media.

## Community Profile

# City of Linden

**Dallas County  
Hazard Mitigation Plan 2023**



## Local Planning Team

**Table LIN.1: Linden Local Planning Team**

Name	Title	Jurisdiction
City Council	N/A	City of Linden

## Location and Geography

The City of Linden is located in west central Dallas County and covers an area of 0.78 square miles. Major waterways in the area include Middle Racoon River and Mosquito Creek.

## Demographics

Linden's population in 2020 was 200. The following figure displays the historical population trend from 1900 to 2020. This figure indicates that the population of Linden has fluctuated since 1900 but has trended downward in population size. The population remained stable over the past decade. Communities with a growing population may be more prone to developing additional land and building new structures, while communities with declining populations may lack adequate funds to pursue mitigation projects. Net population growth may increase the number of people and properties vulnerable to hazards. Linden's population accounted for 0.2% of Dallas County's population in 2020.<sup>138</sup>

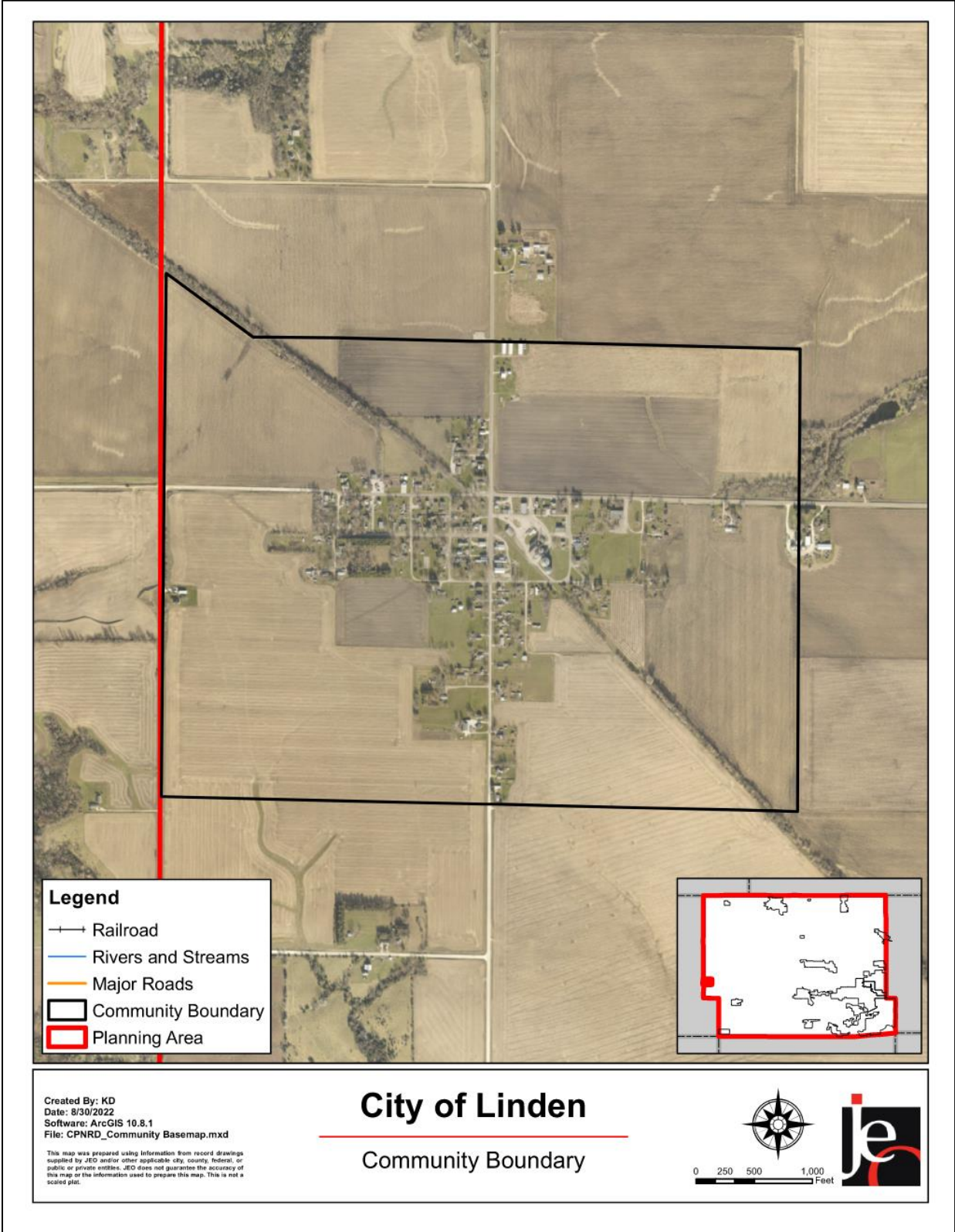
**Figure LIN.1: Population 1900 - 2020**



Source: U.S. Census Bureau

<sup>138</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

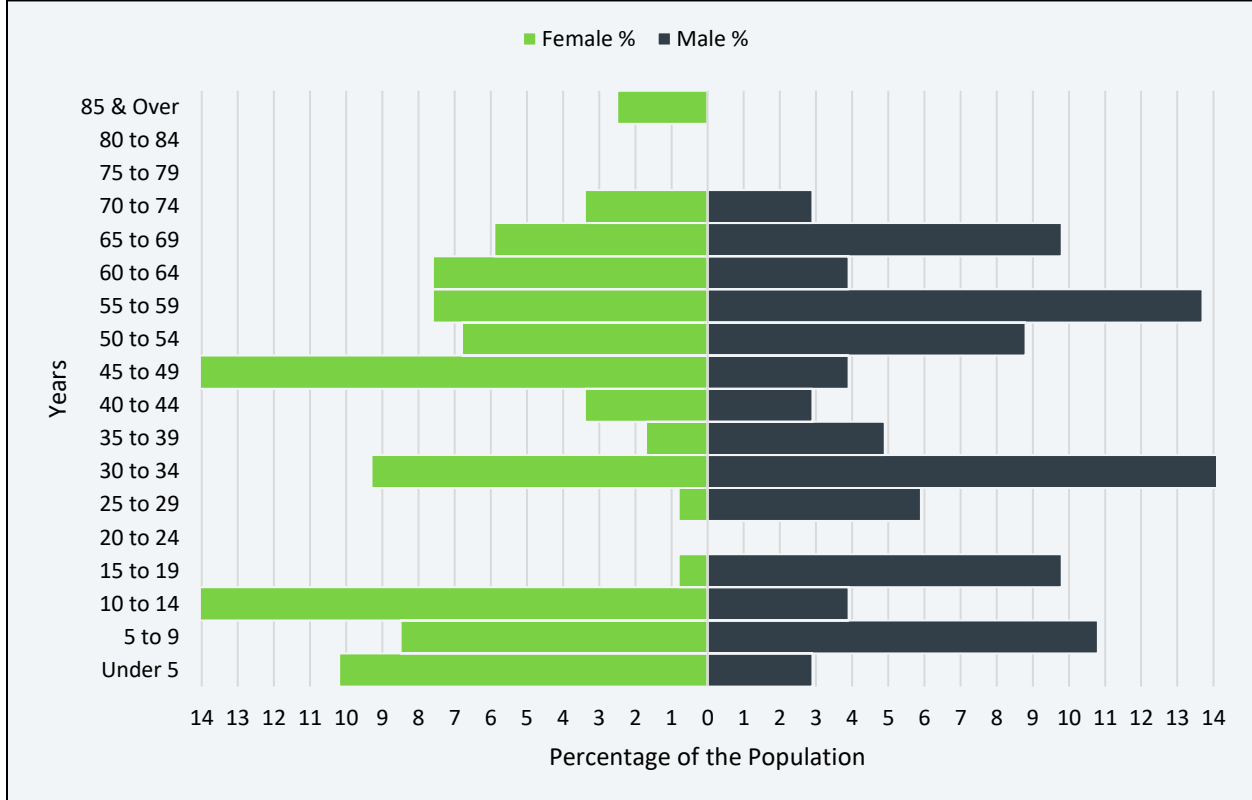
Figure LIN.2: City of Linden



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

- **6.5% is non-white.** Since 2010, Linden became more racially diverse. In 2010, 1% of the Linden's population was non-white. By 2020, 6.5% was non-white.<sup>139 140</sup>
- **39 median age.** The median age of Linden was 39 years old in 2020. The population became younger since 2010, when the median age was 44.3.<sup>141 142</sup>

**Figure LIN.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Linden's population percentage broken down by sex and five-year age groups. Linden's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

## Employment and Economics

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

<sup>139</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>140</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>141</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>142</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

- **7.7% of people living below the poverty line.** The poverty rate (7.7%) in Linden was lower than the state's poverty rate (11.1%) in 2020.<sup>143</sup>
- **\$76,667 median household income.** Linden's median household income in 2020 (\$76,667) was about \$14,800 higher than the state (\$61,836).<sup>144</sup>
- **9% unemployment rate.** In 2020 Linden had a higher unemployment rate (9%) compared to the state (3.9%).<sup>145</sup>
- **62.7% of workers commuted 30 minutes or more to work.** More workers in Linden commuted 30 minutes or more to work than workers commuting less than 15 minutes (62.7% compared to 2%).<sup>146</sup>

## Major Employers

Major employers for the city include the city Library, Maintenance Shop, and the City Clerk's Office. A large percentage of residents commute to other communities for work.

## Housing

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

- **78.6% of housing built prior to 1970.** Linden has a greater share of housing built prior to 1970 than the state (78.6% compared to 50.4%).<sup>147</sup>
- **5.4% of housing units vacant.** Since 2010, Linden's vacancy rate decreased. In 2010 the vacancy rate was 6.8%. By 2020, 5.4% of housing units were vacant.<sup>148 149</sup>
- **12.9% mobile and manufactured housing.** The City of Linden had a greater share of mobile and manufactured housing (12.9%) compared to the state (3.6%).<sup>150</sup>

<sup>143</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>144</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>145</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>146</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>147</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>148</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>149</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>150</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

- **21.6% renter-occupied.** The rental rate of Linden was 21.6% in 2020. The percentage increased since 2010, when renter occupied housing was at 5.6%.<sup>151 152</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Linden has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Attorney
- Library Board Chairperson

## Capability Assessment

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

**Table LIN.2: Capability Assessment**

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

<sup>151</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>152</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Survey Components/Subcomponents		Yes/No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	No
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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 LIN.3: Overall Capability**

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

## Plan Integration

The City of Linden does not have its own building codes, zoning ordinances, or a comprehensive plan in place. Should any planning documents be prepared, hazard mitigation will be considered in their development, where applicable. City funds are limited to maintaining current facilities and municipal systems.

## Future Development Trends

In the last five years, limited development has occurred within the city with the only new development being a new bar established in town. No new housing developments or businesses are planned for the next five years.

## Community Lifelines

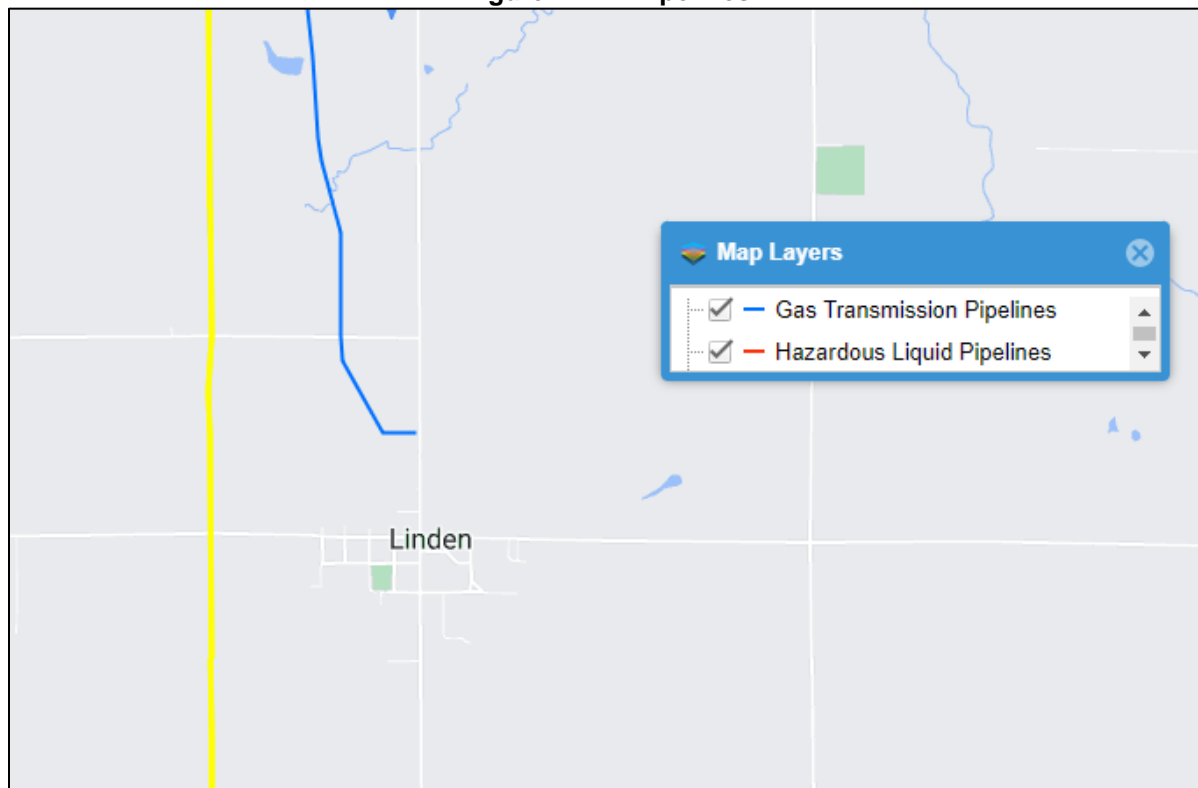
### Transportation

Linden's major transportation corridors include County Highway F51 and County Highway P30. The most traveled route is Highway P30, with an average of 350 vehicles daily.<sup>153</sup> An additional route of concern is 270<sup>th</sup> Street that is easily damaged. According to the planning team, no chemicals are regularly transported along the local routes and no chemical spills or other significant transportation events have occurred locally. The nearest airport, Guthrie Center Municipal Airport, is located about nine miles northwest of Linden. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

<sup>153</sup> Iowa Department of Transportation. 2016. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

**Figure LIN.4: Pipelines**

Source: National Pipeline Mapping System<sup>154</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are no chemical storage sites in Linden that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

### Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

### Critical Facilities

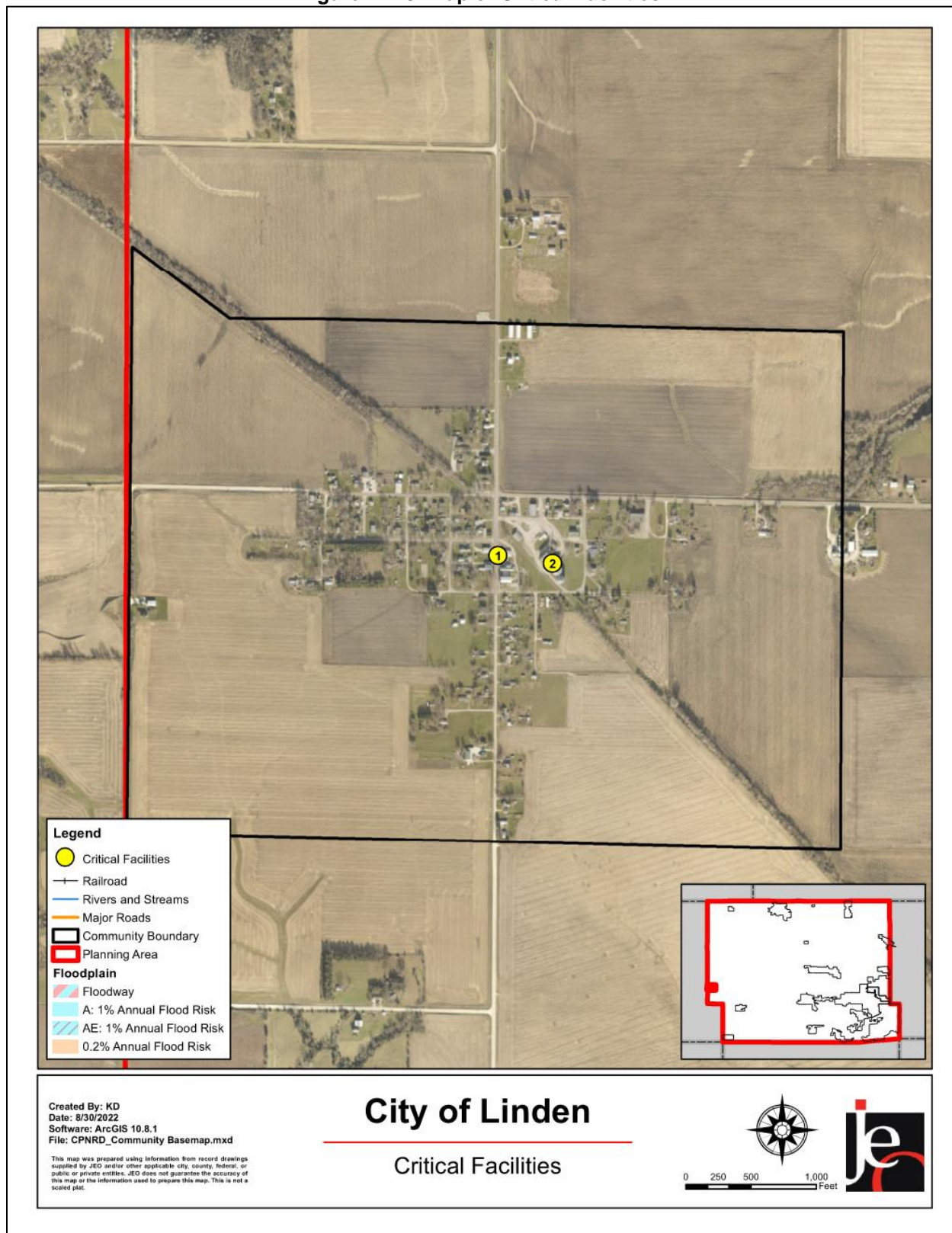
The local planning team identified critical facilities that are vital for disaster response, public shelter, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original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

**Table LIN.4: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Linden City Hall and Public Library	N	N	N
2	Farmers Cooperative Co - Linden	N	N	N

<sup>154</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

**Figure LIN.5: Map of Critical Facilities**



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
165	\$6,085,400	0	-	-

Source: County Assessor, 2022

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
165	\$6,085,400	0	-	-

Source: County Assessor, 2022

**Table LIN.7: Linden Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>155</sup>

<sup>155</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### **Animal and Plant Disease**

The local planning team has identified plants and animal disease as a top concern due to an excessive number of cats and raccoons located at a property recently acquired by the city. To reduce the number of these animals, traps were set in June 2022. According to the local planning team the top concerns is that other animals such as domestic pets could get bitten and hurt or catch a sickness and that mice and rats will tear into buildings and destroy wires or other important components. To reduce the risk of animal diseases the city has sold two city properties with expectations of the new owners cleaning them up. Future actions the city would like to take to reduce risk includes a Trap, Neuter, Release program for the feral cat population within the town.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Linden. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 4 instances of severe thunderstorms occurring in Linden from 1998 to 2021. The damages seen caused by these severe thunderstorms included fallen tree limbs and a semi-truck blown over into a ditch. These storms caused a total of \$60,000 worth of damage across Dallas County.

Significant concerns identified by the local planning team is the lack of funds within the community to completely repair damages. To reduce risk and impacts to this hazard, the city has removed four damaged trees within the city park. In the future, to reduce risk to the community, the local planning team hopes to continue with tree removal and promote the repair of structures instead of abandoning them.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Linden. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021. The local planning team reports past occurrences of excess snowfall resulted in downed tree limbs and power lines due to excessive weight of the snow.

The top concern identified by the local planning team was the possibility of falling branches, impassible roads, and ice falls. To reduce risk and impacts to this hazard, the city has spoken to the maintenance department regarding areas of concern along road where ice is frequently found. The city plans to continue with tree removal to reduce falling branches and ensure roads are salted or sanded.

### Tornado and Windstorm

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and no tornadoes in Linden. Additionally, the local planning team reported the August 2020 and December 2021 derechos damaged trees, houses, and fences within the community. Shingles were blown off houses and trees fell in yards and roads.

Significant concerns identified by the local planning team is the lack of funds within the community to completely repair damages. To reduce risk and impacts to this hazard, the city has removed four damaged trees within the city park. In the future, to reduce risk to the community, the local planning team hopes to continue with tree removal.

## Mitigation Strategy

### Continued Mitigation and Strategic Actions

Mitigation Action	<b>Construct New City Hall/Fire Station/Library as a Community Saferoom</b>
<b>Description</b>	Construct a facility to provide shelter to citizens and city/fire department and library staff in the event of a tornado.
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Estimated Cost</b>	\$500,000 to \$1,000,000
<b>Funding</b>	City General Funds, HMA
<b>Timeline</b>	5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Hall and Library
<b>Status</b>	The library has started fundraising for a new building.

## Plan Maintenance

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

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The planning team will include the City Council, Mayor, and Maintenance. The plan will be reviewed and updated annually. The public will be involved in the review and revision process through the City Council meetings.



This Page is Intentionally Blank

## Community Profile

# City of Minburn

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table MIN.1: Minburn Local Planning Team**

Name	Title	Jurisdiction
<b>Joe Stuetelberg</b>	Mayor	City of Minburn
<b>Dan Case</b>	Fire Chief	City of Minburn
<b>Megan Cline</b>	City Council	City of Minburn

## Location and Geography

The City of Minburn is located in north central Dallas County and covers an area of 0.26 square miles. Waterways in the area include Racoon River and Slough Creek.

## Demographics

Minburn's population in 2020 was 325. The following figure displays the historical population trend from 1900 to 2020. This figure indicates that the population of Minburn fluctuated from 1900 to 1930, gradually increased from 1930 to 1980, fluctuated again from 1980 to 2000, and has since seen a decline. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Minburn's population accounted for 0.3% of Dallas County's population in 2020.<sup>156</sup>

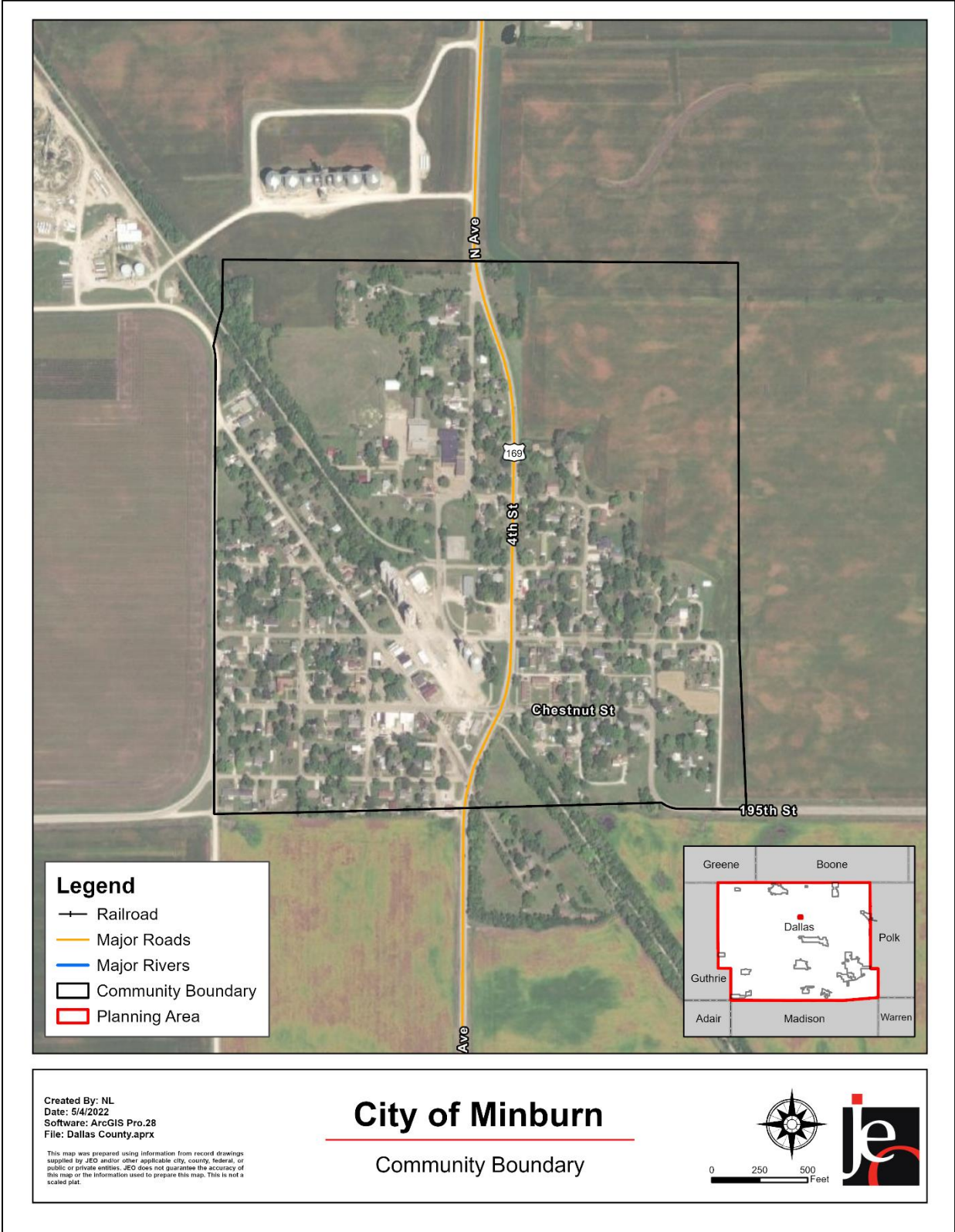
**Figure MIN.1: Population 1900 - 2020**



Source: U.S. Census Bureau

<sup>156</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

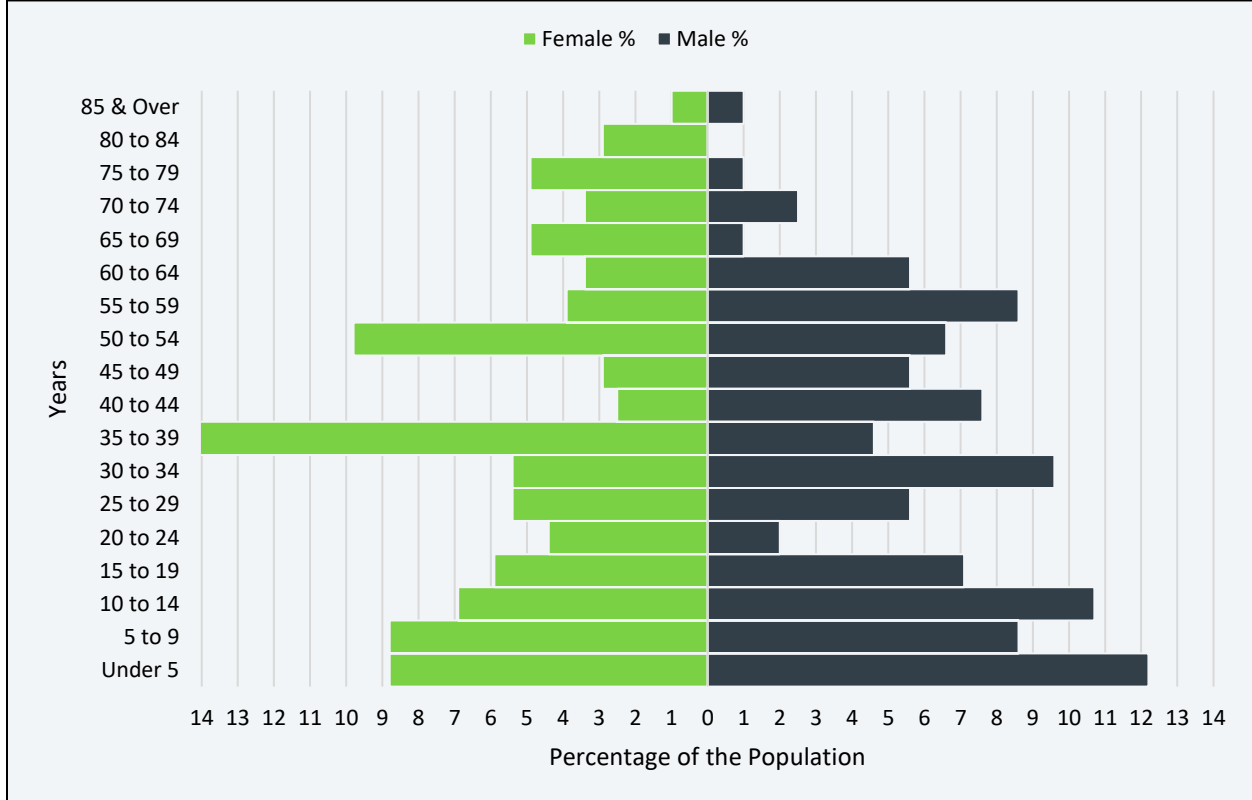
Figure MIN.2: City of Minburn



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

- **3.1% is non-white.** Since 2010, Minburn became more racially diverse. In 2010, 1.9% of the Minburn's population was non-white. By 2020, 3.1% was non-white.<sup>157 158</sup>
- **33 median age.** The median age of Minburn was 33 years old in 2020. The population became younger since 2010, when the median age was 45.2.<sup>159 160</sup>

**Figure MIN.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>157</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>158</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>159</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>160</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **8 % of people living below the poverty line.** The poverty rate (8%) in Minburn was lower than the state's poverty rate (11.1%) in 2020.<sup>161</sup>
- **\$59,000 median household income.** Minburn's median household income in 2020 (\$59,000) was about \$2,800 lower than the state (\$61,836).<sup>162</sup>
- **1% unemployment rate.** In 2020 Minburn had a lower unemployment rate (1%) compared to the state (3.9%).<sup>163</sup>
- **52.8% of workers commuted 30 minutes or more to work.** More workers in Minburn commuted 30 minutes or more to work than workers commuting less than 15 minutes (52.8% compared to 27.3%).<sup>164</sup>

### Major Employers

Major employers for the city include Heartland Cooperative, Minburn Communications, Ron Allen Trucking, Veterinary Medical Associates, Minburn Veterinary Clinic, Michelson Trucking, Casa Oaxaca, Hy-Line International, Stine Seed Company, and the City of Minburn. According to the local planning team, a large percentage of the residents commute to other communities for work, such as Des Moines Metro Area, Perry, Dallas Center, and Adel.

## Housing

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

- **75.7% of housing built prior to 1970.** Minburn has a greater share of housing built prior to 1970 than the state (75.7% compared to 50.4%).<sup>165</sup>
- **16.5% of housing units vacant.** Since 2010, Minburn's vacancy rate increased. In 2010 the vacancy rate was 0%. By 2020, 16.5% of housing units were vacant.<sup>166 167</sup>

<sup>161</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>162</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>163</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>164</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>165</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>166</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>167</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



## Section Seven: City of Minburn Community Profile

- **4.1% mobile and manufactured housing.** The City of Minburn had a greater share of mobile and manufactured housing (4.1%) compared to the state (3.6%).<sup>168</sup>
- **23.5% renter-occupied.** The rental rate of Minburn was 23.5% in 2020. The percentage increased since 2010, when renter occupied housing was at 18.6%.<sup>169 170</sup>

The city has between two and three mobile homes spread throughout the community, however there are no mobile home parks.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Minburn has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Attorney
- Fire Chief
- Library Board Chairperson
- Public Works Director (water/sewer/streets)
- Betterment Committee

### Capability Assessment

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

---

<sup>168</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>169</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>170</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Table MIN.2: Capability Assessment

Survey Components/Subcomponents		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes

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

**Table MIN.3: Overall Capability**

Overall Capability	Limited/Moderate/High
<b>Financial resources needed to implement mitigation projects</b>	Limited
<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

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

### Funding and Grants

The municipal funds for the City of Minburn are limited to maintaining existing facilities and systems. A large portion of the city's municipal funds are dedicated to servicing debt on depot relocation and renovation. Funds are also dedicated to sanitary sewer system construction. Municipal funds have decreased in recent years. The city has applied for multiple grants including the Dallas County Foundation, Bock Foundation, and FEMA Assistance to Firefighters Grant. Of these grants, the city was awarded the Dallas County Foundation and the Bock Foundation Grants which funded improvement projects involving the Fire Department, City Hall, Betterment Club, and Library.

### Emergency Operations Plan (2022)

Emergency Operations Plans are designed to provide procedures for the city to ensure residents and workers are safe during an emergency event. The plan details who the city will do during a disaster including incident command implementation, command center location and activities, and any specific actions city departments need to take to ensure safety of employees and city residents.

## Future Development Trends

In the last five years, there have been many new developments in the city. As a result of the Racoon Valley Trail, new businesses including restaurants and an Airbnb have moved to town. The largest apartment complex in town underwent significant interior/exterior renovations and will be reopened to renters. The Dallas County Freedom Rock was constructed south of the depot and the land in the area has been improved for visitors. The Adel-DeSoto-Minburn school district leased a portion of the former elementary school building to the City of Minburn and the public library relocated to the school complex, allowing for an increase in their collection and programming. Housing turnover resulted in rehabilitation and improvements to the current housing stock throughout the community and new housing construction in the rural areas of the city. City parks have undergone improvements and upgrades.

As of 2022, the café south of the downtown business district is being renovated and a new three-plex business incubator complex is under construction on Highway 169 immediately north of the Heartland Cooperative fuel station. These business locations will be available for leasing.

## Community Lifelines

### Transportation

Minburn's major transportation corridors include U.S. Highway 169 and County Highway F31. The most traveled route is Highway 169 with an average of 2,290 vehicles daily, 304 of which are trucks.<sup>171</sup> The city Public Works shop, an identified critical facility, is located along Highway F-31 west of town. According to the local planning team, agricultural chemicals such as anhydrous, fertilizers, pesticides, and fuels are regularly transported along local routes. Minor fuel spills have occurred at the Heartland Cooperative and the Fire Department has responded to chemical spills outside of city limits. The 2020 derecho winds cause Highway 169 to be blocked by power lines and trees, causing the highway to be shut down and detours run through town. Minor flooding is a concern of the local planning team but has historically occurred outside city limits.

The nearest airport, Perry Municipal Airport, is located about eight miles northwest of Minburn. The Racoon River Valley Trail intersects the town from Southeast to Northwest. The trail brings thousands of cyclists and other users such as snowmobilers and pedestrians through the community each year. The Fire Department's Rescue unit has responded to several emergency incidents along the trail. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

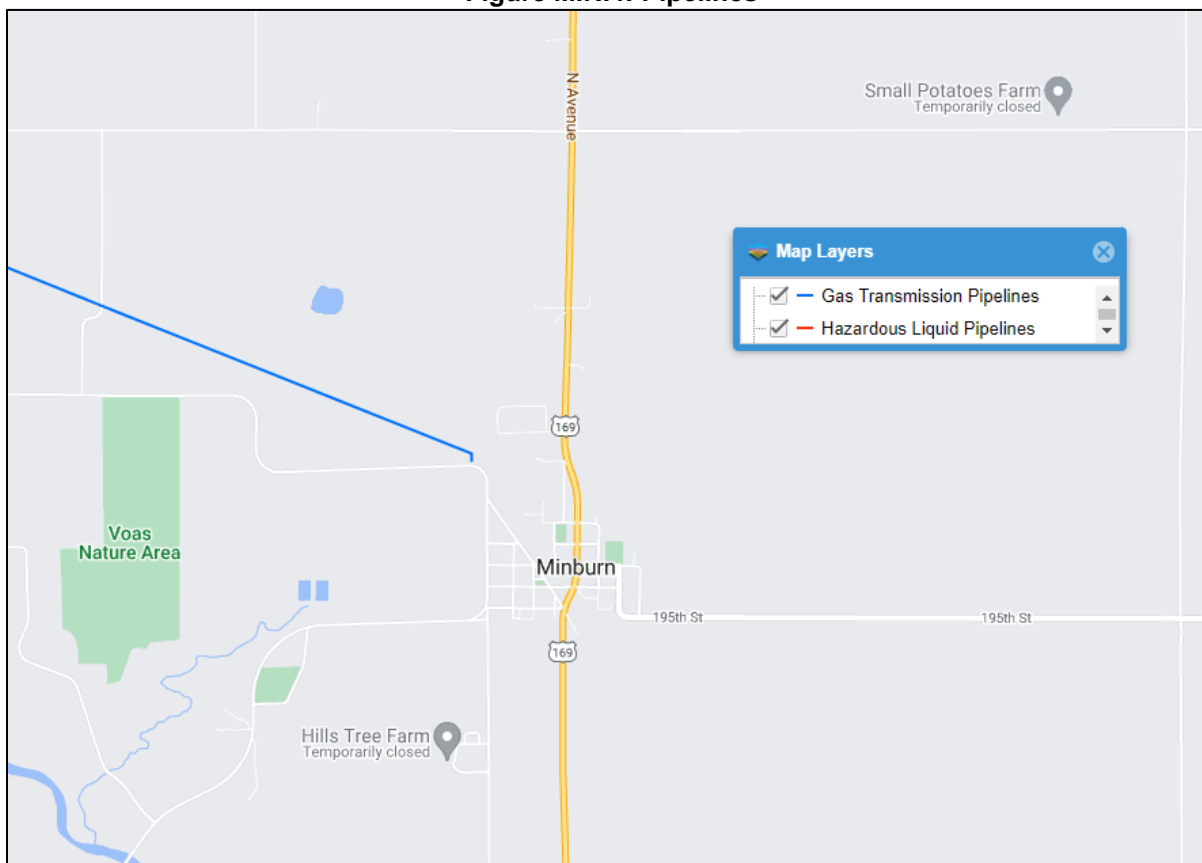
---

<sup>171</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

## Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

**Figure MIN.4: Pipelines**



Source: National Pipeline Mapping System<sup>172</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are three chemical storage sites in Minburn that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table MIN.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
Heartland Co-op Minburn Acres	22709 187th Road	No
Heartland Co-op Minburn Main Location	500 Walnut Street	No
Minburn Telephone Company	416 Chestnut Street	No
Stine Seed Company*	22555 Laredo Trail	No

Source: Iowa Department of Natural Resources<sup>173</sup>

\*Identified by the local planning team

<sup>172</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

<sup>173</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. [database file]. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

### Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

### Critical Facilities

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

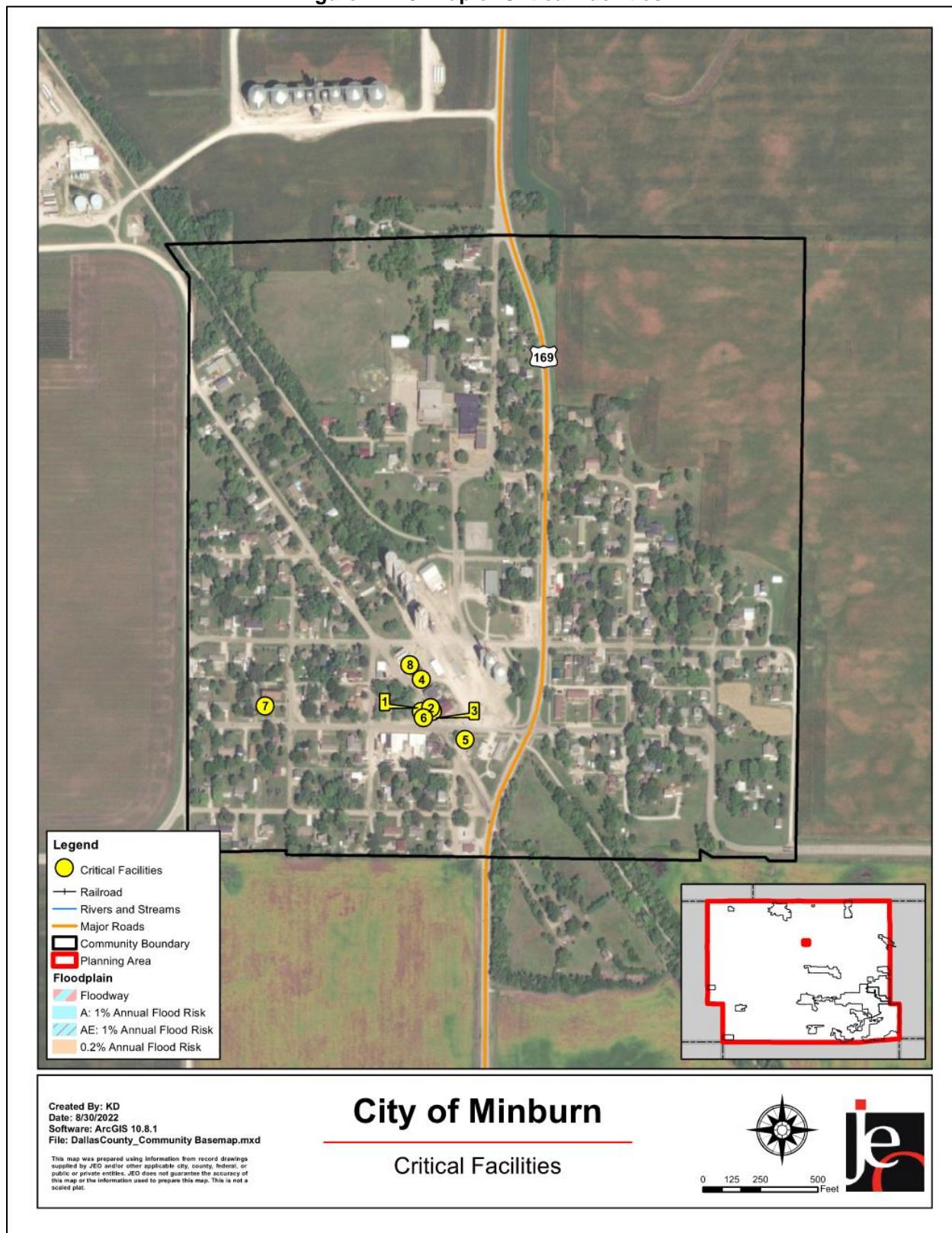
**Table MIN.5: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Minburn City Hall	No	No	No
2	Minburn Public Library (former school)	Yes	No	No
3	Minburn Fire Department	No	Yes (Portable)	No
4	Heartland Co-Op, Minburn Main Location	No	No	No
5	Minburn Communications	No	Yes	No
6	Minburn Water Tower	No	No	No
7	Minburn Methodist Church	Yes	No	No
8	Minburn American Legion	Yes	No	No
9*	Washington Township School	Yes	No	No

*\*Washington Township School is not mapped but is located approximately four miles southwest of the city.*



**Figure MIN.5: Map of Critical Facilities**



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
191	\$22,224,840	0	-	-

Source: County Assessor, 2022

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
191	\$22,224,840	0	-	-

Source: County Assessor, 2022

**Table MIN.8: Minburn Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>174</sup>

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Hazardous Materials Release

The city has experienced minor releases of anhydrous ammonia at the Heartland Cooperative's facility north of town. These occur when nurse tanks are not properly shut off or vented when threshold temperatures are reached. The top concern of the local planning team is the storage of significant volumes of chemicals and fuels within their facilities both in town and at Minburn Acres. Concerns are associated with the impact of any potential release or a fire at the facility. To help reduce these risks, the Minburn Fire Department conducts walk throughs of the facility every other year and discusses emergency planning with the cooperative. Additional pre-planning for incident management and running mock drills or exercises with the fire department and other responding agencies are future actions the city can take to reduce risk to the community.

<sup>174</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

### **Infrastructure Failure**

The city's water distribution system has suffered several broken mains requiring repairs throughout the past five years. The city has issued boil water orders that resulted in the local population having difficulty procuring safe drinking water without boiling water or purchasing bottled water. Due to the fragility of the infrastructure and low flow rates, the fire department is unable to use the water distribution system for fire protection services. In the event of a structure fire within the community, water must be trucked into town via tankers. The lack of fire protection and potential health hazards resulting from a lack of clean, safe drinking water during system breakages is a top concern of the local planning team. In 2021 the water tower standpipe required significant repairs and was fully renovated in 2022. The city has met with an engineering firm to develop a long-range plan for upgrades to the water distribution system. In the future, the city hopes to upgrade or replace the entire water system with projects such as increasing the main connecting the community to the Xenia network, increasing the water main capacity and upgrading hydrants, adding loops to improve flow and mitigate leaks, and possibly replacing the city water tower.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Minburn. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

Significant concerns identified by the local planning team are pro-longed power outages that impact residents through loss of heat, food, or other needs. Another concern is that some smaller facilities in town have generators for power, but locations that are designated as potential mass-care shelters do not have generators. To reduce risk to the community, the city has identified potential shelter locations. Securing a location with a permanent generator or a portable generator that can heat a warming center is a potential project for the future to reduce risk.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and four tornados in Minburn. The first occurred in 2000 with a brief F0 tornado touching down in open country, resulting in no reported damage. In 2005, a tornado event with a total of eleven tornado resulted in a total of \$2,500,000 of damage, one tornado touched down one mile west of Minburn and produced F0-F1 damage. In 2014 an EF0 tornado touched down in rural area and resulted in minimal damage. The final tornado occurred in 2019 and was rated an EFU. This tornado did not produce any damage and remained in open cropland east and northeast of Minburn. The planning team's top concerns include sufficient warning and notification and the potential impacts to homes and business owners and infrastructure. According to the local planning team, the community has felt notable impact from the 2020 derecho which resulted in significant damage to structures, trees, and electrical infrastructure. The Heartland Cooperative complex north of town required the reconstruction of several grain bins that were destroyed by the derecho. Several homes required repair and tree debris removal was required.

To minimize the effects of tornadoes and windstorms, the city's emergency operations plan was updated to improve the city's response to this hazard. The city has promoted Dallas County's RAVE alerting system to residents to ensure adequate warning times are received. Two storm sirens have been installed in the city, with one still functioning. Upgrading the city's outdoor warning sirens will help reduce risk to the community.

## Mitigation Strategy

### New Mitigation and Strategic Actions

Mitigation Action	Backup Generator for Shelter Location
Description	Additional planning, including securing a location with generator power (or a portable generator that could be sufficient to heat a warming center) are potential projects to consider.
Hazard(s)	All hazards
Estimated Cost	\$15,000
Funding	City General Fund, HMA
Timeline	1-2 Years
Priority	Medium
Lead Agency	City Hall

Mitigation Action	Pre-planning/Mock Drills for Hazardous Material Incidents
Description	Additional pre-planning of how to manage an incident would be a useful activity to pursue, particularly for the fire department and other responding agencies. A mock drill or exercise may also be useful.
Hazard(s)	Hazardous Materials Release
Estimated Cost	\$200
Funding	City General Fund, HMA
Timeline	1-2 Years
Priority	Medium
Lead Agency	Fire Department

Mitigation Action	Storm Siren
Description	The city has two storm sirens but only one functions. The city is considering an upgrade to the towns outdoor warning sirens. Replace with newer technology that will better integrate with county's automated siren infrastructure.
Hazard(s)	Tornado and Windstorm
Estimated Cost	\$30,000
Funding	City General Fund, HMA, Grants
Timeline	1-2 Years
Priority	Medium
Lead Agency	City Hall

Mitigation Action	Water System Upgrade/Replacement
Description	The city's water system needs a significant upgrade/replacement, including increasing the size of the main feeding the community from the Xenia network; increasing water main capacity and upgrading hydrants within the community; adding "loops" to the water mains to improve flow and mitigate against leaks; and potentially even considering replacement of the city's water tower to improve capacity and pressure of the system.
Hazard(s)	All Hazards
Estimated Cost	\$6,000,000-\$7,000,000
Funding	City General Fund, HMA, Grants
Timeline	3-5 Years
Priority	High
Lead Agency	City Hall
Status	Engineering study is underway.

### Continued Mitigation and Strategic Actions

Mitigation Action	Public Awareness and Education
Description	Outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards.
Hazard(s)	All hazards
Estimated Cost	\$1,000-\$2,000
Funding	City General Fund, HMA
Timeline	1 year
Priority	High
Lead Agency	City Hall
Status	The Fire Department has started to make better use of social media to share helpful tips and information to assist the community in preparation for hazards. The city set up a Minburn specific RAVE alerting group so that city officials can better communicate emergency information to residents.

### Removed Mitigation and Strategic Actions

Mitigation Action	Generator Hookup at City Hall
Description	Install a transfer switch to enable a portable generator to be hooked up to City Hall. Have a qualified electrician install the switch.
Hazard(s)	All hazards
Reason for Removal	This project was never started and currently is not on hold. It is not a high priority project at this time.



Mitigation Action	Safe Room
Description	Construct a safe room by the Depot (once moved to the trail head)
Hazard(s)	Tornado, Severe Thunderstorm
Reason for Removal	The city is currently in the process of selling the depot to a private owner.

## Plan Maintenance

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

The 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 Mayor, the City Clerk, and the Fire Chief. The plan will be reviewed annually. The public will be included in the review and revision process via city newsletters, social media, and city council meetings.



This Page is Intentionally Blank

## Community Profile

# City of Perry

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table PER.1: Perry Local Planning Team**

Name	Title	Jurisdiction
<b>Eric Vaughn</b>	Police Chief	Perry Police Department
<b>Josh Wuebker</b>	Public Works Director	City of Perry
<b>Sven Peterson</b>	City Administrator	City of Perry
<b>John Andorf</b>	Mayor	City of Perry
<b>Jack Butler</b>	Public Works Director (previous)	City of Perry

## Location and Geography

The City of Perry is located in north central Dallas County and covers an area of 5.49 square miles. Major waterways in the area include North Racoon River and Beaver Creek..

## Demographics

Perry's population in 2020 was 7,836. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of Perry has generally increased from since 1880. 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. Perry's population accounted for 7.9% of Dallas County's population in 2020.<sup>175</sup>

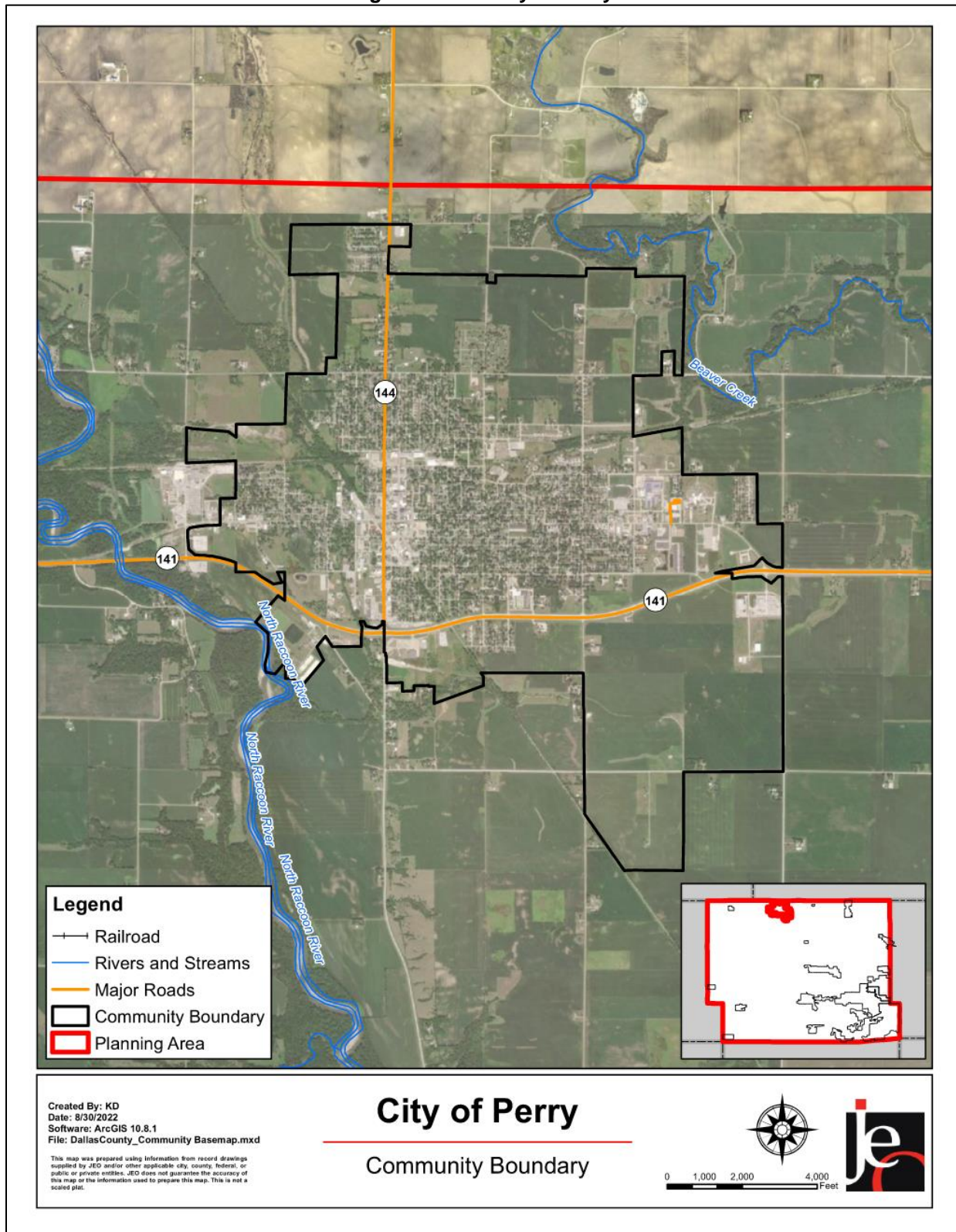
**Figure PER.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>175</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

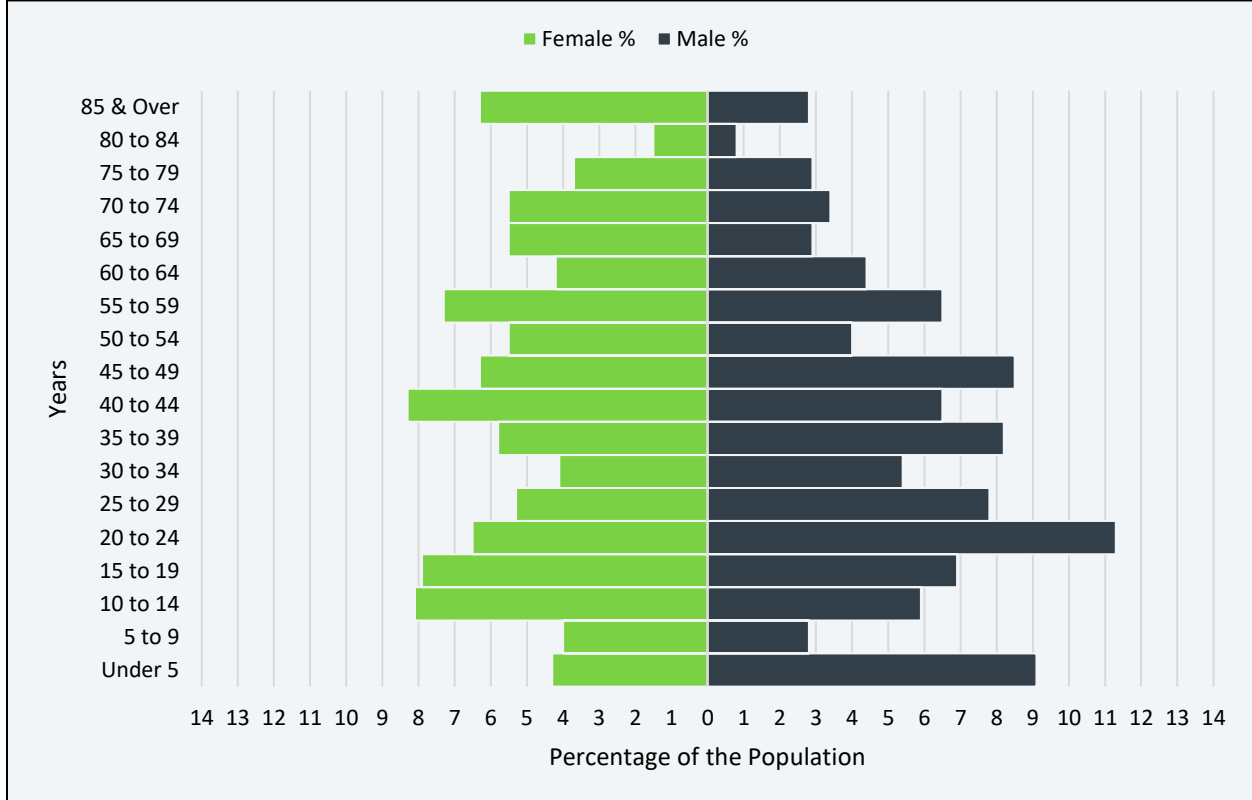
Figure PER.2: City of Perry



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

- **36.5% is non-white.** Since 2010, Perry became more racially diverse. In 2010, 20.9% of the Perry's population was non-white. By 2020, 36.5% was non-white.<sup>176 177</sup>
- **38.9 median age.** The median age of Perry was 38.9 years old in 2020. The population grew older since 2010, when the median age was 33.8.<sup>178 179</sup>

**Figure PER.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Perry's population percentage broken down by sex and five-year age groups. Perry's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

<sup>176</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>177</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>178</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>179</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **14% of people living below the poverty line.** The poverty rate (14%) in Perry was higher than the state's poverty rate (11.1%) in 2020.<sup>180</sup>
- **\$47,802 median household income.** Perry's median household income in 2020 (\$47,802) was about \$14,000 lower than the state (\$61,836).<sup>181</sup>
- **9.2% unemployment rate.** In 2020 Perry had a higher unemployment rate (9.2%) compared to the state (3.9%).<sup>182</sup>
- **31% of workers commuted 30 minutes or more to work.** Fewer workers in Perry commuted 30 minutes or more to work than workers commuting less than 15 minutes (31% compared to 47.3%).<sup>183</sup>

### Major Employers

Major employers for the city include Hy-Vee, Perry Community Schools, Dallas County Hospital, Percival Scientific, Weise Corporation, Progressive Foundry, and the City of Perry. According to the local planning team, approximately 1,900 residents commute to other communities for work.

## Housing

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

- **67.6% of housing built prior to 1970.** Perry has a greater share of housing built prior to 1970 than the state (67.6% compared to 50.4%).<sup>184</sup>
- **9.1% of housing units vacant.** Since 2010, Perry's vacancy rate decreased. In 2010 the vacancy rate was 12.2%. By 2020, 9.1% of housing units were vacant.<sup>185 186</sup>

<sup>180</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>181</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>182</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>183</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>184</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>185</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>186</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



## Section Seven: City of Perry Community Profile

- **4.6% mobile and manufactured housing.** The City of Perry had a greater share of mobile and manufactured housing (4.6%) compared to the state (3.6%).<sup>187</sup>
- **41.9% renter-occupied.** The rental rate of Perry was 41.9% in 2020. The percentage increased since 2010, when renter occupied housing was at 39.7%.<sup>188 189</sup>

The city hosts approximately 80 mobile home units located in the Northgate Estates at 2801 1<sup>st</sup> Avenue in the northwest corner of the city.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Perry has a mayor, a five-member city council, and the following offices.

- City Administrator
- Clerk/Treasurer
- Attorney
- Chief of Police
- Fire Chief
- Wastewater Plant Superintendent
- Water Superintendent
- Public Works Director
- Airport Manager
- City Building Inspector
- Economic Development Director
- Library Director
- Parks and Recreation Director
- GIS/Zoning Administrator
- City Finance Officer

### Capability Assessment

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

---

<sup>187</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>188</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>189</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

**Table PER.2: Capability Assessment**

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

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

Table PER.3: Overall Capability

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

## Plan Integration

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

### Grants and Funding

The City of Perry's funds are sufficient to budget for small capitol projects or equipment expenditures. However, the city funds are not sufficient to pursue major capitol projects without requiring additional debts. The city has been bookmarked a large portion of funds to the current renovations of the Wastewater Treatment Plant. The city's tax base has not grown like other cities in the Des Moines metro area with the older homes and reduced taxable valuations of commercial properties in the State of Iowa. Certain hazard mitigation plans are included in the municipal budget including the Iowa Street Wetland project to assist in controlling storm water run off on the east side of Perry and the Frog Creek Stabilization Project including tree clearing and bank reconstruction. Over the last five years, the city has applied for various grants and has been awarded the IDOT General Aviation Vertical Infrastructure Grant, RISE Grant Downtown Street Project, 2020 Housing Sustainability Grant-Owner Occupied Housing Renovation, Iowa Finance Authority-Wastewater and Drinking Water Treatment Financial Assistance Program, and the FEMA Assistance to Firefighters Grant.

### Building Codes (2021)

The building code sets standards for constructed buildings and structures. The city has adopted the 2018 International Building Codes with multiple amendments made. These codes regulate and govern the conditions and maintenance of all property, buildings, and structures by providing the standards for supplied utilities, facilities, and other physical things and conditions essential to ensure that structures are safe, sanitary, and fit for occupation and use.

### **Capital Improvements Plan (2021)**

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include Storm water projects, upsizing of culverts and drainage structures, regular maintenance for drainage structures, upgrading storm sewer systems, regular maintenance for the storm sewer system, improving transportation routes for drainage, and bridge improvements. The city plans to install new municipal wells, upsize water distribution pipes, install water meters for residential structures, update electrical distribution systems, bury powerlines, and install emergency generators in critical facilities. Improvements are planned for the existing fire hall, public works facility, water treatment facility, and other existing community owned structures. New construction of community owned structures is also planned. The capital improvement plan also includes roadway improvement projects and new housing projects. This plan is updated yearly.

### **Comprehensive Plan (2013)**

The comprehensive plan is designed to guide the future actions and growth of the city. It incorporates some of the goals and objectives included in the HMP. The Comprehensive Plan encourages infill development, identifies areas that need emergency shelter, and encourages preservation of open space in hazard prone areas. There are plans to include goals and objectives aimed at Safe Growth in future updates of the plan.

### **Zoning Ordinance (2021), Floodplain Ordinance (2003), and Subdivision Regulations**

The Zoning Ordinances are continually updated as needed and the corresponding Floodplain Ordinance will be updated in the coming years with the Zoning Ordinance scheduled for update in 2023 and the Subdivision Regulations being updated in 2024. The Ordinances contain floodplain maps, discourage development in the floodplain, and require more than one foot of elevation above Base Flood Elevation in the floodplain. Future updates will include an identification of floodplain areas as parks or open space. The Ordinances also discourage development near chemical storage sites and, in future updates, will consider wildfire and the wildland urban interface.

### **Water System Emergency Response Plan (2020)**

Water system emergency response plans ensure the drinking water systems that serve the City of Perry are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Wellhead Protection Plan (2000)**

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

## **Future Development Trends**

In the last five years, many new developments have taken place in Perry. A tax abatement program has assisted in the building of 61 new housing units throughout the city with approximately 25 new homes having been built in the Sunflower addition north of the elementary school. Three new apartment buildings have also been built, adding an additional 100 new units to the city's apartment inventory. None of the new buildings were built in the floodplain or other hazardous area. In the next five years, a certified industrial site is planned to be built on the southeast corner of the city limits. Additional plans show possible development between Park and

North Street in the northeast corner of city limits. A second apartment building is planned for the 28<sup>th</sup> Street and McKinley area.

### Community Lifelines

#### Transportation

Perry's major transportation corridors include State Highway 141 and State Highway 144. The most traveled route is Highway 141 with an average of 7,200 vehicles daily, 640 of which are trucks.<sup>190</sup> The nearest airport is Perry Municipal Airport, located just west of the city along a main transportation route. Willis Avenue, 8<sup>th</sup> Street, and 10<sup>th</sup> Street are additional routes of concern identified by the local planning team and multiple critical facilities are located along main transportation routes including Perry Wastewater Treatment facility at Highway 141 and Ivy Pace. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents. The local planning team identifies Highway 141 and 144 as potentially having chemicals regularly transported, but that the exact substances are unknown. No major chemical spills or other significant transportation events have occurred within the city.

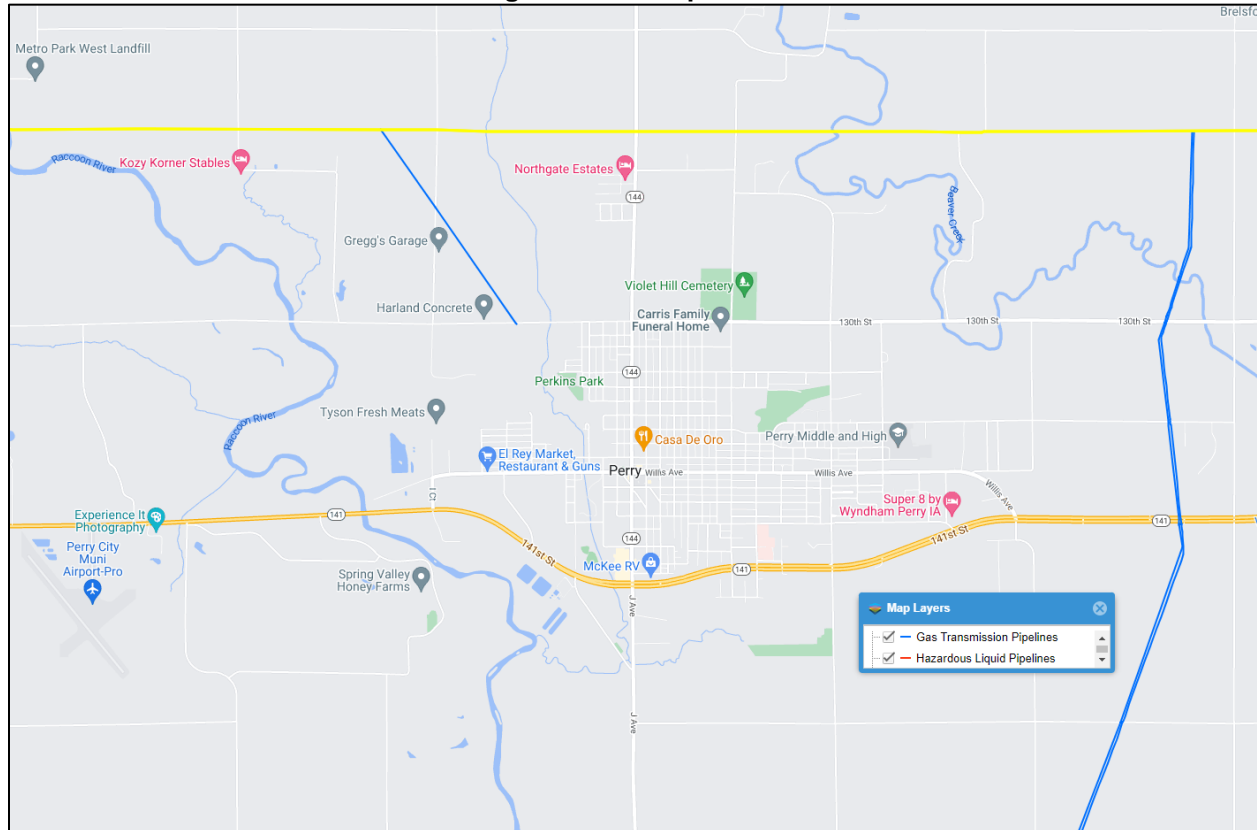
---

<sup>190</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

## Hazardous Materials

There are gas transmission pipelines that travel near the city and can be seen as blue lines in the figure below.

**Figure PER.4: Pipelines**



Source: National Pipeline Mapping System<sup>191</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are 15 chemical storage sites in Perry that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table PER.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>CenturyLink - Perry CO</b>	1424 Willis Avenue	No
<b>CIRM-- Perry Plant</b>	915 Railroad Street	No
<b>Dallas County Hospital</b>	610 10th St.	No
<b>ITC Midwest Perry</b>	1400 I Court	0.2% Floodplain
<b>Landus Cooperative - Perry</b>	2229 Clover Ave	No
<b>Minburn Telephone Company - CLEC</b>	923 Willis Ave	No
<b>Perry</b>	104 Willis Avenue	No
<b>Perry Maintenance Building</b>	205 South First Street	No
<b>Perry Municipal Water Works</b>	1101 W Third Street	No
<b>Perry Willis</b>	910 I Court	1% Floodplain

<sup>191</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpmms.phmsa.dot.gov/PublicViewer/>.



## Section Seven: City of Perry Community Profile

Facility Name	Address	Located in Floodplain?
Progressive Foundry Inc	1518 1st Ave	No
Quick Oil Co	104 Willis Avenue	No
Star Energy FS, a division of Growmark Inc.	296 335th Street	No
Tyson Fresh Meats Inc	13500 I Court Drive	No
Wiese Industries	1501 5th Street	No

Source: Iowa Department of Natural Resources<sup>192</sup>

### Health and Medical Facilities

The following medical and health facilities are located within the community

**Table PER.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
Aspire of Perry	Nursing Facility/Skilled Nursing Facility	2625 Iowa Street	46
Dallas County Hospital	Hospital	610 Tenth Street	25
DCH Family Medicine Perry	Rural Health Clinic	616 10th Street	0
Perry Dialysis	Dialysis Center	610 10th Street	0
Perry Lutheran Home	Nursing Facility/Skilled Nursing Facility	2323 E Willis Avenue	70
Perry Lutheran Home - Eden Acres Campus	Nursing Facility	3000 East Willis Avenue	57
Perry Lutheran Home - Eden Acres Campus	Assisted Living Facility	1300 28th Street	16
Perry Lutheran Home - Spring Valley Campus	Assisted Living Facility	501 12th Street	77

Source: Iowa Department of Inspections and Appeals<sup>193</sup>

### Critical Facilities

The local planning team identified critical facilities that are vital for disaster response, public shelter, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following tables and figure provide a summary of the critical facilities for the City of Perry and Perry Water Works. For other information specific to Perry Water Works, please refer to the Perry Water Works profile.

<sup>192</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

<sup>193</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022. <https://dia-hfd.iowa.gov/>.

**Table PER.6: Critical Facilities - City**

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
1	Perry Municipal Airport	N	Y	N
2	Pegasus TV	N	N	N
3	The Perry Chief	N	N	N
4	Iowa Electric Power & Light Co - Electric Substation	N	Y	N
5	McCreary Community Building	Y	Y	N
6	Perry City Hall	N	Y	N
7	Perry Public Works	N	Y	N
8	Hy Vee Perry	N	N	N
9	KDLS Radio Station	N	N	N
10	Iowa National Guard	Y	Y	N
11	Perry Police and Fire Departments	Y	Y	N
12	Perry Lutheran Home - Main Campus	N	Y	N
13	Trinity Evangelical Lutheran Church	N	N	N
14	St Patrick's School	Y	N	N
15	Pearl Valley Rehabilitation & Health Care Center	N	Y	N
16	Perry Lutheran Home - Spring Valley Campus	N	Y	N
17	Perry Lutheran Home – Eden Acres Campus	N	Y	N
18	Perry Wastewater Treatment Plant	N	Y	N
19	Interstate Power and Light Company Electric Substation	N	Y	Y (0.2%)
20	Dallas County EMS - Perry Station	N	Y	N
21	Dallas County Hospital	Y	Y	N
22	Perry Elementary School	Y	N	N
23	Perry High School	Y	N	N
24	Perry Middle School	Y	N	N

## Section Seven: City of Perry Community Profile

**Table PER.7: Critical Facilities – Water Works**

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
<b>25</b>	Perry Water Treatment Plant	N	Y	N
	Chlorine Building	N	Y	N
	1 Million Gallon Reservoir	N	N/A	N
	0.5 Million Gallon Reservoir	N	N/A	N
	Pump House	N	Y	N
	Well 12	N	Y	N
	Well 19	N	Y	N
<b>26</b>	Well 9R	N	N	Y (1%)
	Well 18	N	N	Y (1%)
<b>27</b>	Well 13	N	Y	Y (1%)
	Well 14	N	Y	Y (1%)
<b>28</b>	Well 15	N	N	N
	Well 16	N	N	N
<b>29</b>	Well 17	N	N	N
<b>30</b>	Well 20	N	N	N
	Well 21	N	N	N
<b>31</b>	Well 22	N	N	N
	Well 23	N	N	N
<b>32</b>	Water Tower	N	N	N
<b>33</b>	Perry Water Works Administration Building	N	Y	N

Figure PER.5: Map of Critical Facilities - City

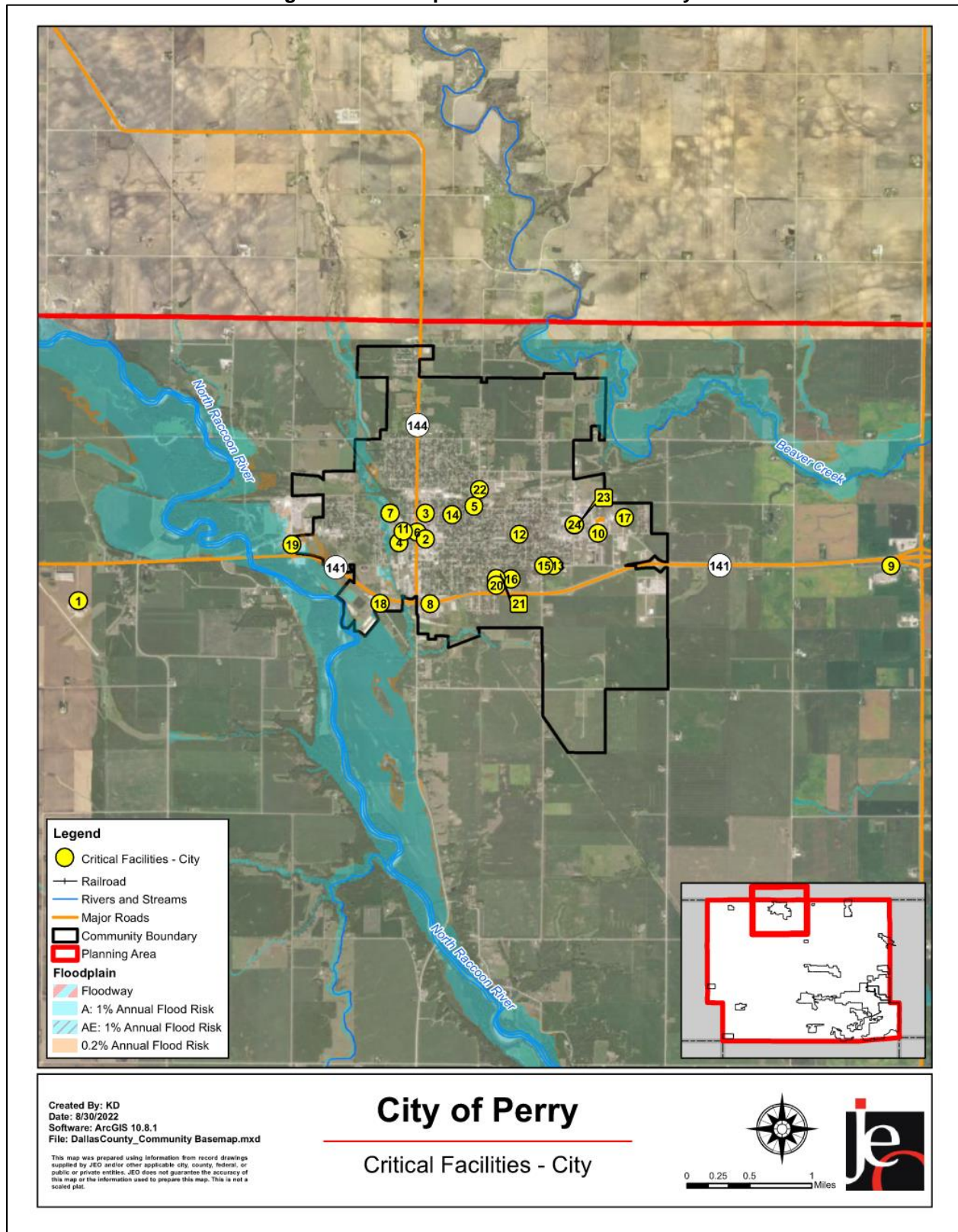
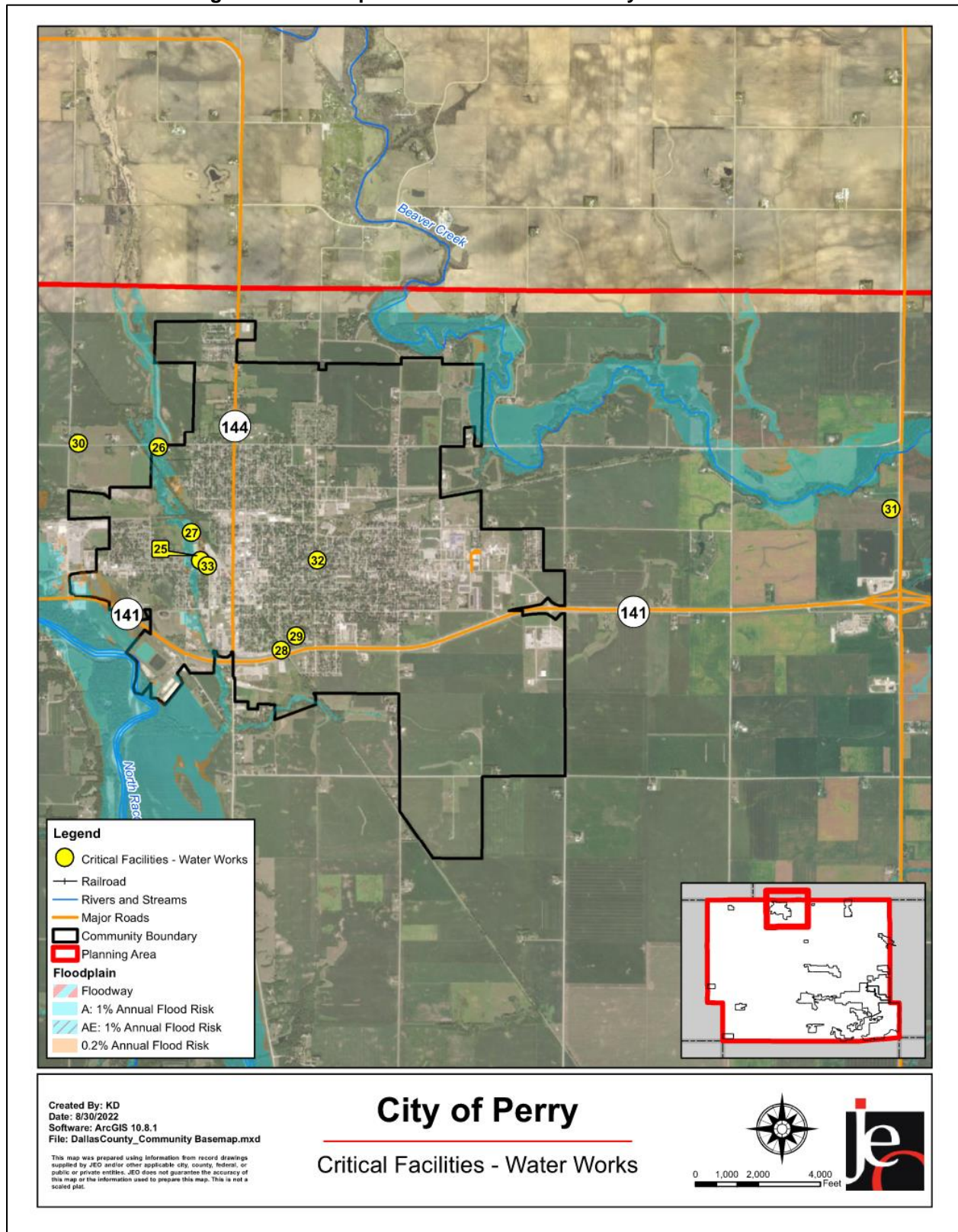




Figure PER.6: Map of Critical Facilities – Perry Water Works



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table PER.8: Perry Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
2,694	\$345,688,760	35	\$4,466,400	1%

Source: County Assessor, 2022

**Table PER.9: Perry Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
2,694	\$345,688,760	48	\$6,293,250	2%

Source: County Assessor, 2022

**Table PER.10: Perry Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>194</sup>

<sup>194</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.



## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### **Hazardous Materials Release**

Hazardous materials release has been identified as a top concern by the local planning team due to the potential release of anhydrous ammonia or chlorine gas from the Perry Water Department and Tyson Foods. Both locations are located on the west side of Perry and prevailing winds may pose a danger to the community it released. The city has not experienced occurrences of hazardous materials release and does not have any actions or projects in place to reduce the risk to this hazard. To reduce future risk of hazardous materials releases, the city plans to ensure the Water Department and Tyson Foods maintain property safety measures.

### **Infrastructure Failure**

The local planning team identified this as a top hazard due to past occurrences of flooding in 1993 interrupting water production and wastewater management and the 2020 Derechos causing power disruption due to numerous downed power lines. According to the local planning team, the top concern of infrastructure failure is the loss of drinking water and power for heating and cooling. The NCEI database records 13 instances of heavy rainfall having occurred in Perry, with 2014, 2015, and 2016 having experienced three, two, and three heavy rainfall events respectively. The city has completed action to reduce their risk including renovations to the wastewater treatment plant with a projected completion date in 2024, annually updating water lines at the water plant, and a three-year plan by Alliant Energy to replace power poles and bury power lines in the southeast portion of the city. Future planning actions include installing, updating, and replacing generators at the emergency shelters located at Perry McCreary Center, Perry City Hall, the Library, and the Public Safety Building.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Perry. These storms can cause damage through heavy rain, lightning strikes, hail, and high winds. The NCEI reports 52 instances of severe thunderstorms occurring in Perry from 1996 to 2021. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$413,000 worth of structural damage across the impacted zones.

The most significant concern identified by the local planning team was the flooding of city streets, homes, and businesses. The city has experienced various rain events over three to four inches and storm drain and sanitary sewer lines backing up. To reduce the risk from this hazard, storm sewers have been inspected and are cleaned regularly, repairs to sewer lines, storm lines, and a sump pump made, and a water retention area is being created near Iowa Street and 26<sup>th</sup> Street to assist in drainage of rainwater. Additionally, the local planning team plans to further their risk reduction by continuing the repair of aging storm water systems and cleanup of the Frog Creek areas to allow for quicker and more efficient drainage.

Respondents to the public survey reported that past impacts from this hazard include flooding near the Raccoon River.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Perry. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. Perry has received multiple heavy snow falls including 14 inches in 1998, 16 inches in 2004, and 3 inches of ice pellets in 2008. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. One of these storm events in 2012 resulted in 7.8 inches of snowfall in Adel. These 79 events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

The most significant concern identified by the local planning team is the loss of power for extended periods during extreme cold. To reduce the risk from this hazard, Alliant Energy is working to bury existing power lines.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and two F0 tornadoes in Perry, one in May 1999 and the second in June 2000. The May 1999 tornado resulted in \$2,000 of property damage. No deaths or injuries were reported from either tornado. The local planning team also reported having experienced Derecho storms in 2020 that caused power disruptions.

The most significant concern identified by the local planning team due to loss of power and damage to structures. The top concerns included tree canopies taking power lines down, overhead lines being damaged, and damage to aging housing structure. The local planning team is also concerned with the lack of adequate storm shelters. To reduce the risk from this hazard, the city is currently adopting a franchise fee to assist in removing damaged, dying, or dead trees as well as those presenting hazards to travel. The city has implemented a tax abatement program that is helping create new housing and improving existing structures. Building codes have been updated across the city and rental inspections are being made. In the future, to reduce risk to the community, the local planning team is identifying areas in need of shelters and locating funding to help create them.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	Establish an Emergency Translation Team
<b>Description</b>	Develop a team of a few individuals that could be called upon to assist emergency personnel in communicating to the Spanish-speaking residents during emergency situations. The emergency translation team would also be available to have at the local emergency command center and/or at community shelters to keep Spanish-speaking residents informed of the situation.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$2,000
<b>Funding</b>	City General Fund
<b>Timeline</b>	1 year
<b>Priority</b>	Medium
<b>Lead Agency</b>	Perry NIMS Committee
<b>Status</b>	Completed. Five police department members on staff are bilingual.

### New Mitigation and Strategic Actions

New Mitigation Action	Backup Generators
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
<b>Estimated Cost</b>	\$500,000
<b>Funding</b>	Local Option Sales Tax
<b>Timeline</b>	2-5 Years
<b>Priority</b>	High
<b>Lead Agency</b>	City Administration
<b>Status</b>	Not Started

New Mitigation Action	Storm Shelters
<b>Description</b>	Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas.
<b>Estimated Cost</b>	\$500,000
<b>Funding</b>	Local Option Sales Tax
<b>Timeline</b>	2-5 Years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Administration
<b>Status</b>	Not Started

**Continued Mitigation and Strategic Actions**

Mitigation Action	Clean Brush from Frog Creek
Description	Clear out overgrown brush and trees in the Frog Creek drainage area to prevent flash flooding occurrences. Trees will be removed through the hiring of a tree services to remove overgrowth.
Hazard(s)	Flooding
Estimated Cost	\$15,000
Funding	City General Fund
Timeline	2 months
Priority	Medium
Lead Agency	Perry Public Works
Status	This project started in Fall 2022.

Mitigation Action	Continue to Enforce Local Building Codes
Description	As construction methods change and developments grow into new areas, it is important to stay up to date with enforcement and administration. The city has a full-time building inspector on staff to review building permits and plans. With a significant amount of new housing developments planned in the coming years, it will be important to continue to enforce the building codes as well as periodically review them to make sure they are applicable and enforceable.
Hazard(s)	All hazards
Estimated Cost	Staff Time
Funding	City General Fund
Timeline	Ongoing
Priority	High
Lead Agency	City Administration
Status	The Economic Development Director position has been added. Rental inspections are being performed. Codification of compliance codes are currently occurring.

Mitigation Action	Cultural Severe Weather Education
Description	Educate all residents by providing materials about hazard events in both English and Spanish. Provide a brochure or poster with various temperatures and types of weather-appropriate clothing in English and Spanish to help Hispanic citizens prepare for weather they are not familiar with. Encourage schools to provide education to students on these topics and have newspapers run announcements about actions to take in severe weather.
Hazard(s)	All hazards
Estimated Cost	<\$10,000
Funding	City General Fund, HMA
Timeline	6 months
Priority	High
Lead Agency	Perry Safety Committee
Status	A media specialist is currently being hired to assist in this project.

Mitigation Action	Designate Public Shelters
Description	Designate shelters to be used during thunderstorms, tornadoes, windstorms, winter storms, or evacuations. Suggested shelters may include the schools, McCreary Recreation Center, churches, National Guard Amory, and the library.
Hazard(s)	All hazards
Estimated Cost	Staff Time
Funding	Perry Community Schools, Iowa National Guard
Timeline	6 months
Priority	High
Lead Agency	City Hall
Status	Not started

Mitigation Action	NIMS Certification
Description	Require all city employees to take the online NIMS. U.S. Department of Homeland Security recommends all local governments receive training on the National Incident Management System (NIMS)
Hazard(s)	All hazards
Estimated Cost	Staff Time
Funding	City General Fund
Timeline	6 months
Priority	Medium
Lead Agency	Dallas County Emergency Management
Status	This is an ongoing process as new members are added.

### Removed Mitigation and Strategic Actions

Mitigation Action	Bury Power Lines
Description	Ice, winds, and tornadoes can cause outages for above-ground utilities. The city should work with Alliant Energy (electricity provider) and Qwest (communications) to bury utility lines.
Hazard(s)	Windstorms, Severe Thunderstorms, Severe Winter Storms, Tornadoes
Reason for Removal	This is an ongoing project being performed by Alliant Energy

Mitigation Action	Conduct an Earthquake Drill at Schools
Description	Conduct earthquake drills in schools and encourage children to take the information home to share with their families. In addition, it is recommended that local media report about school drill events and provide additional pertinent information about what to do during an earthquake.
Hazard(s)	Earthquake
Reason for Removal	This is no longer a priority for the city.

Mitigation Action	Develop a Plan for Emergency Water Supply
Description	Develop a plan and agreements to either transport water in from Xenia Rural Water District or utilize the Tyson Foods wells. The plan would need to address issues such as who would transport the water and how and where the water would be distributed to the public.
Hazard(s)	Drought
Reason for Removal	This is no longer a priority for the city.

## Plan Maintenance

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

The 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, Police Chief, and Public Works Director. The plan will be reviewed on a bi-annual basis.



This Page is Intentionally Blank

## Community Profile

# City of Redfield

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table RED.1: Redfield Local Planning Team**

Name	Title	Jurisdiction
<b>Deb Light</b>	City Clerk	City of Redfield
<b>John Hoy</b>	City Council	City of Redfield
<b>Wade Reed</b>	Mayor	City of Redfield

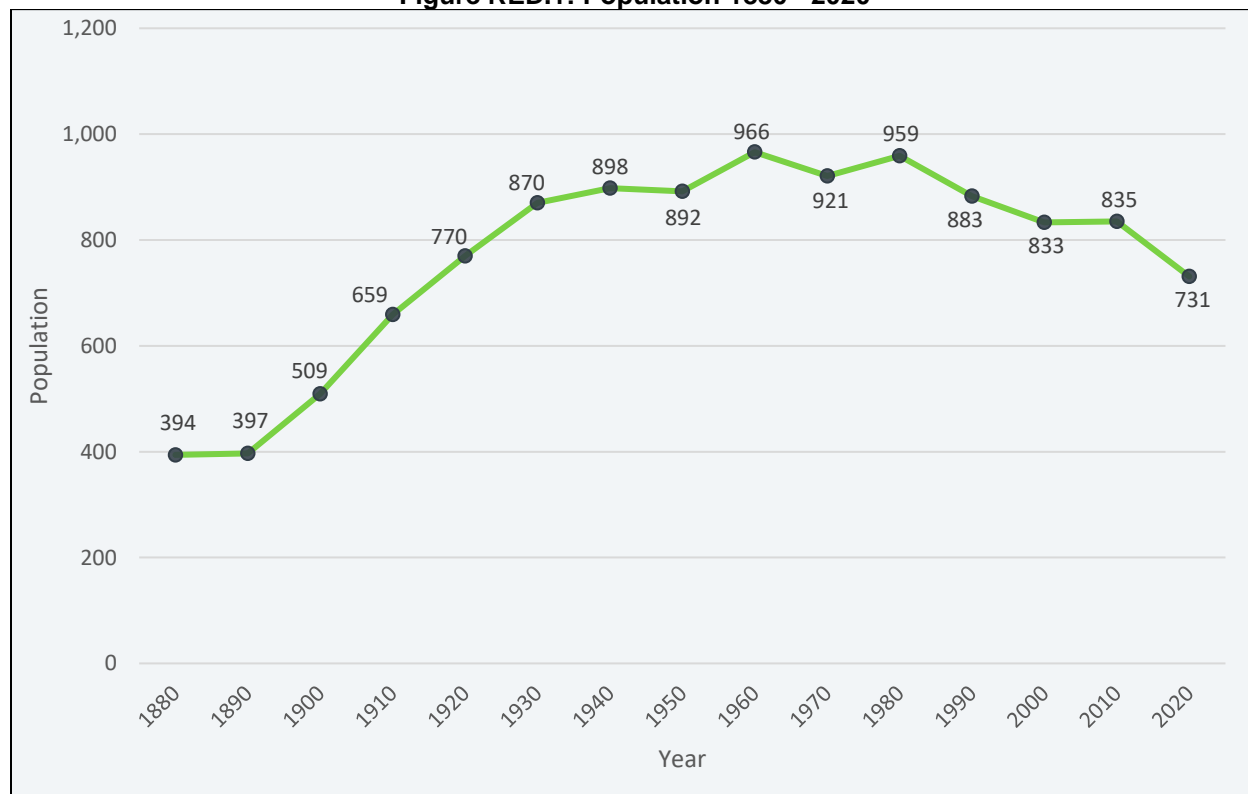
## Location and Geography

The City of Redfield is located in southwest Dallas County and covers an area of 1.36 square miles. Major waterways in the area include Middle Racoon River and Racoon River.

## Demographics

Redfield's population in 2020 was 731. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of Redfield increased from 1880 to 1940, fluctuated from 1940 to 1980, and has generally declined since. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Redfield's population accounted for 0.7% of Dallas County's population in 2020.<sup>195</sup>

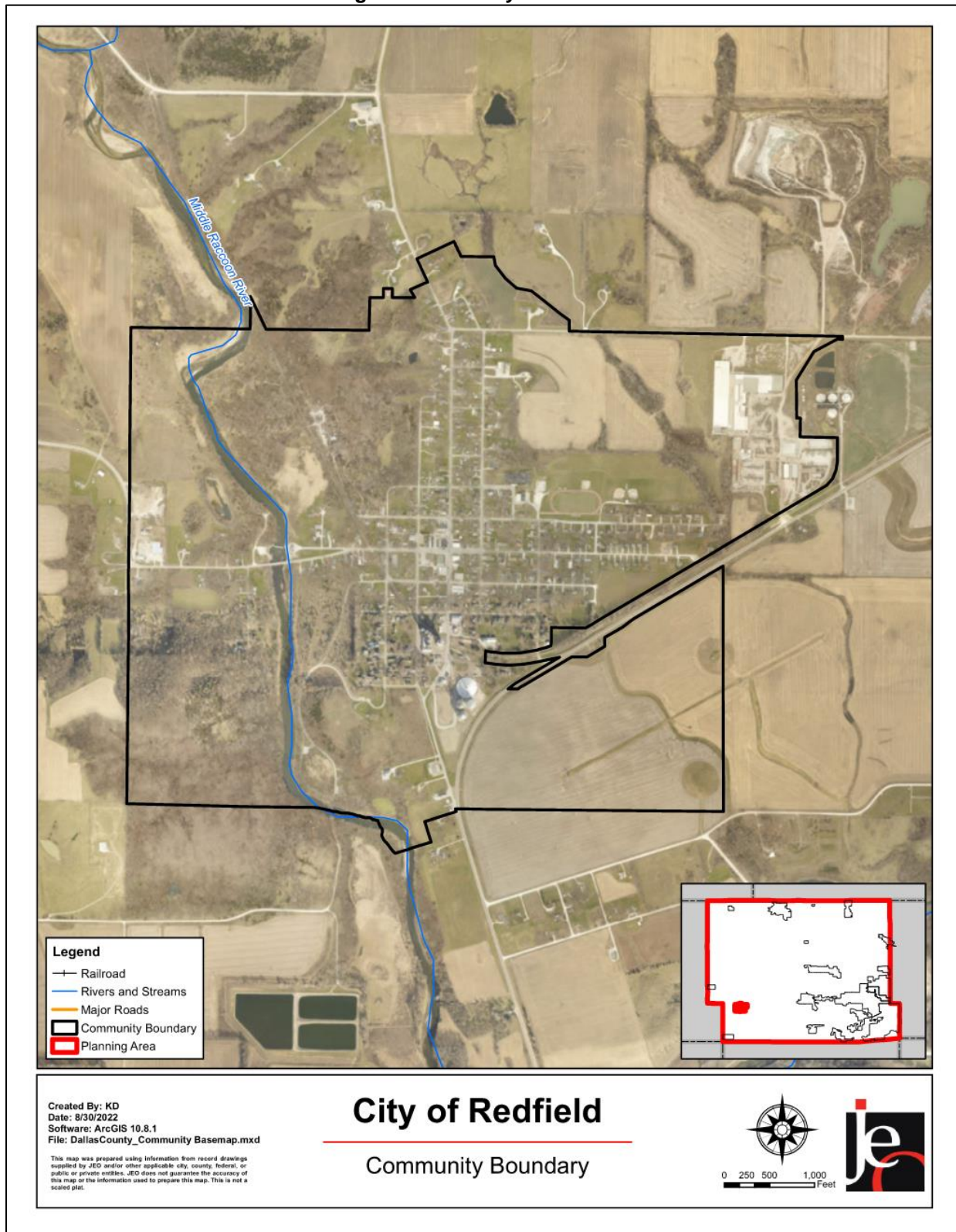
**Figure RED.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>195</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

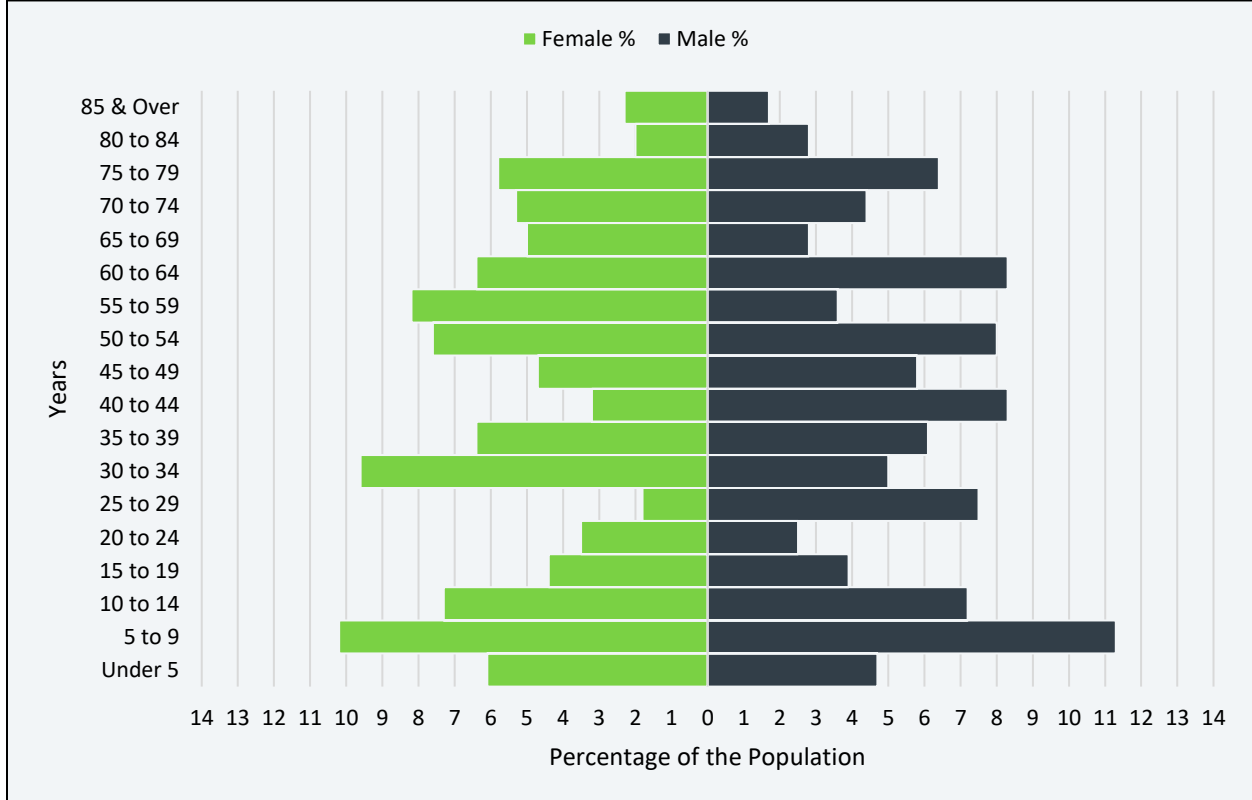
Figure RED.2: City of Redfield



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

- **6.3% is non-white.** Since 2010, Redfield became more racially diverse. In 2010, 4.1% of the Redfield's population was non-white. By 2020, 6.3% was non-white.<sup>196 197</sup>
- **43 median age.** The median age of Redfield was 43 years old in 2020. The population grew older since 2010, when the median age was 40.<sup>198 199</sup>

**Figure RED.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Redfield's population percentage broken down by sex and five-year age groups. Redfield's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

<sup>196</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>197</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>198</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>199</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **8.7% of people living below the poverty line.** The poverty rate (8.7%) in Redfield was lower than the state's poverty rate (11.1%) in 2020.<sup>200</sup>
- **\$68,194 median household income.** Redfield's median household income in 2020 (\$68,194) was about \$6,400 higher than the state (\$61,836).<sup>201</sup>
- **0.9% unemployment rate.** In 2020 Redfield had a lower unemployment rate (0.9%) compared to the state (3.9%).<sup>202</sup>
- **46.2% of workers commuted 30 minutes or more to work.** More workers in Redfield commuted 30 minutes or more to work than workers commuting less than 15 minutes (46.2% compared to 16.8%).<sup>203</sup>

### Major Employers

Major employers for the city include SCG Services, Heartland Co-Op, Stine Seed, and West Central Valley Middle School. According to the local planning team, a large percentage of residents commute to other communities for work, such as Adel and West Des Moines.

## Housing

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

- **72.1% of housing built prior to 1970.** Redfield has a greater share of housing built prior to 1970 than the state (72.1% compared to 50.4%).<sup>204</sup>
- **17.4% of housing units vacant.** Since 2010, Redfield's vacancy rate increased. In 2010 the vacancy rate was 16.9%. By 2020, 17.4% of housing units were vacant.<sup>205 206</sup>

<sup>200</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>201</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>202</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>203</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>204</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>205</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>206</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



## Section Seven: City of Redfield Community Profile

- **4.9% mobile and manufactured housing.** The City of Redfield had a greater share of mobile and manufactured housing (4.9%) compared to the state (3.6%).<sup>207</sup>
- **17.5% renter-occupied.** The rental rate of Redfield was 17.5% in 2020. The percentage decreased since 2010, when renter occupied housing was at 26.6%.<sup>208 209</sup>

The city has eight mobile homes that are located throughout town.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Redfield has a mayor, a five-member city council, and the following offices.

- City Manager/Mayor
- Clerk/Treasurer
- Attorney
- Fire Chief
- Wastewater Plant Superintendent
- Water/Sewer Superintendent
- Street Superintendent
- Library Board Chairperson
- GIS/Zoning Administrator

---

<sup>207</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>208</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>209</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

## Capability Assessment

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

**Table RED.2: Capability Assessment**

Survey Components/Subcomponents		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Emergency Operations Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	County
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	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	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	

<b>Education &amp; Outreach Capability</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 RED.3: Overall Capability**

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

## Plan Integration

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

### Funding and Grants

The Waukee municipal funds are limited to maintaining current facilities and municipal services. There are currently no large projects lined up that have funds dedicated. Municipal funds have been decreasing in recent years due to rising operational costs. The city has applied for FEMA grants for a new water plant generator in the last five years but have not been awarded any grants since 2010.

### Capital Improvement Plan

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include upsizing of culverts and drainage structures, regular maintenance for drainage structures, regular maintenance for the storm sewer system, improving transportation routes for drainage. The plan also includes installing water meters for residential structures and installing emergency generators in critical facilities as projects the city would like to pursue.

### **Comprehensive Plan (1997)**

The comprehensive plan is designed to guide the future actions and growth of the city. The city's Comprehensive Plan has not been updated since 1997. There are currently no plans or timeline to update the comprehensive plan.

### **Floodplain Regulations (2019), Zoning Ordinance (2019), and Subdivision Regulations (2001)**

The city's Floodplain Regulations contain floodplain maps of the city. The floodplain regulations do not limit development or population density within the floodplain. The Zoning Regulations for Redfield do not discourage development near chemical storage sites or along major transportation routes. There is no current plan or timeline to update the Zoning Ordinance, Floodplain Ordinance, or Subdivision Regulations.

### **Water System Emergency Response Plan (2006)**

Water system emergency response plans ensure the drinking water systems that serve the City of Redfield are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Wellhead Protection Plan**

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

## **Future Development Trends**

In the last five years a Dollar General has been established in the city. The structure was not developed in the floodplain or near other hazardous areas. The city does not currently have new housing, business, or industry development planned for the next five years.

## **Community Lifelines**

### **Transportation**

Redfield's major transportation corridors include County Highways F59, F60, and P46. The most traveled route is Highway F60, with an average of 1,750 vehicles per day.<sup>210</sup> The nearest airport, Guthrie Center Municipal Airport, is located about 14 miles northwest of Redfield. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents. There are no regularly transported chemicals along the local routes and no chemical spills or other significant transportation events have occurred locally

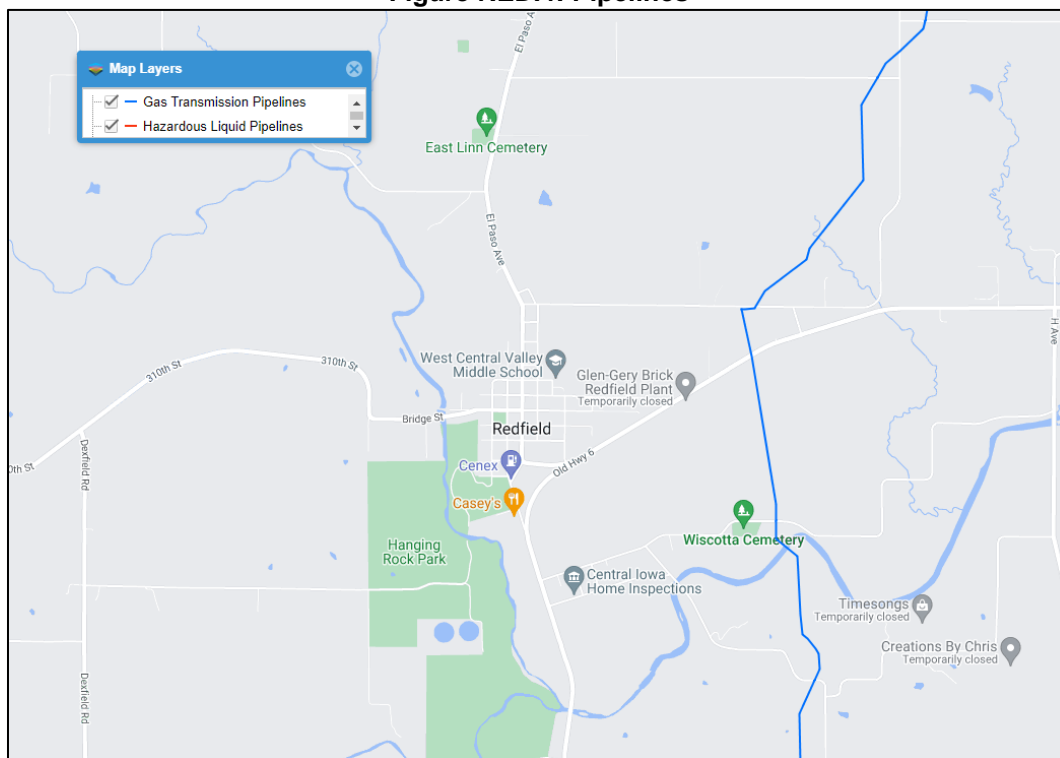
---

<sup>210</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

## Hazardous Materials

A gas transmission pipeline travels near the city and can be seen as a blue line in the figure below.

**Figure RED.4: Pipelines**



Source: National Pipeline Mapping System<sup>211</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are six chemical storage sites in Redfield that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table RED.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
Heartland Co-op Redfield East Agronomy	30352 G Ave	No
Heartland Co-op Redfield Main Location	513 1 Street	No
Heartland Co-op Redfield West	15571 Hwy 6	No
Northern Natural Gas - Redfield Compressor Station	24282 G Avenue	No
Redfield Maintenance Building	1200 Omaha Street	No
Stine Seed*	1519 Highway 6	No
Windstream Iowa Telecom - Redfield	111 Thomas Street	No

Source: E-Plan<sup>212</sup>

\*Identified by the local planning team

<sup>211</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

<sup>212</sup> E-Plan – Emergency Response Information System. 2022. "Facility Search." Accessed November 2022. <https://erplan.net/eplan/actions/facilitySearch.htm>.

## Health and Medical Facilities

The following medical and health facilities are located within the community

**Table RED.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
Redfield Medical Clinic	Rural Health Clinic	1013 First Street	0

Source: Iowa Department of Inspections and Appeals<sup>213</sup>

## Critical Facilities

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

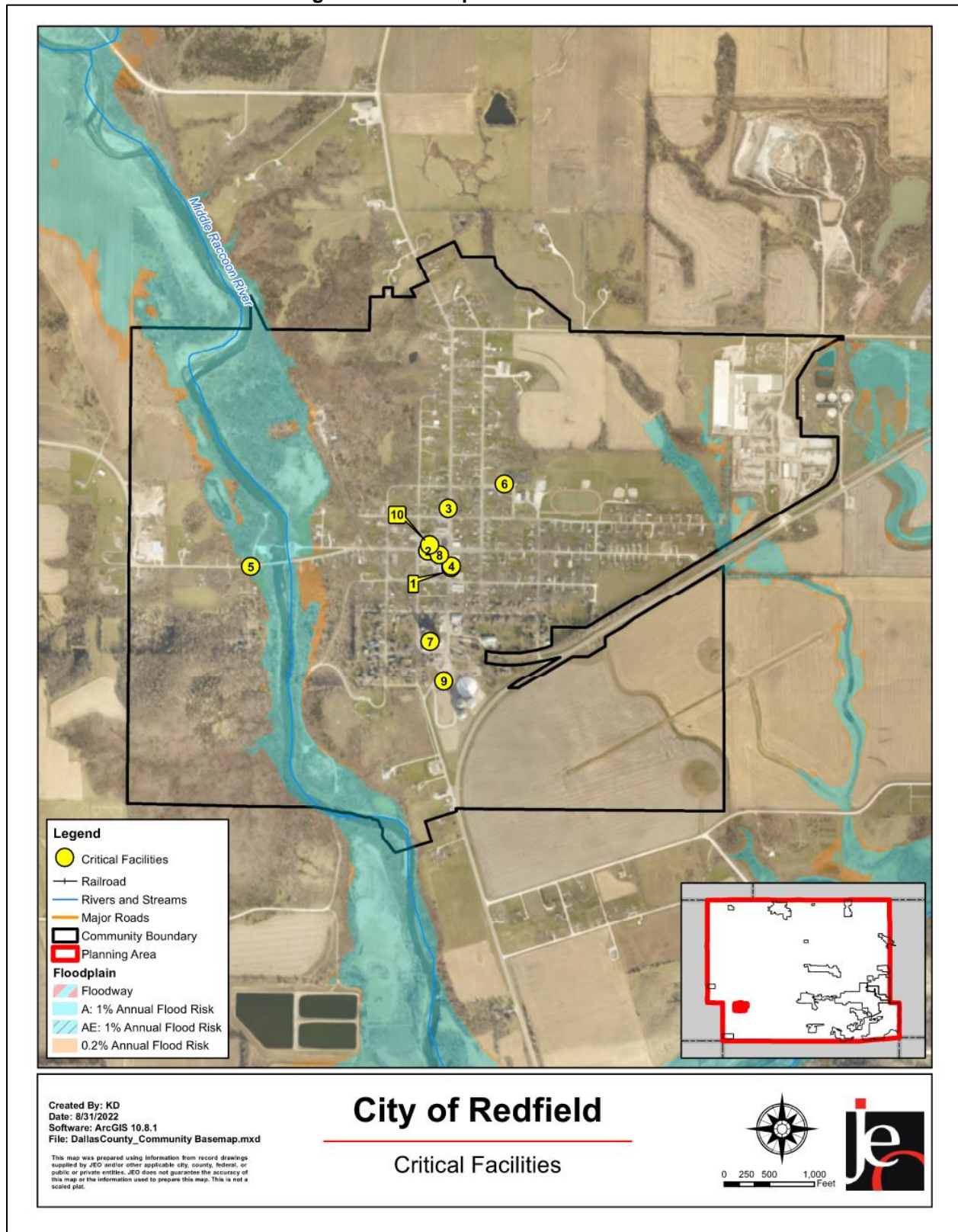
**Table RED.6: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Redfield City Hall	Y	N	N
2	Redfield Library	N	N	N
3	Redfield Medical Clinic	N	N	N
4	Redfield Fire Station	N	N	N
5	Redfield Dam	N	N	Y (1%)
6	West Central Valley Middle School	Y	N	N
7	Heartland Co-Op, Redfield Main Location	N	N	N
8	Redfield Legion Building	Y	N	N
9	Redfield Maintenance Building	N	Y	N
10	Windstream Iowa Telecom - Redfield	N	Y	N

<sup>213</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022. <https://dia-hfd.iowa.gov/>.



Figure RED.5: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table RED.7: Redfield Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
414	\$47,333,450	15	\$2,283,210	4%

Source: County Assessor, 2022

**Table RED.8: Redfield Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
414	\$47,333,450	18	\$2,403,520	4%

Source: County Assessor, 2022

**Table RED.9: Redfield Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>214</sup>

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Flooding

According to the NCEI, there were four flood events in Redfield from 1996 to 2021. These events resulted in \$570,000 in property damage, but no injuries or fatalities. The local planning team indicated that a past flood incident occurred due to an ice jam. The top concerns of the planning team are the potential of power outages and displacement of residents. No projects are currently planned to reduce risk for flooding; however, the planning team indicated that a flood control structure such as a river wall system is needed in the future.

Redfield has two NFIP policies in-force for \$280,000 as of June 2022. A FEMA Flood Insurance Study for Dallas County, including Redfield, was revised in December 2018, and can be viewed on FEMA's Flood Map Service Center: <https://msc.fema.gov/portal/advanceSearch>. According to the IDNR, there are zero repetitive flood loss properties Redfield.

<sup>214</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Redfield. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 11 instances of severe thunderstorms occurring in Redfield from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$62,000 worth of damage across Dallas County. Additionally, the NCEI reported 10 instances of hail occurring in Redfield. The hail ranged from 0.75 inches to 1.75 inches that resulted in \$71,000 of property damage.

The local planning team is highly concerned with power outages resulting from this hazard. The planning team did not indicate any specific actions or projects implemented to reduce risk and impacts from this hazard. There are no current actions or projects planned for the city to reduce risk of severe thunderstorms either.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Redfield. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

The local planning team is highly concerned with power outages resulting from this hazard. The planning team did not indicate any specific actions or projects implemented to reduce risk and impacts from this hazard. Approximately 25% of the town's power lines have been buried, making them less susceptible to breaking during severe storms. The town's snow removal resources are sufficient to deal with large snow falls events. There are no current actions or projects planned for the city to reduce risk of severe winter storms.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County. No tornados are recorded as having occurred in Redfield. The city has experienced derecho winds that resulted in downed trees and power lines.

Downed tree limbs and power lines can result in power outages across the city, which is the top concern of the local planning team. To minimize the effects of tornadoes and windstorms, the city has removed some dead ash trees to reduce the number of fallen trees during a wind event. There are no additional projects planned for the city to reduce risk of tornado and windstorm.

## Mitigation Strategy

### Continued Mitigation and Strategic Actions

Mitigation Action	Safe Room
<b>Description</b>	Construct a community saferoom in accordance with FEMA standards. Possibly at West Central Valley Middle School.
<b>Hazard(s)</b>	Tornadoes and Windstorms
<b>Estimated Cost</b>	\$50,000 to \$100,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2-3 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City of Redfield
<b>Status</b>	This project is still in the planning stage.

## Plan Maintenance

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

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The planning team will include the City Clerk, Mayor, and a Council Member. The plan will be reviewed and updated annually with the last update having occurred in May 2017 when the mitigation action for Safe Rooms was added. The public will be involved in the review and revision process through the City Council meetings.

This Page is Intentionally Blank

## Community Profile

# City of Van Meter

**Dallas County  
Hazard Mitigation Plan 2023**



## Local Planning Team

**Table VAN.1: Van Meter Local Planning Team**

Name	Title	Jurisdiction
<b>Liz Faust</b>	City Administrator	City of Van Meter
<b>Michael Brown</b>	Police Chief	City of Van Meter
<b>Mark Schmitt</b>	Fire Chief	City of Van Meter
<b>Sarah Ames</b>	City Administrator (previous)	City of Van Meter
<b>Bill Daggett</b>	Police Chief (previous)	City of Van Meter

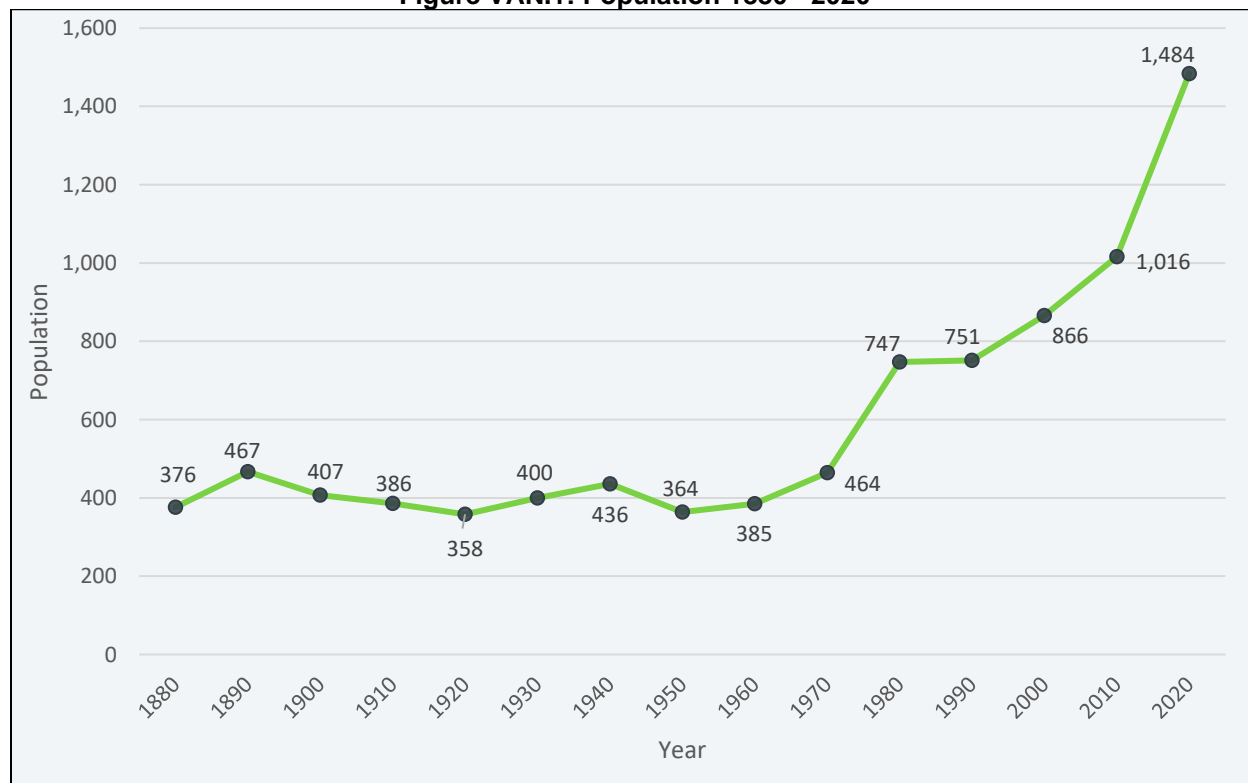
## Location and Geography

The City of Van Meter is located in south central Dallas County and covers an area of 2.49 square miles. Major waterways in the area include Racoon River and North Racoon River.

## Demographics

Van Meter's population in 2020 was 1,484. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of Van Meter remained relatively stable from 1880 to 1970, then saw significant increases from 1970 to 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Van Meter's population accounted for 1.5% of Dallas County's population in 2020.<sup>215</sup>

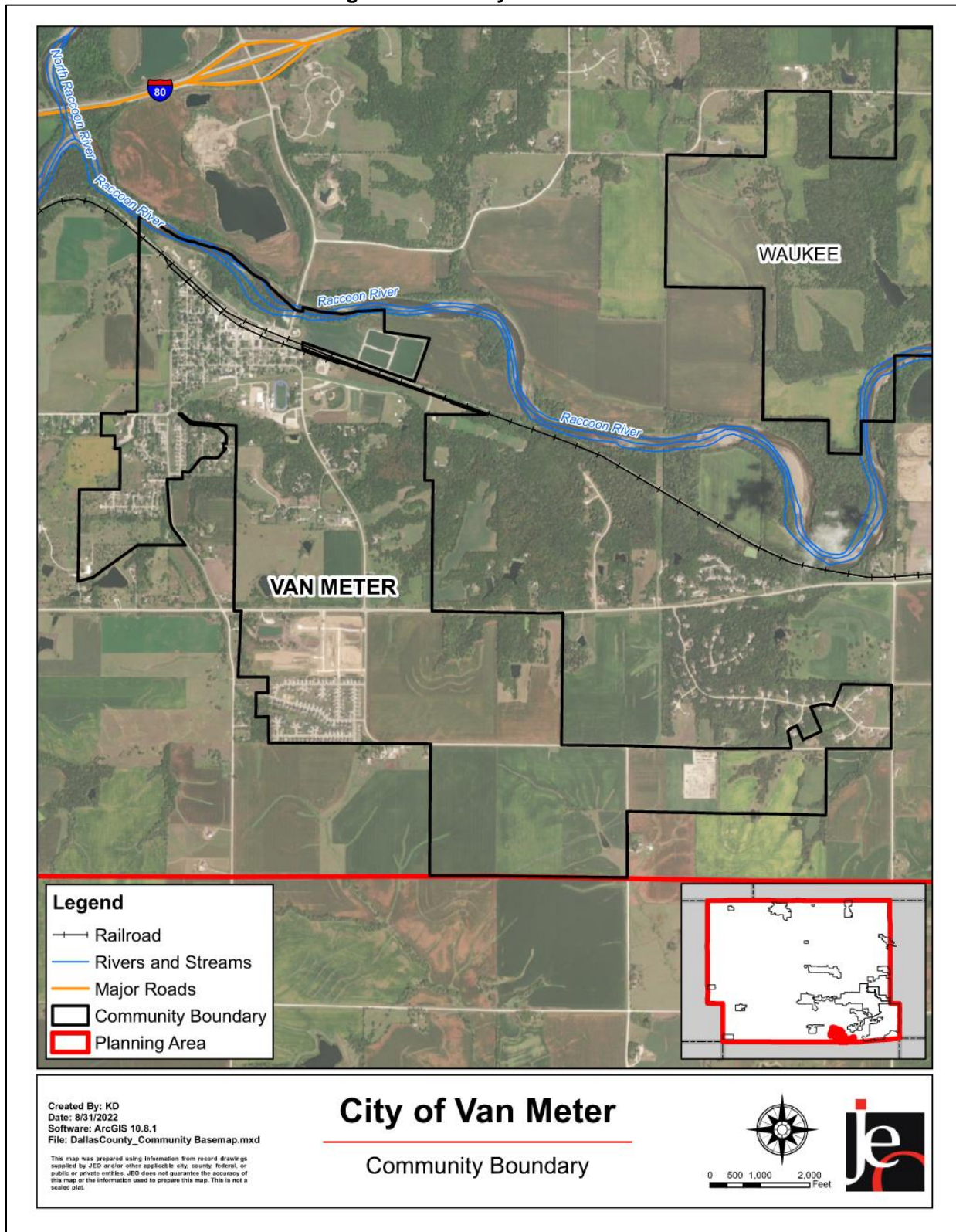
**Figure VAN.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>215</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

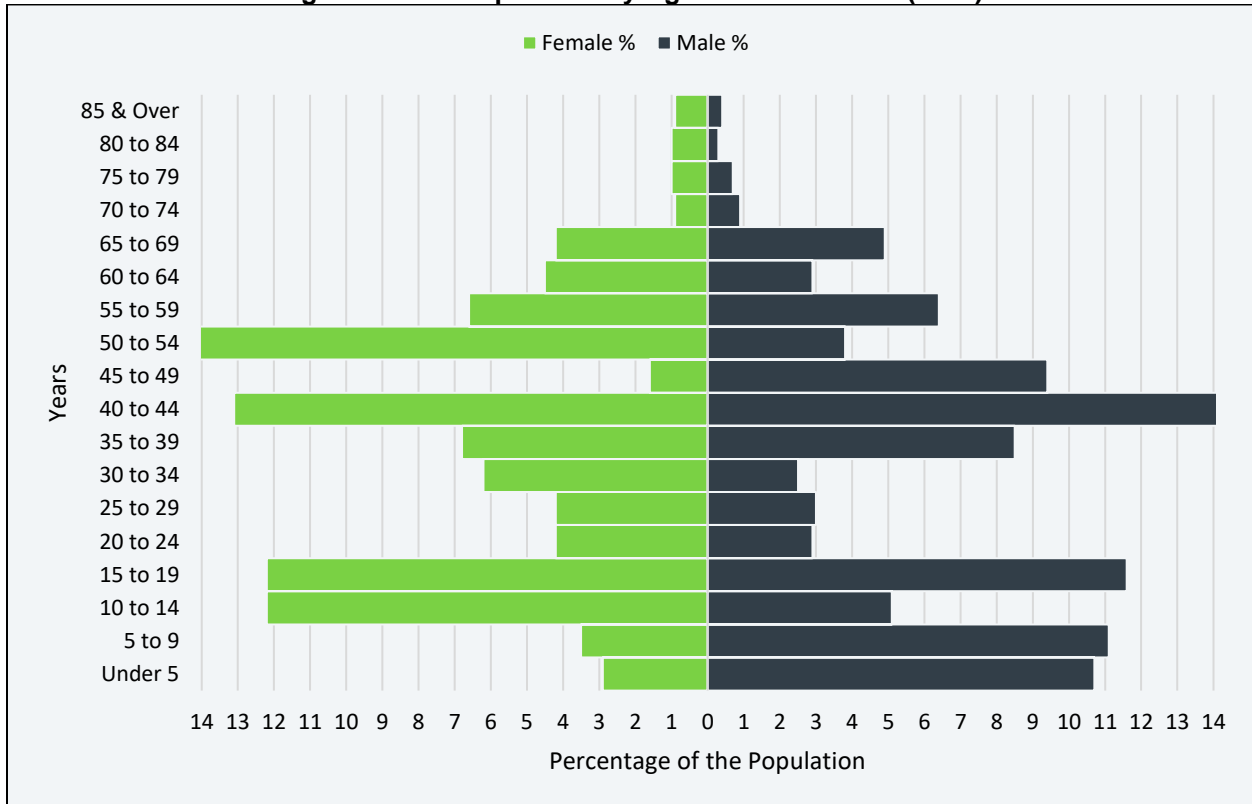
Figure VAN.2: City of Van Meter



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

- **5.4% is non-white.** Since 2010, Van Meter became more racially diverse. In 2010, 2.1% of the Van Meter's population was non-white. By 2020, 5.4% was non-white.<sup>216 217</sup>
- **37.4 median age.** The median age of Van Meter was 37.4 years old in 2020. The population grew older since 2010, when the median age was 36.9.<sup>218 219</sup>

**Figure VAN.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>216</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>217</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>218</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>219</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **1.5% of people living below the poverty line.** The poverty rate (1.5%) in Van Meter was lower than the state's poverty rate (11.1%) in 2020.<sup>220</sup>
- **\$111,736 median household income.** Van Meter's median household income in 2020 (\$111,736) was \$49,900 higher than the state (\$61,836).<sup>221</sup>
- **1.5% unemployment rate.** In 2020 Van Meter had a lower unemployment rate (1.5%) compared to the state (3.9%).<sup>222</sup>
- **22.7% of workers commuted 30 minutes or more to work.** More workers in Van Meter commuted 30 minutes or more to work than workers commuting less than 15 minutes (22.7% compared to 16.3%).<sup>223</sup>

### Major Employers

Major employers for the city include Van Meter Public Schools, All American Turf, City Hall, The Law Shop, Integrated Sales, EBank, the local post office, Casey's, and Dahl's. According to the local planning team, a large percentage of residents commute to other communities for work, such as Waukee, Des Moines, West Des Moines, Ankeny, and Grimes.

## Housing

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

- **39.4% of housing built prior to 1970.** Van Meter has a smaller share of housing built prior to 1970 than the state (39.4% compared to 50.4%).<sup>224</sup>
- **4.6% of housing units vacant.** Since 2010, Van Meter's vacancy rate decreased. In 2010 the vacancy rate was 6.4%. By 2020, 4.6% of housing units were vacant.<sup>225 226</sup>

<sup>220</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>221</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>222</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>223</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>224</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>225</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>226</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

- **0% mobile and manufactured housing.** The City of Van Meter had a smaller share of mobile and manufactured housing (0%) compared to the state (3.6%).<sup>227</sup>
- **12.6% renter-occupied.** The rental rate of Van Meter was 12.6% in 2020. The percentage decreased since 2010, when renter occupied housing was at 14.4%.<sup>228 229</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Van Meter has a mayor, a five-member city council, and the following offices.

- City Administrator
- Clerk/Treasurer
- Deputy Clerk
- Police Chief
- Fire Chief
- Library Director
- Library Board
- Parks Coordinator
- Parks and Recreation Board
- Public Works Director
- Public Works Operator (2)

## Capability Assessment

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

**Table VAN.2: Capability Assessment**

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

<sup>227</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>228</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>229</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



Survey Components/Subcomponents		Yes/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
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	Yes
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</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)	Yes
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	



**Table VAN.3: Overall Capability**

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

## Plan Integration

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

### Comprehensive Plan

The comprehensive plan is designed to guide the future actions and growth of the city. It incorporates some of the goals and objectives included in the HMP. The Comprehensive Plan discusses floodplain and slope erosion. The plan limits density in areas adjacent to known hazardous areas and encourages preservation of open space in hazard prone areas.

### Funding and Grants

The city's funds are limited, and any capital projects must be incorporated into the budget several years in advanced. Currently, the city has bookmarked funds to install a new well. Municipal funds have increased over recent years. Over the last five years, the city has not applied for or been awarded any hazard mitigation related grants.

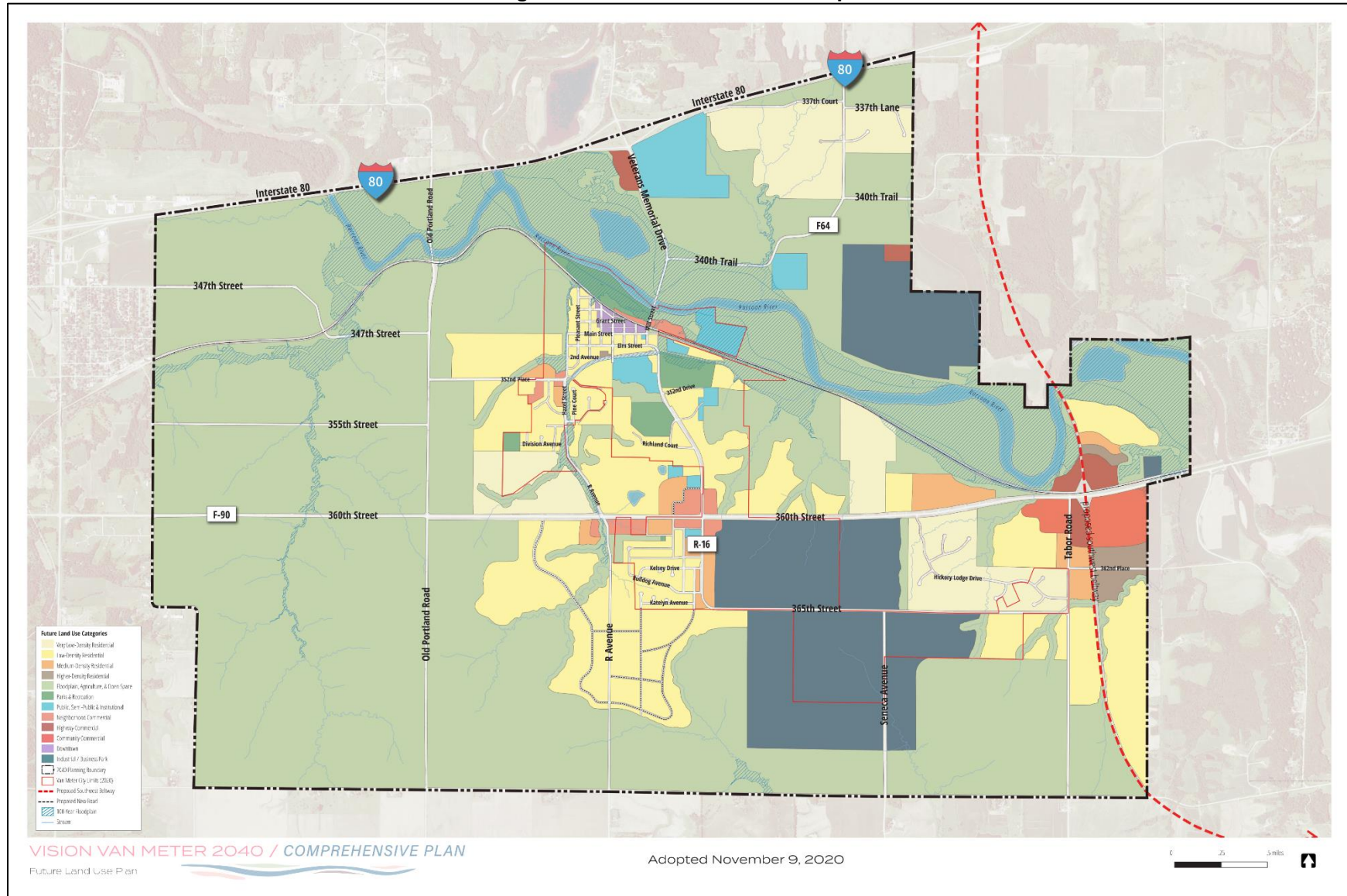
### Zoning Ordinance, Floodplain Ordinance, and Subdivision Regulations (2022)

The city recently updated their Subdivision Regulations but have not updated their Zoning or Floodplain Ordinance in the last few years. The Floodplain Ordinances include floodplain maps and prohibit development and limit population density within the floodplain. The Zoning Ordinances do not discourage or limit development in areas considered hazardous. There are no current timelines for updating any of the ordinances.

## Future Development Trends

In the last five years, there have been three new housing developments in the city. The area south of Highway F90 is designated as an area of improvement. A recreation complex was developed in the floodplain off Highway R16. In the next five years, a daycare center is planned for Grand Ridge Estates. No other housing or business developments are currently planned for the near future. A future land use map for the city can be seen in the following figure.

Figure VAN.4: Future Land Use Map



## Community Lifelines

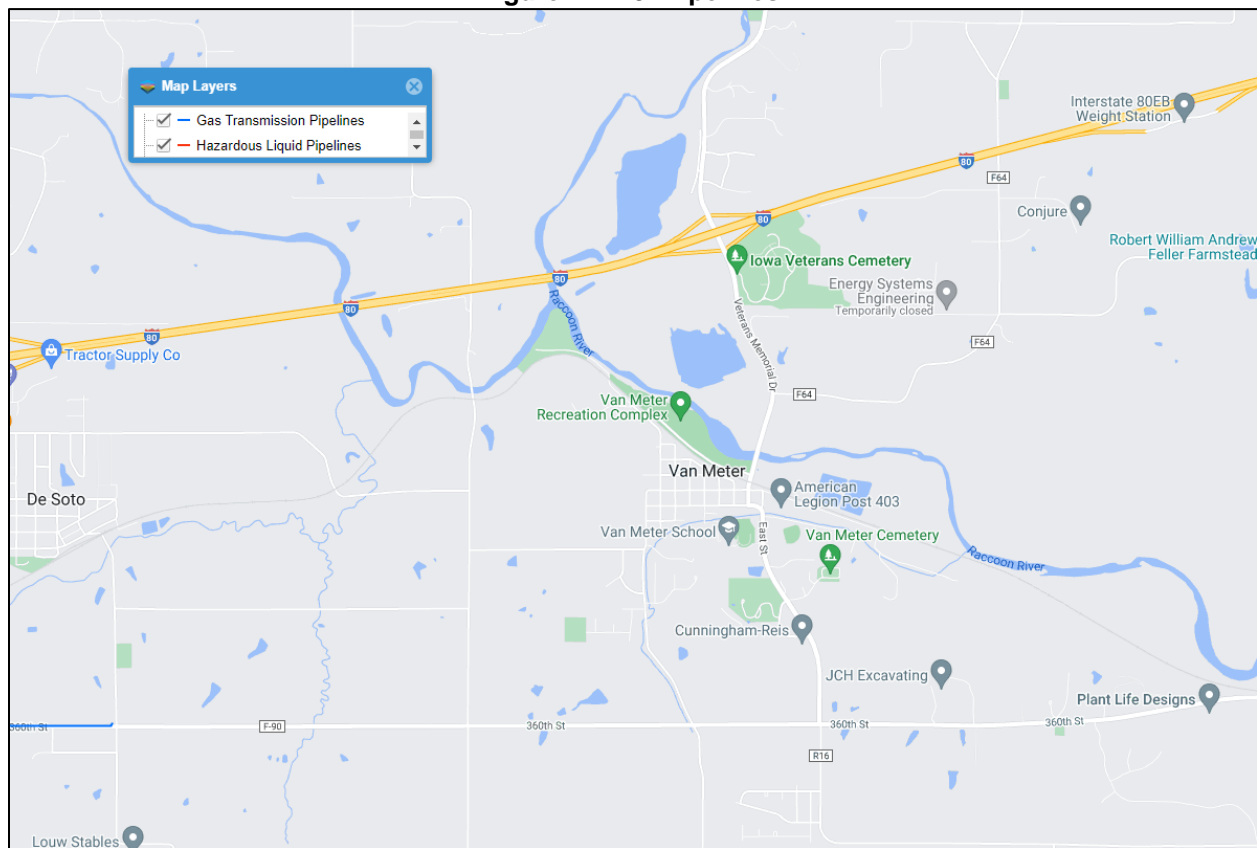
### Transportation

Van Meter's major transportation corridors include County Highway R16 and County Highway F90. The most traveled route is Highway R16 with an average of 3,050 vehicles daily.<sup>230</sup> According to the planning team, ethanol and other hazardous materials are regularly transported along local routes but no chemical spills have occurred in the area. Van Meter has one rail line, the Iowa Interstate Railroad, which passes through the northern part of the city. The nearest airport, the Des Moines International Airport, is located about 14 miles east of Van Meter. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

Based on the National Pipeline Mapping System, the nearest gas transmission pipeline to Van Meter is just south of De Soto.

**Figure VAN.5: Pipelines**



Source: National Pipeline Mapping System<sup>231</sup>

<sup>230</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.

<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

<sup>231</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpmns.phmsa.dot.gov/PublicViewer/>.

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there is one storage site in Van Meter that contains hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table VAN.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
CenturyLink - Van Meter CDO	406 Wilson Avenue	No

Source: Iowa Department of Natural Resources<sup>232</sup>

### Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.<sup>233</sup>

### Critical Facilities

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

**Table VAN.5: Critical Facilities**

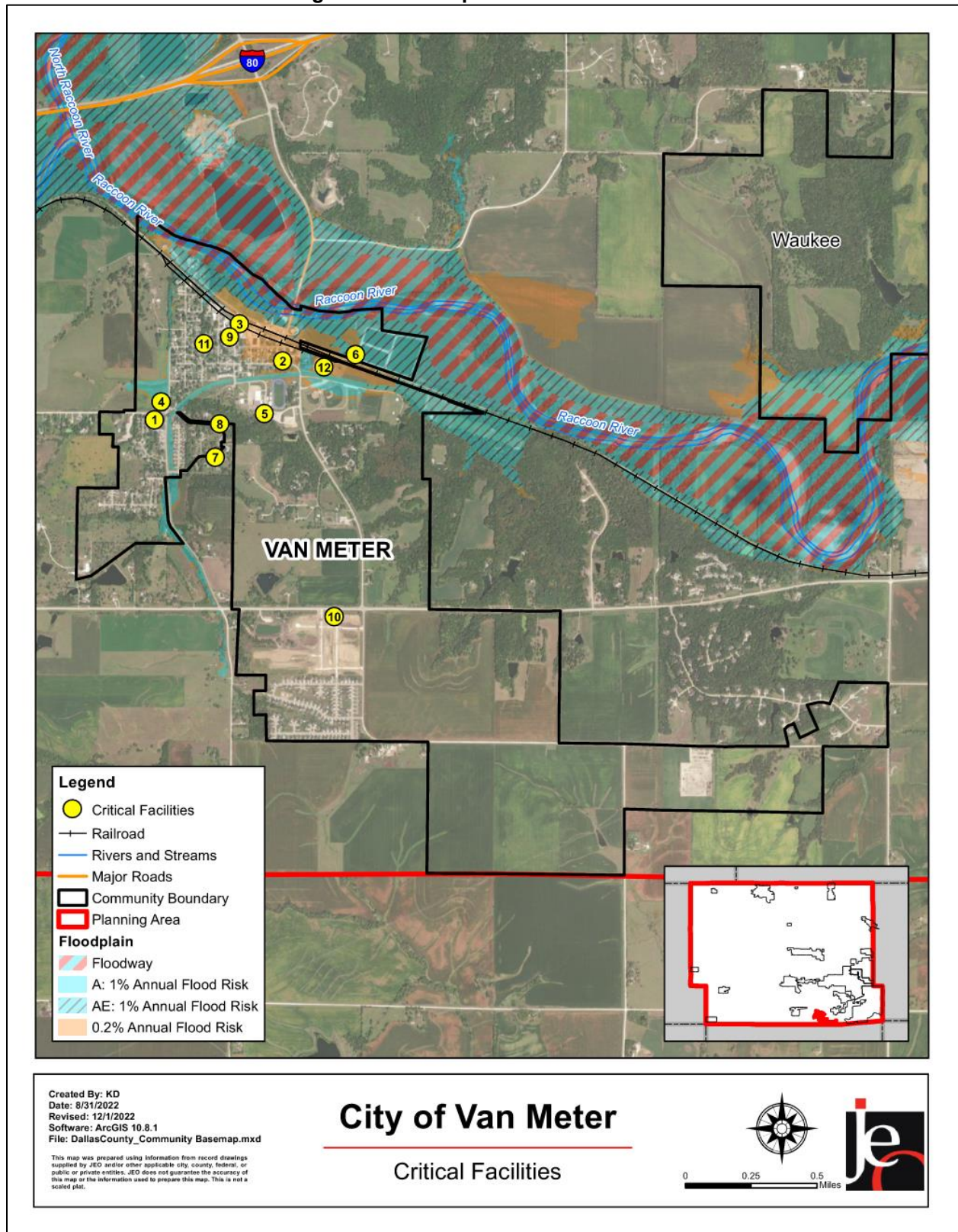
CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	University Kids Daycare	N	N	N
2	Van Meter City Hall	N	N	Y (0.2%)
3	Van Meter Library/Fire Station/Police Department	N	N	N
4	Methodist Church Van Meter	N	N	N
5	Van Meter Elementary School/Middle School/High School	Y	N	N
6	Van Meter Sewage Treatment Plant	N	Y	Y (1%)
7	Van Meter Water Tower	N	Y	N
8	Van Meter Water Storage	N	N	N
9	CenturyLink - Van Meter CDO	N	N	N
10	Inspired Kids Academy	N	N	N
11	Van Meter Baptist Church	N	N	N
12	Veterans Reception Center	N	N	Y (0.2%)

<sup>232</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022.  
<https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

<sup>233</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022.  
<https://dia-hfd.iowa.gov/>.



Figure VAN.6: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following tables.

**Table VAN.6: Van Meter Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
562	\$121,421,200	50	\$11,286,400	9%

Source: County Assessor, 2022

**Table VAN.7: Van Meter Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
562	\$121,421,200	88	\$14,547,280	16%

Source: County Assessor, 2022

**Table VAN.8: Van Meter Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study
LOMA	19-07-0599A-190362	02/08/2019	Structure not removed from SFHA
LOMA	19-07-0697A-190362	02/14/2019	Portion of property removed from SFHA
LOMA	19-07-0698A-190362	02/14/2019	Portion of property removed from SFHA
LOMA	20-07-0354A-190362	01/29/2020	Structure removed from SFHA
LOMA	22-07-0354A-190362	01/26/2022	Structure removed from SFHA

Source: FEMA Flood Map Service Center<sup>234</sup>

<sup>234</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.



## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### Dam and Levee Failure

Although not identified as a hazard of top concern by the local planning team, this hazard is being profiled due to the presence of a local levee. The Van Meter Levee spans approximately 1.8 miles in length and protects 124 residents and 49 structures, according to the USACE's National Levee Database. The levee has not been inspected and thus has no risk rating. The levee is locally constructed, operated, and maintained. There is no recorded instance of levee failure, according to the USACE. An illustration of the levee can be seen in Figure 7.

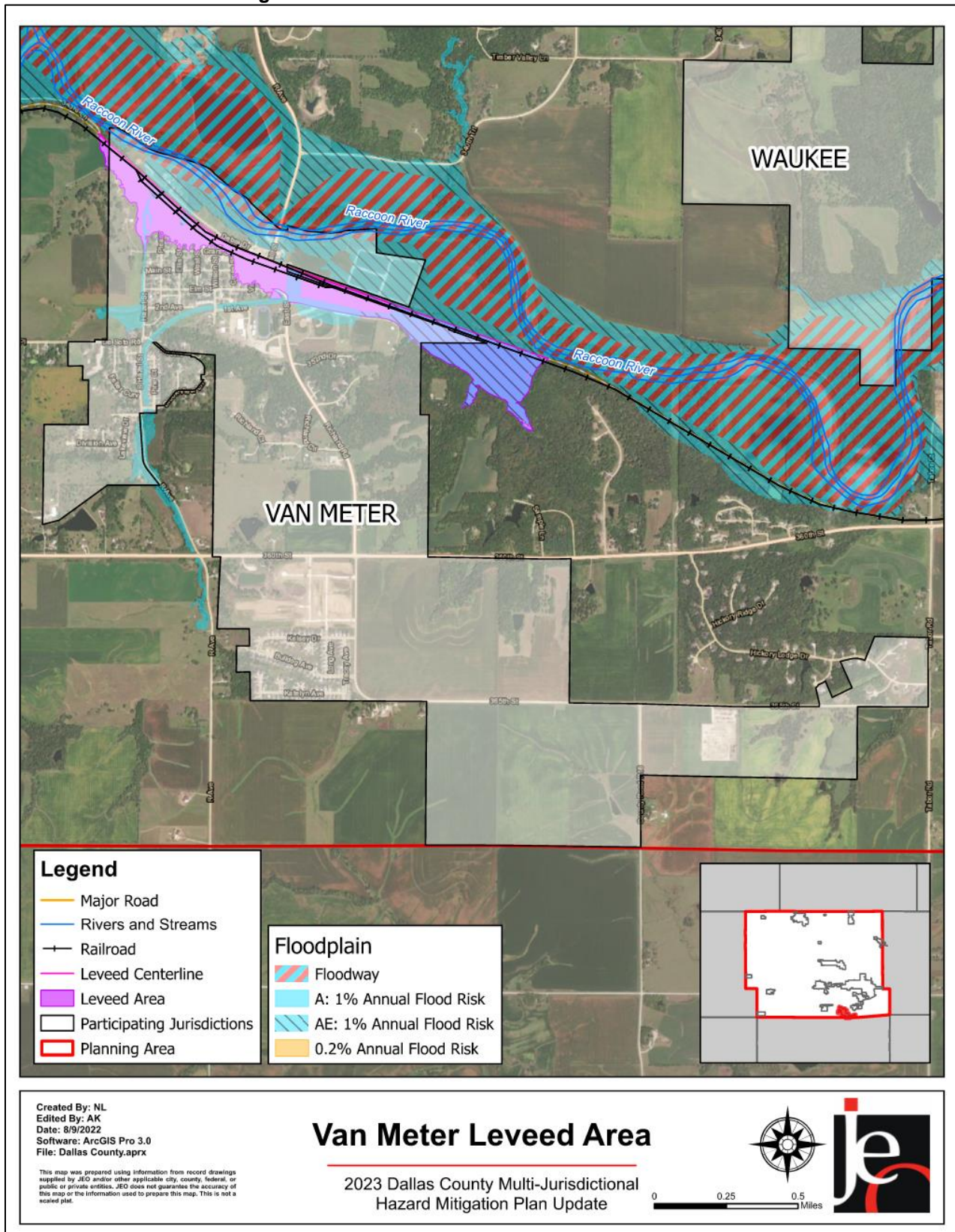
**Table VAN.9: Van Meter Levee**

Levee Name	Sponsor	Location	Length (Miles)	Risk Level	Population in Leveed Area	Structures in Leveed Area	Property Value in Leveed Area
Van Meter Levee	Undefined	Van Meter	1.8	Not rated	124	49	\$24.7 M

Source: USACE Levee Database<sup>235</sup>

<sup>235</sup> United States Army Corps of Engineers. April 2022. "National Levee Database." <https://levees.sec.usace.army.mil/#/>.

Figure VAN.7: Van Meter Levee and Leveed Area



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

### **Flooding**

According to the NCEI, there were 20 flood events in Van Meter from 1996 to 2021. These events resulted in \$1,328,000 in property damage, but no injuries or fatalities. The local planning team indicated that in July 1993, the Raccoon River flooded at 1.3 times the 100-year flood discharge level and damaged all of the land adjacent to the river. Another flood destroyed the recreation fields and buildings in the area. Since then, the city has repaired the buildings and recreation fields. The recreation complex remains a concern due to its proximity to the river. No projects are currently planned to reduce risk for flooding; however, the planning team indicated that a flood control structure such as a river wall system is needed in the future.

Van Meter has six NFIP policies in-force for \$941,000 as of June 2022. A FEMA Flood Insurance Study for Dallas County, including Van Meter, was revised in December 2018, and can be viewed on FEMA's Flood Map Service Center: <https://msc.fema.gov/portal/advanceSearch>. According to the IDNR, there are zero repetitive flood loss properties in Van Meter.

### **Hazardous Materials Release**

The planning team identified this as a top hazard due to its proximity to Interstate 80 and the Iowa Interstate Railroad. The railroad, which tracks directly through the city, regularly transports ethanol and other hazardous materials. The community is situated south of I-80 and is located in a river valley. As such, the planning team is concerned that aerosol hazardous materials could travel south from the interstate, depending on how the wind is blowing. According to the Pipeline and Hazardous Materials Safety Administration, there have been two small transportation-related chemical releases in Van Meter. However, there were no reported damages, injuries, evacuations, or fatalities as a result of these minor spills.

To reduce the risk of an event and its impacts, the city has enforced a 25-mph train speed limit through town. The community has also performed tabletop exercises to better prepare for a potential train derailment. To reduce risk in the future, the planning team indicated that continued adherence to safety protocols by the Iowa Interstate Railroad and continued track maintenance are necessary.

### **Infrastructure Failure**

The city's infrastructure experiences various problems in each system. The wastewater system has storm water leaching into cracked sewer pipes resulting in high E. coli levels in the lagunes. The city's water system has had several water pipes burst and need replacement. The water pipes in the community need to be completely renovated and the road conditions in some areas of town are of concern to the local community. Repairs to the broken pipes have included Cure-In-Place-Pipe Lining in June and July 2022 and replacing broken water pipes as they were found. To reduce the risk of infrastructure failure, the city plans to continue with consistent maintenance of roads and other infrastructure.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather in the Midwest. These storms can cause damage through heavy rain, lightning strikes, hail, and high winds. The NCEI reports six instances of severe thunderstorms occurring in Van Meter from 1996 to 2021. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$112,000 worth of structural damage across the impacted zones.

The local planning team reports there have not been any major events that have caused damage to city or community facilities and no repairs due to severe thunderstorms have been needed. A future concern for the community includes a severe thunderstorm that results in the electricity going out and damage to city facilities. In the event of a severe thunderstorm resulting in a power outage, several critical facilities in Van Meter do not have generators including City Hall, Methodist Church, University Kids Daycare, and the Van Meter School District buildings. Installing generators at these locations and having insurance on the buildings for any damage a severe storm can reduce the risk to the community when severe thunderstorms occur. Some of the critical facilities have weather radios for storm warnings. The local planning team hopes to sign up for the county's weather alert system and encourage community members to sign up with sign up instructions in the city newsletter or utility bill.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Van Meter. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021.

Significant concerns identified by the local planning team are residents becoming stranded during a storm and being exposed to the cold for too long. The local planning team reports no significant structural damage has occurred in recent years due to severe winter storms. However, the city's snow removal resources could be improved and the city has discussed purchasing a new snow truck within the next two years. To reduce risk and impacts to this hazard, the city has designated a snow route through the community and the local planning team would like to increase education and outreach to the public regarding severe winter storms.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and one tornado in Van Meter. The brief tornado event occurred in May 2015 with an EF0 tornado only damaging trees near the North Raccoon River. No injuries or other damages were reported. Derechos in August 2020 and December 2021 impacted the community and caused extensive damage including uprooted trees and damaged roofs. Numerous tornado warnings and watches are also common throughout the spring and summer, as noted by the planning team.

To minimize the effects of tornadoes and windstorms, the city has purchased and installed a second outdoor warning siren. The city is also looking at developing an in-ground shelter at the new public safety site, as funding allows. As the community grows, additional outdoor sirens will be needed to reduce impacts of this hazard.

### **Transportation Incident**

This hazard was identified as a top hazard due to the city's proximity to Interstate 80 on the northern border of the city as well as Highway 90, which sits on the southern side. The city regularly works motor vehicle accidents on both major roadways, including multiple vehicle accidents. Additionally, the Iowa Interstate Railroad intersects the middle of the community. According to the Federal Railroad Administration, there were four highway rail accidents in Van Meter from 1975-2021, with the last one occurring in 2012. These accidents resulted in two injuries and one fatality.

One concern that the local planning team noted is that any major transportation incident can shut down the main roadways in the community – including hazardous chemical incidents. A railroad derailment is also a concern as it could damage businesses that sit adjacent to the tracks. The city has worked with the Iowa State Patrol to develop traffic management to reduce the risk of roadways completely shutting down due to an incident. The city has also been trying to obtain permission from the Iowa Interstate Railroad for an emergency crossing at Wilson Street. A fully funded railroad crossing at this location is needed in the future to reduce risk to the community.



## Mitigation Strategy

### Continued Mitigation and Strategic Actions

Mitigation Action	Public Education on Hazards
<b>Description</b>	Develop and implement educational campaigns such as classes and pamphlets available in the library.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	<\$10,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	1 year
<b>Priority</b>	High
<b>Lead Agency</b>	Public Safety
<b>Status</b>	The project has not been started. The previous public safety director in charge of this action left the city.

### Removed Mitigation and Strategic Actions

Mitigation Action	Saferoom Construction for Schools and Public Buildings
<b>Description</b>	Construct Tornado Saferooms/Shelters. The city needs saferooms that can also serve as shelters/cooling centers. The city does not have adequate safety areas for citizens attending outside events.
<b>Hazard(s)</b>	All hazards
<b>Status</b>	This project never started and the lead on it left the city. No funds are available currently.

## Plan Maintenance

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

The 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, Police Chief, and the Fire Chief. The plan will be reviewed annually. The public will be included in the review and revision process via council meetings, website updates, social media, and letters/doorhangers.



This Page is Intentionally Blank

## Community Profile

# City of Waukee

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table WAU.1: Waukee Local Planning Team**

Name	Title	Jurisdiction
<b>Rudy Koester</b>	Public Works Director	City of Waukee, IA
<b>Clint Robinson</b>	Fire Chief	City of Waukee, IA
<b>John Quinn</b>	Police Chief	City of Waukee, IA
<b>Brad Deets</b>	City Administrator	City of Waukee, IA

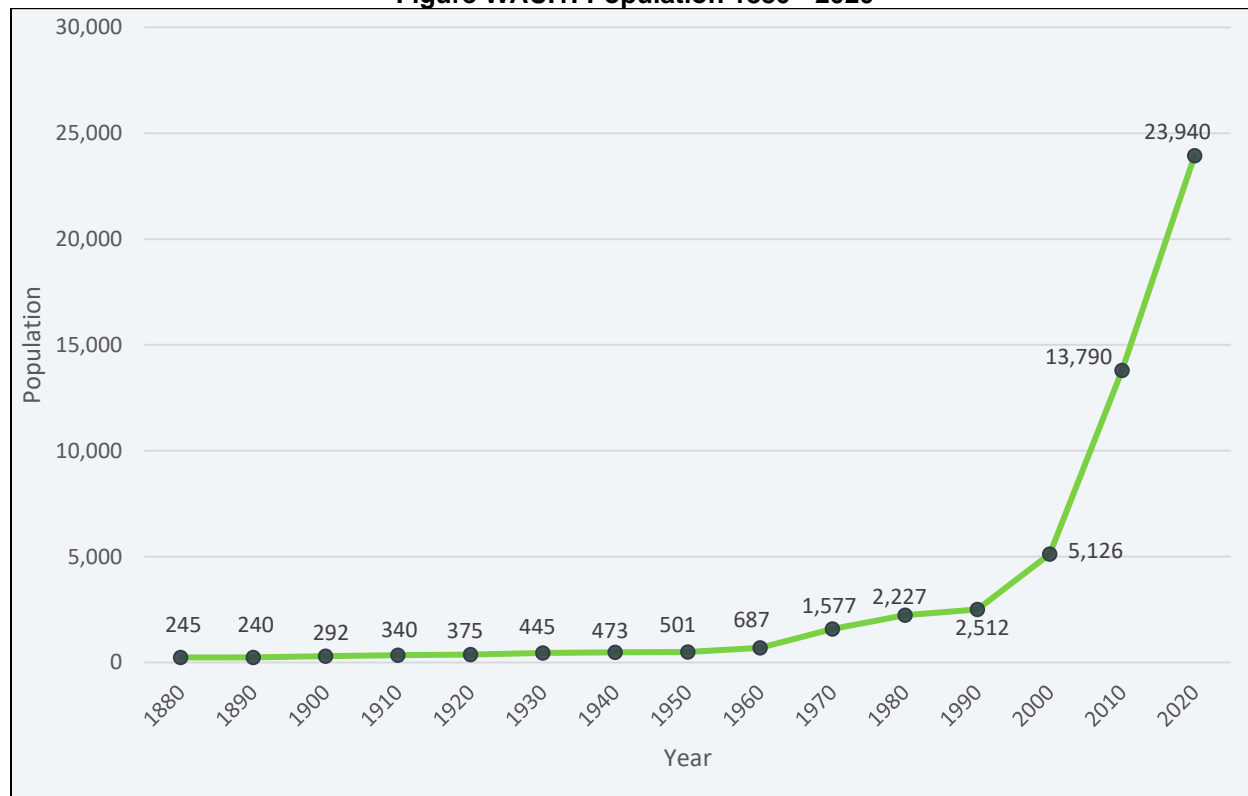
## Location and Geography

The City of Waukee is located in southeast Dallas County and covers an area of 21.86 square miles. Major waterways in the area include Sugar Creek, Fox Creek, and Walnut Creek.

## Demographics

Waukee's population in 2020 was 23,940. The following figure displays the historical population trend from 1880 to 2020. This figure indicates that the population of Waukee remained relatively stable from 1880 to 1960, saw significant growth from 1960 to 2000, then increased dramatically from 2000 to 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Waukee's population accounted for 24% of Dallas County's population in 2020.<sup>236</sup>

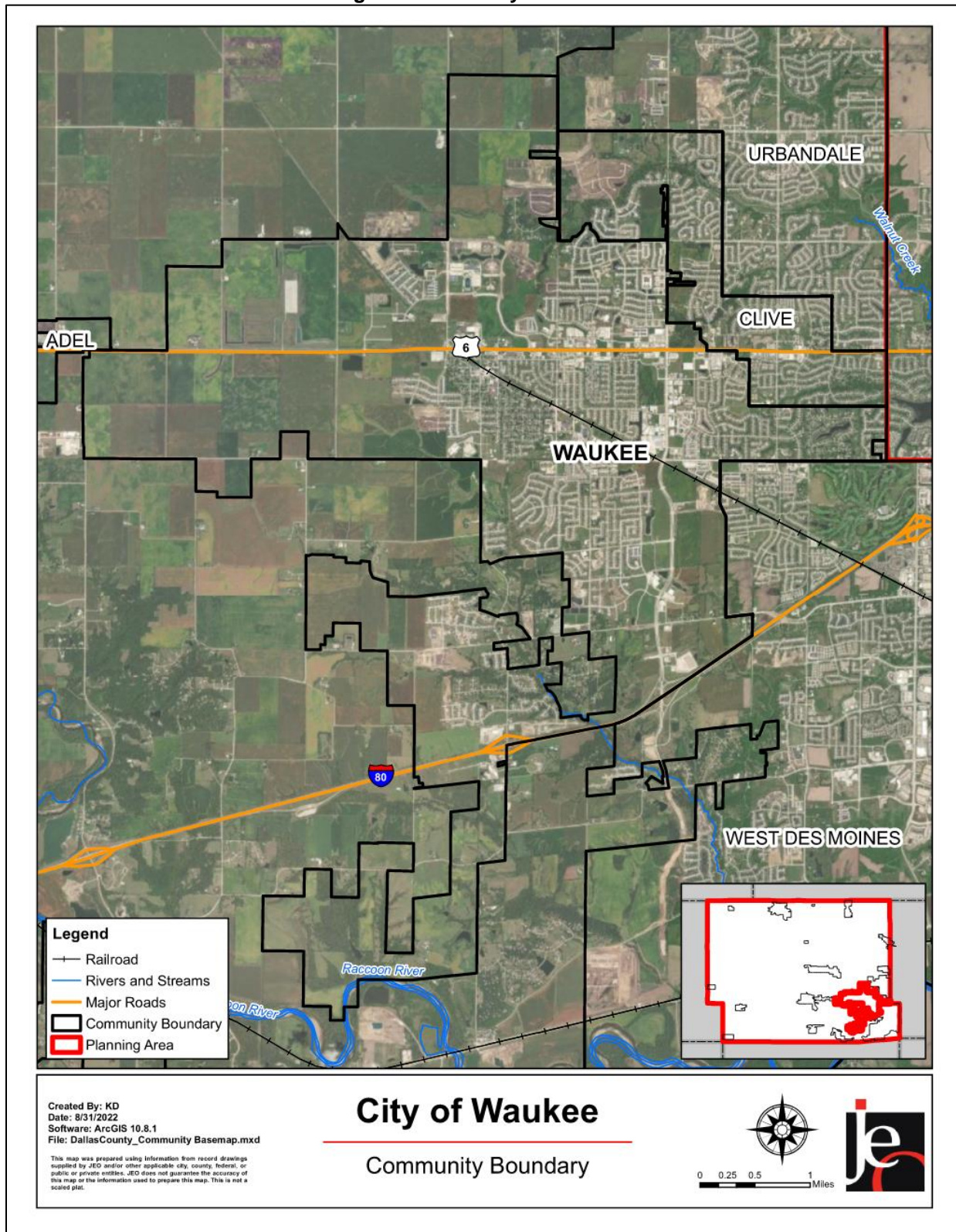
**Figure WAU.1: Population 1880 - 2020**



Source: U.S. Census Bureau

<sup>236</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

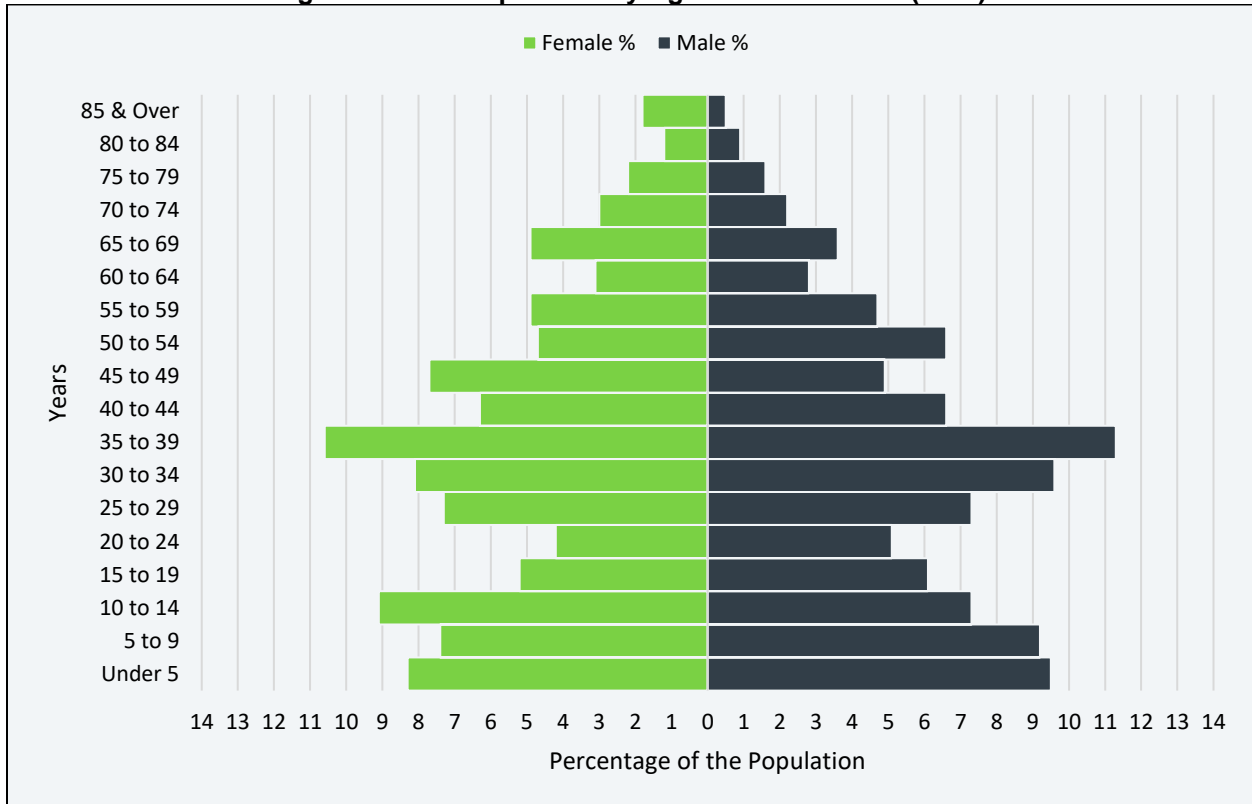
Figure WAU.2: City of Wauke



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

- **16.9% is non-white.** Since 2010, Waukeez became more racially diverse. In 2010, 6.1% of the Waukeez's population was non-white. By 2020, 16.9% was non-white.<sup>237 238</sup>
- **34 median age.** The median age of Waukeez was 34 years old in 2020. The population grew older since 2010, when the median age was 31.4.<sup>239 240</sup>

**Figure WAU.3: Population by Age Cohort and Sex (2020)**



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

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

<sup>237</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>238</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>239</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>240</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **3.3% of people living below the poverty line.** The poverty rate (3.3%) in Waukee was lower than the state's poverty rate (11.1%) in 2020.<sup>241</sup>
- **\$94,371 median household income.** Waukee's median household income in 2020 (\$94,371) was about \$32,500 higher than the state (\$61,836).<sup>242</sup>
- **3.2% unemployment rate.** In 2020 Waukee had a lower unemployment rate (3.2%) compared to the state (3.9%).<sup>243</sup>
- **21% of workers commuted 30 minutes or more to work.** Fewer workers in Waukee commuted 30 minutes or more to work than workers commuting less than 15 minutes (21% compared to 29.2%).<sup>244</sup>

### Major Employers

Major employers for the city include Hy-Vee, Waukee Community School District, Holmes Murphy & Associates, Waukee Family YMCA, Access Systems, Gilcrest Jewett Lumber Co., Stivers Ford, Quad Graphics, Fleet Farm, and the City of Waukee. According to the local planning team, a large percentage of residents commute to other communities for work, such as Des Moines, West Des Moines, Clive, and Ankeny.

## Housing

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

- **6.5% of housing built prior to 1970.** Waukee has a smaller share of housing built prior to 1970 than the state (6.5% compared to 50.4%).<sup>245</sup>
- **4.6% of housing units vacant.** Since 2010, Waukee's vacancy rate increased. In 2010 the vacancy rate was 2.2%. By 2020, 4.6% of housing units were vacant.<sup>246 247</sup>

<sup>241</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>242</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>243</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>244</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>245</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>246</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>247</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



## Section Seven: City of Waukee Community Profile

- **4.9% mobile and manufactured housing.** The City of Waukee had a greater share of mobile and manufactured housing (4.9%) compared to the state (3.6%).<sup>248</sup>
- **25.7% renter-occupied.** The rental rate of Waukee was 25.7% in 2020. The percentage increased since 2010, when renter occupied housing was at 12.9%.<sup>249 250</sup>

In the center of the city, approximately 400 mobile home units are located within one general area. This area is surrounded by SE Laurel St., SE Olson Dr., SE Cardinal Ln., and SE Westgate Dr.

### Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Waukee has a mayor, a five-member city council, and the following departments and offices.

#### City Departments:

- Administration: City Administrator, City Clerk, Assistant City Administrator, City Attorney
- Community Development: Community Development Director, Building Official
- Economic Development: Economic Development Director
- Finance: Finance Director
- Fire/EMS: Fire Chief
- Human Resources: Human Resources Director
- Information Technology: IT Director, GIS Coordinator
- Library: Library Director
- Marketing & Communications: Marketing & Communications Director
- Parks & Recreation: Parks & Recreation Director
- Police: Chief of Police
- Public Works: Public Works Director, Water/Wastewater Superintendent, Streets Superintendent

### Capability Assessment

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

**Table WAU.2: Capability Assessment**

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operations Plan	Yes

<sup>248</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>249</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>250</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Survey Components/Subcomponents		Yes/No
	Floodplain Management Plan	No
	Storm Water Management Plan	Yes
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	Yes
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

**Table WAU.3: Overall Capability**

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

## Plan Integration

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

### Funding and Grants

The City of Waukee's funds are sufficient to pursue new capital projects. With rapid city growth, the city must prioritize capital projects that increase the city's capacity. A large portion of city funds are dedicated to capital projects within the Public Works department including the sewer system, water system, streets, and storm water system. Municipal funds have increased with population growth in the city. Drainage improvements to the intersection of LA Grant and Booth Avenue are identified hazard mitigation plans that have already been completed using municipal funds. Waukee has applied for a variety of grants, some of them being the Destination Iowa Grant, Dallas County Foundation Grant, the Governor's Traffic Safety Bureau Grants, and the State of Iowa Fireworks Safety Grant. The city has been awarded some of these grants including Dallas County Foundation Grant, TSIP, ICAAP, STBG, U-STEP, and STBG-TAP.

### Building Codes (2018)

The building code sets standards for constructed buildings and structures. The city follows the 2018 versions of the International Building Code, International Residential Code, and International Fire Code as adopted by the State of Iowa with some local amendments. The local amendments are targeted to strengthen the structural side of buildings for winds and snow loads. Amendments relative to storm shelters is consistent with geographic regional levels of tornadic activity. Amendments specific to shaft enclosures increase resiliency to stairwell shafts for egress. Other amendments correlate IBC and IFC amendments for alignment.

### Comprehensive Plan (2018)

The comprehensive plan is designed to guide the future actions and growth of the city. The city's plan contains goals aimed at Safe Growth. Some of the city's goals outlined in the plan include: limit density in areas adjacent to known hazardous areas, encourage infill development, encourage "clustering of development" in sensitive areas, and encourage preservation of open space in hazard-prone areas. The city updates the plan every 5 to 10 years to ensure previously adopted goals are still in alignment with current community goals. The next comprehensive plan update will include reference to the hazard mitigation plan and consider an analysis for areas without proper storm shelters.

### **Capital Improvement Plan (2022)**

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified various storm water focused projects including upsizing of culverts and drainage structures, regular maintenance for drainage structures, upgrading storm sewer systems, and improving transportation routes for drainage. The plan also identifies widening roadways that would improve evacuations as a top project. Water distribution focused projects identified in the plan include installing new municipal wells, upsizing water distribution pipes, and installing water meters for residential structures. Construction projects identified in the plan include installing emergency generators in critical facilities, constructing a new fire hall and improving the existing hall, constructing a new police headquarters, improving the existing public works facility, and construction and improving other community owned structures. The City of Waukee's Capital Improvement Plan is projected out seven fiscal years and is updated annually.

### **Zoning Ordinance (2022), Floodplain Ordinance (2022), Subdivision Regulations (2021)**

The Floodplain Management Ordinance of the City of Waukee is currently being updated in late 2022 to ensure references to the new floodplain maps that will become effective in late 2022. The update will ensure the code meets minimum state and federal requirements to maintain our eligibility to participate in NFIP. The current Floodplain Ordinance contains floodplain maps and discourages development in the floodplain. They do not limit population density or require more than one foot of elevation above Base Flood Elevation in the floodplain. The Subdivision Regulations of Waukee restrict subdivision of land within or adjacent to the floodplain and do not allow density transfers in hazard areas.

### **Water System Emergency Response Plan (2022)**

Water system emergency response plans ensure the drinking water systems that serve the City of Waukee are prepared to supply customers with drinking water in the event of an emergency. It includes identifying potential emergencies and how the utility will ensure water delivery in specific scenarios.

### **Wellhead Protection Plan (2021)**

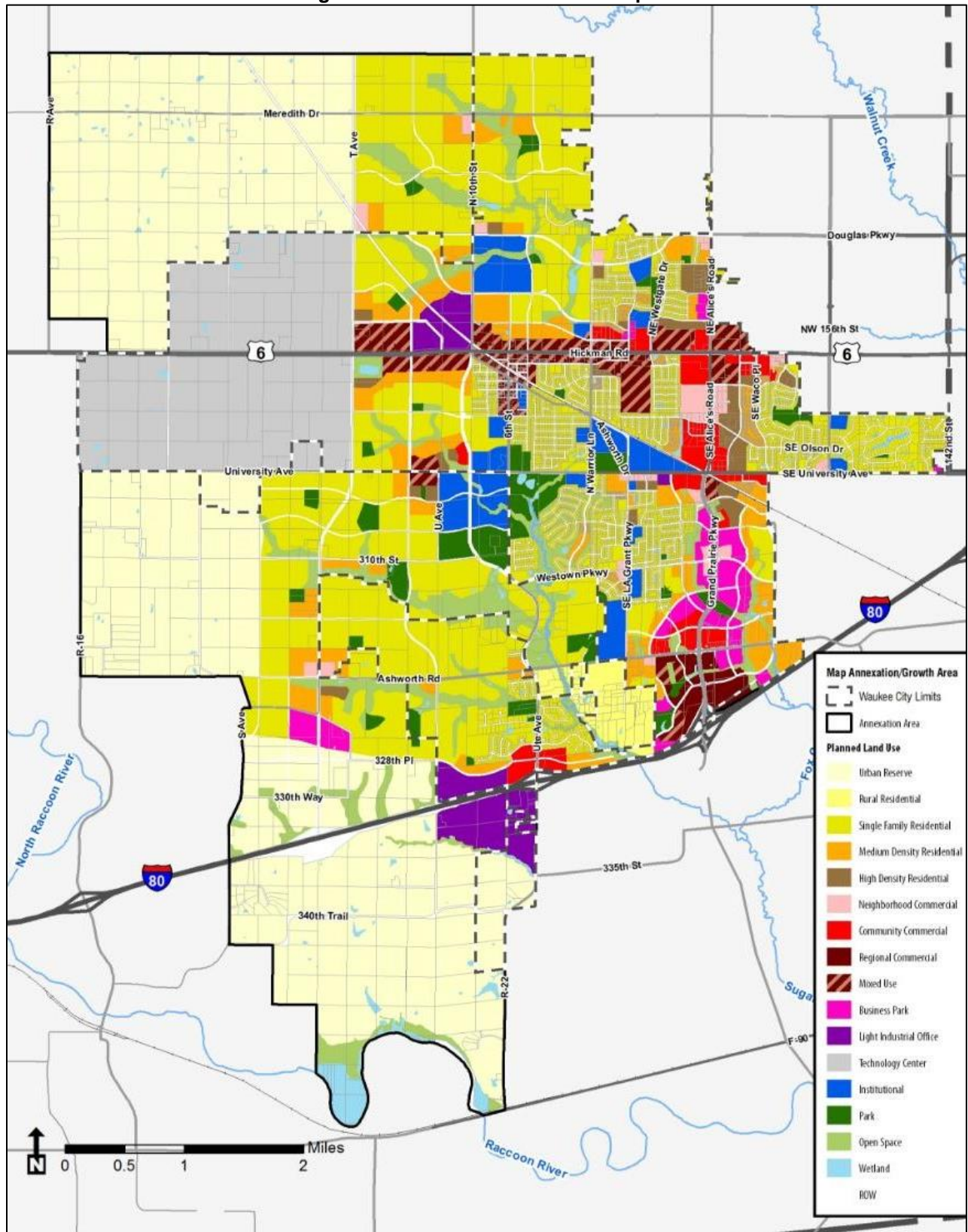
The purpose of wellhead protection plans is to protect the public drinking water supply wells from contamination. It includes identifying potential sources of groundwater contamination in the area.

## **Future Development Trends**

In the last five years, there have been significant residential and commercial growth with numerous residential, commercial, and road development projects having been completed. Of the new development, one project was constructed within a floodplain, a roadway embankment constructed for NW Douglas Parkway between NW 10<sup>th</sup> St. and NW 2<sup>nd</sup> St. was determined to be classified as a dam by the Iowa DNR due to the amount of water impounded. The city has numerous single and multi-family housing developments in the planning and construction phases. These developments are in several areas of the city but are primarily located in the North, West, and South corporate limits. Several commercial development projects are also planned with most concentrated along the Grand Prairie Parkway and Hickman Road corridors. A future land use map for the city can be seen in the following figure.



Figure WAU.4: Future Land Use Map



## Community Lifelines

### Transportation

Waukeel's major transportation corridors include Interstate 80, U.S. Highway 6, Alice's Road, and Grand Prairie Parkway. The most traveled route is Highway 6, with an average of 25,800 vehicles daily, 958 of which are trucks.<sup>251</sup> No chemical spills have occurred locally. Infrequent closures of Interstate 80 due to weather or traffic accidents cause significant volumes of traffic detouring through the community. Two critical facilities are located along main transportation routes, including the Town Border Station No. 1 located at the intersection of W Hickman Road and NW 10<sup>th</sup> Street, and the Alice's Road Gas Regulator Station located near the intersection of SE Alice's Road and SE Olson Drive. Waukeel has one rail line, the Union Pacific Railroad, located in the southeast portion of the city. The nearest airport, the Des Moines International Airport, is located about 12 miles southeast of Waukeel. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

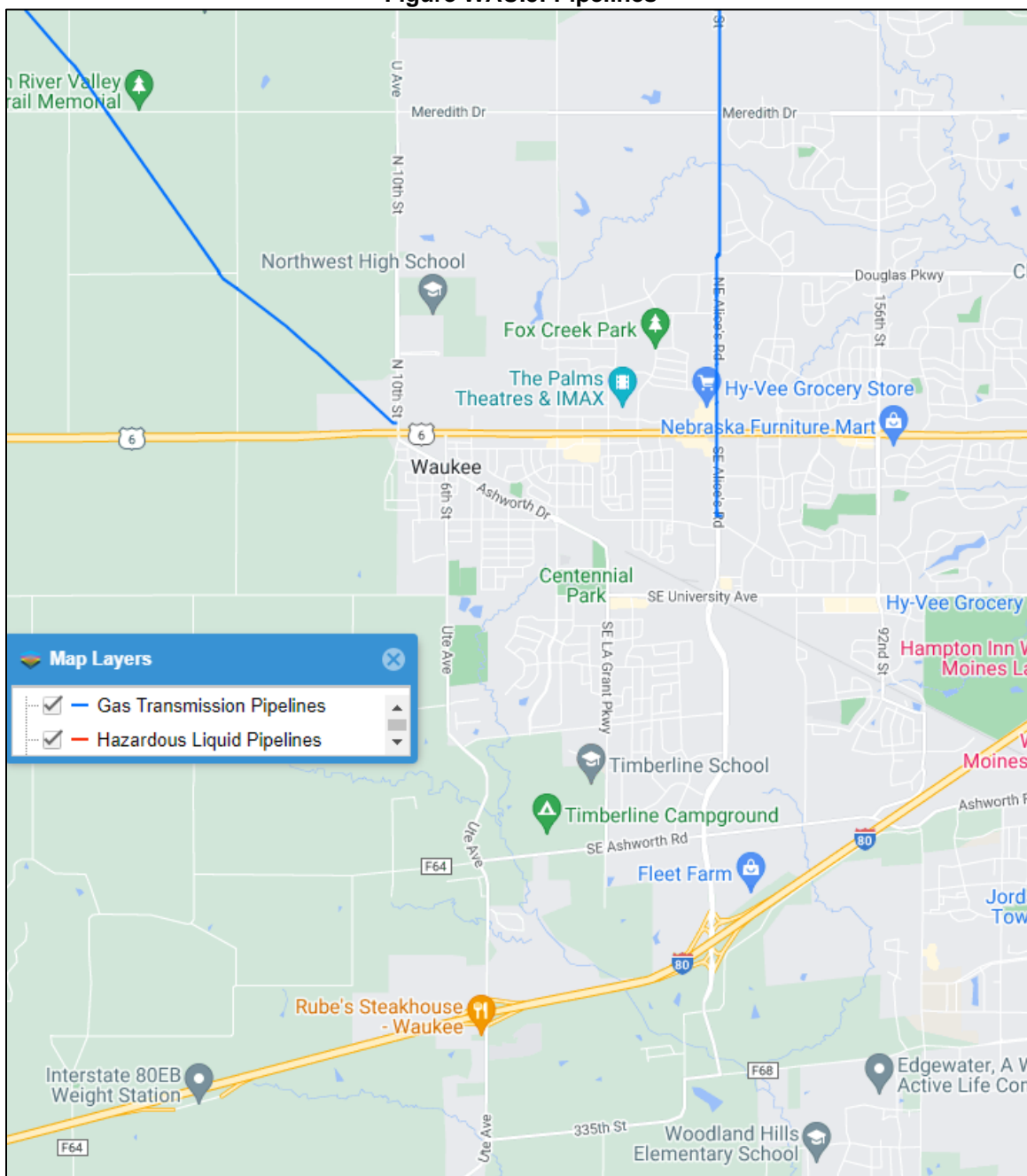
There are gas transmission pipelines that travel in and near the city and can be seen as blue lines in the figure below.

---

<sup>251</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.  
<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.



**Figure WAU.5: Pipelines**



Source: National Pipeline Mapping System<sup>252</sup>

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are nine chemical storage sites in Waukee that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

<sup>252</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

**Table WAU.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>3079 CSC Waukee</b>	605 University Avenue	No
<b>CenturyLink - Waukee CO</b>	645 Walnut Street	No
<b>Fleet Farm</b>	1300 SE Kettlestone Blvd	No
<b>Heartland Co-op Waukee</b>	529 Ashworth Drive	No
<b>Heartland Co-op Waukee Bulk Plant</b>	104 Ashworth Drive	No
<b>MidAmerican Energy-Raccoon Trail Substation</b>	2573 West Hickman Road	No
<b>OneNeck IT Solutions</b>	390 NE Alices Road	No
<b>QG Printing II LLC</b>	400 Deming Avenue	No
<b>Waukee Public Works</b>	805 University Avenue	No

Source: E-Plan<sup>253</sup>

### Health and Medical Facilities

The following medical and health facilities are located within the community

**Table WAU.5: Health and Medical Facilities**

Name	Type of Facility	Address	Number of Beds
<b>Independence Village of Waukee</b>	Nursing/Skilled Nursing Facility	1645 SE Holiday Crest Circle	48
<b>Independence Village of Waukee AL</b>	Assisted Living	1654 SE Holiday Crest Circle	80
<b>Independence Village of Waukee MC</b>	Assisted Living	1505 SE Laurel Street	32

Source: Iowa Department of Inspections and Appeals<sup>254</sup>

### Critical Facilities

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

**Table WAU.6: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
<b>1</b>	First Steps Child Care Center	N	N	N
<b>2</b>	Joyful Noise PS & CC	N	N	N
<b>3</b>	Kids Co Preschool & Child	N	N	N
<b>4</b>	Little Wonders	N	N	N

<sup>253</sup> E-Plan – Emergency Response Information System. 2022. "Facility Search." Accessed November 2022.  
<https://erplan.net/epln/actions/facilitySearch.htm>.

<sup>254</sup> Iowa Department of Inspections and Appeals. "Direct Care Worker Registry & Health Facility Database." Accessed April 2022.  
<https://dia-hfd.iowa.gov/>.

## Section Seven: City of Wauke Community Profile

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
5	New Beginnings Childcare	N	N	N
6	Point Of Grace Academy	N	N	N
7	Wee Warriors	N	N	N
8	Westside Kids	N	N	N
9	Wauke City Hall	N	N	N
10	Wauke Community Center	N	N	N
11	Wauke Public Works Building	N	Y	N
12	Wauke Public Library	N	N	N
13	Hy-Vee E Hickman	N	N	N
14	Wauke Family YMCA	N	N	N
15	Iowa Clinic NE Dartmoor	N	N	N
16	Iowa Orthodontic Solutions	N	N	N
17	Mercy Clinic W Hickman	N	N	N
18	Unity Point Clinic	N	N	N
19	Wauke Medical Park	N	N	N
20	Wauke Pediatrics	N	N	N
21	Wauke Fire Station #91/Wauke Police Department	N	Y	N
22	Abundant Life Church Of Wauke	N	N	N
23	Church Of Latter-Day Saints	N	N	N
24	Immanuel Lutheran Church	N	N	N
25	Saint Boniface Catholic Church	N	N	N
26	Wauke Baptist Church	N	N	N
27	Wauke Christian Church	N	N	N
28	Westview Church	N	N	N
29	Westwind Church	N	N	N
30	Alice Place Apartments	N	N	N
31	Thomas Place At Wauke	N	N	N
32	Village At Legacy Pointe	N	Y	N
33	Village At Legacy Pointe Memory Care	N	N	N
34	United Methodist Church	N	N	N
35	Eason Elementary School	N	N	N
36	Grant Ragan Elementary School	N	N	N
37	Prairieview School	N	N	N
38	South Middle School	N	N	N
39	Timberline School	N	N	N
40	Vince Meyer Learning Center	N	N	N
41	Wauke Elementary School	N	N	N
42	Wauke High School	N	N	N
43	Wauke Middle School	N	N	N
44	Wauke School District Administration Office	N	N	N
45	Wauke Stadium	N	N	N

## Section Seven: City of Waukeek Community Profile

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
46	Alice's Rd. Natural Gas Regulator Station – 555 SE Alice's Rd.	N	N	N
47	Northern Natural Gas Facility – Town Border Station No. 1 – 90 NW 10 <sup>th</sup> St.	N	N	N
48	Heartland Co-Op - Waukeek	N	N	N
49	Quad/Graphics Holding Company	N	N	N
50	Waukeek Lift Station #2	N	Y	N
51	Waukeek Lift Station #3 & #16	N	Y	N
52	Waukeek Lift Station #4	N	Y	N
53	Waukeek Lift Station #6	N	Y	N
54	Waukeek Lift Station #7	N	Y	N
55	Waukeek Lift Station #11	N	Y	N
56	Waukeek/Xenia Shared Pump Station @ LP Moon	N	Y	N
57	Waukeek Water Tower	N	N	N
58	Northwest High School	Y	Y	N
59	Sugar Creek Elementary	Y	N	N
60	NW Middle School	Y	N	N
61	Little Endeavors Learning Center	Y	N	N
62	Waukeek KinderCare	Y	N	N
63	Traditions Children's Center	Y	N	N
64	Waukeek Lift Station #14	N	Y	N
65	Waukeek Lift Station #17	N	Y	N
66	Waukeek ASR Well No. 1	N	N	N
67	Waukeek Boone Dr Pump Station	N	Y	N
68	Waukeek/WDM/Clive Shared Water Tower	N	N	N



Figure WAU.6: Map of Critical Facilities (1-23)

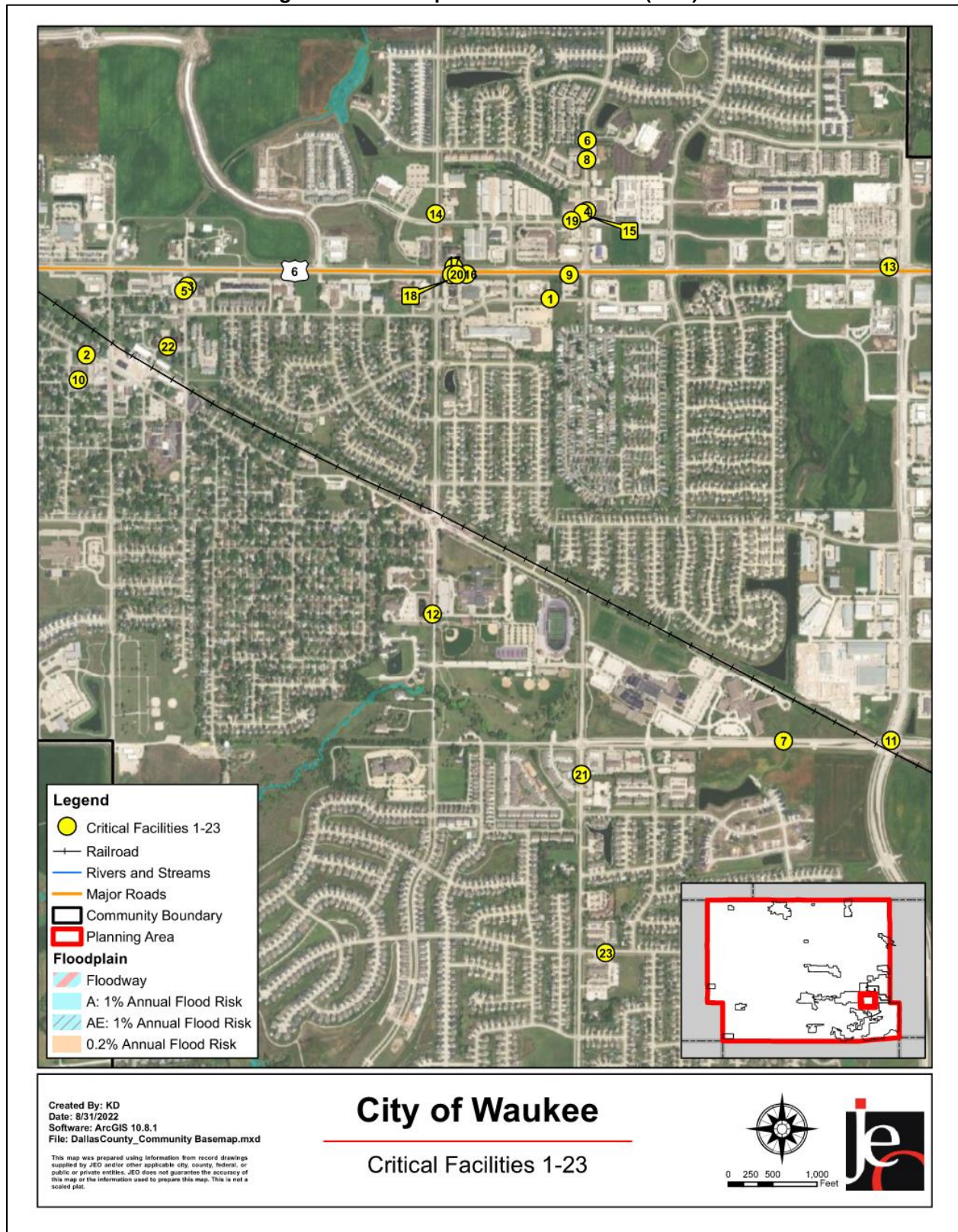




Figure WAU.7: Map of Critical Facilities (24-46)

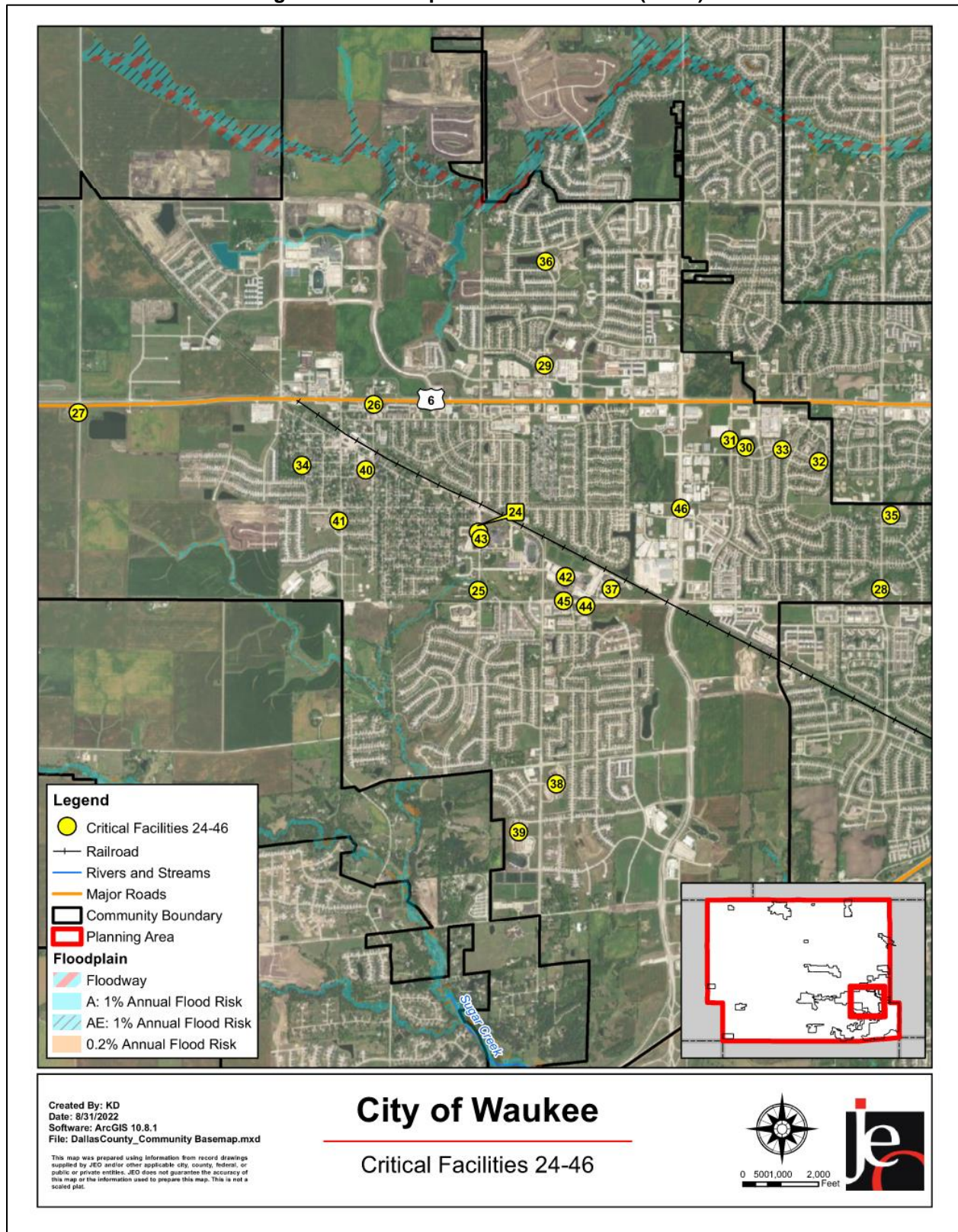
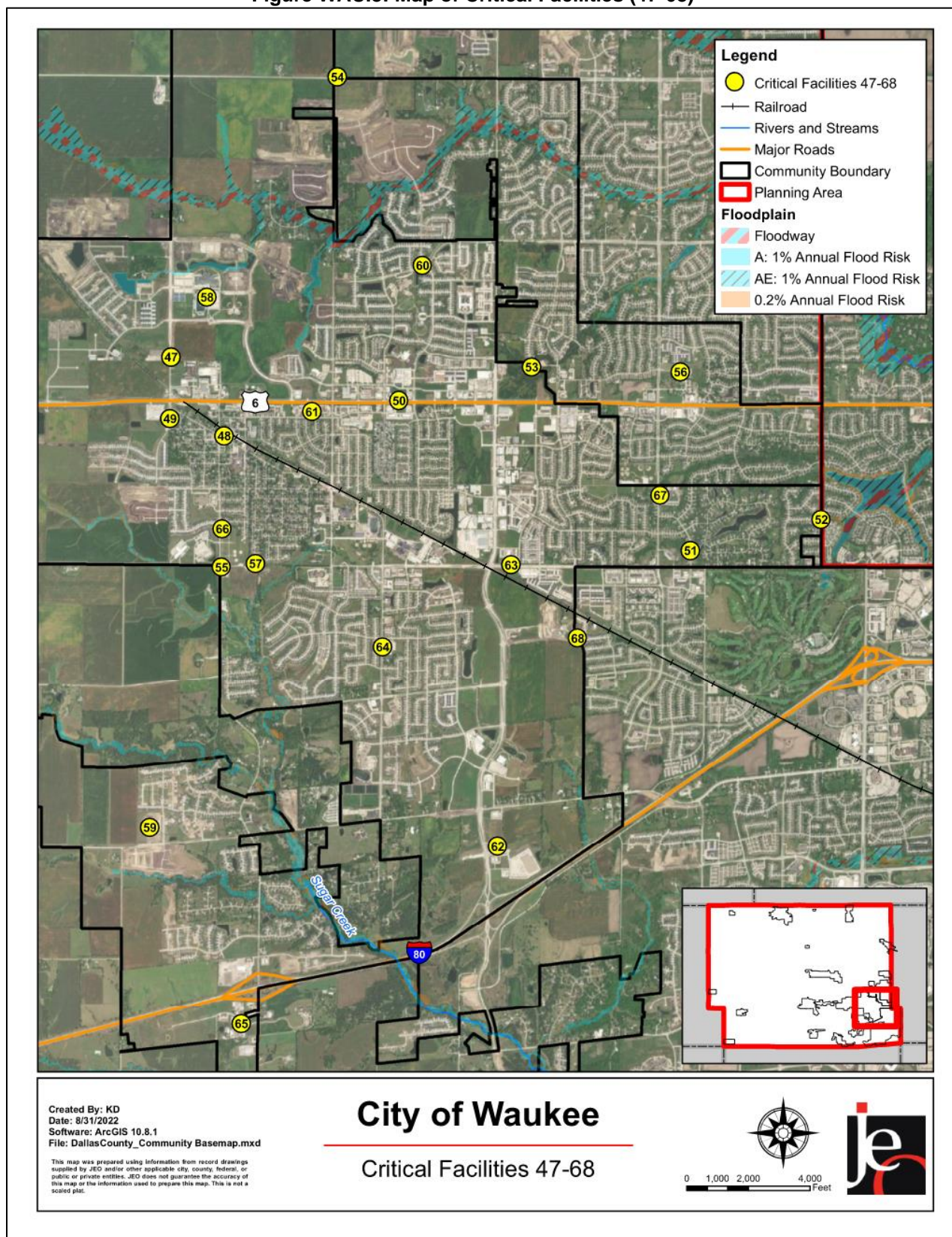




Figure WAU.8: Map of Critical Facilities (47-68)



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

**Table WAU.7: Waukee Parcel Improvements and Value in the 1% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
8,019	\$2,514,132,160	76	\$105,501,150	1%

Source: County Assessor, 2022

**Table WAU.8: Waukee Parcel Improvements and Value in the 0.2% Annual Flood Risk Area**

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
8,019	\$2,514,132,160	46	\$67,296,320	1%

Source: County Assessor, 2022

**Table WAU.9: Waukee Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study
LOMR	20-07-0452P-190678	1/4/2021	NFIP map revision
LOMA	19-07-1339A-190678	6/27/2019	Structure is outside SFHA
LOMA	19-07-1721A-190678	9/6/2019	Property removed from SFHA
LOMA	22-07-0640A-190678	4/28/2022	Property is outside SFHA
LOMA	22-07-0818A-190678	7/6/2022	Portion of property removed from SFHA

Source: FEMA Flood Map Service Center<sup>255</sup>

<sup>255</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Waukee. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 18 instances of severe thunderstorms occurring in Waukee from 1998 to 2019. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$157,000 worth of damage. Significant concerns identified by the local planning team included the reliability of the city electrical grid. To reduce risk and impacts to this hazard, the city has begun collaborations with MidAmerican Energy Co. to convert overhead powerlines to underground powerlines. These powerline burials are combined with major roadway reconstruction along with the upgrading of traffic signal battery backup systems to ensure reliability. In the future, to reduce risk to the community, the local planning team hopes to continue to bury powerlines to reduce power grid failures due to tree debris and wind damage. The goal of the local planning team is to limit the duration of an electrical power loss for residents and to provide backup electrical generation to critical facilities during a severe thunderstorm event.

### **Severe Winter Storms**

Severe winter storms are a regular part of the climate and weather for Waukee. Severe winter storms include blizzards, ice accumulation, heavy snow, and winter storms. These storms can cause power outages during bitterly cold temperatures, road closures, and economic impacts. According to the NCEI, there were 79 winter storm events in Dallas County from 1996 to 2021. These events resulted in \$6,613,680 in property damages, with no injuries or deaths reported. Additionally, the USDA Risk Management Agency reported almost \$375,000 in crop damages from severe winter storm events from 2000 to 2021. The local planning team reports past occurrences of multiple day winter storms but no structural damage to critical facilities.

The top concern identified by the local planning team was the blockage of roads resulting in a reduced ability for emergency services to respond to emergency calls. In an attempt to reduce the amount of power outages due to winter storms, 70% of power lines have been buried. The city plans to convert to a 24-hour snow plowing schedule to keep roadways clear for emergency services during a severe winter storm. The city uses snow fences to reduce the risks associated with winter storms. These fences are located along arterial and collector street corridors where snow drifting onto the adjacent roadway is a known issue. According to the local planning team the snow removal resources are currently sufficient, however staffing is a weak link in the operation. When the city changes to a 24-hour coverage and staff limitations will degrade the timeliness and frequency when a street is cleared and will ultimately decrease the level of service provided for snow removal on public streets.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and three tornados in Waukee. The first brief tornado event occurred in April 2001 with an F0 tornado briefly touching down with no damages, injuries, or deaths reported. Another F0 tornado touched down in fields west of Waukee in May 2004 and resulted in \$5,000 of crop damage and \$1,000 of property damage, but no injuries or deaths were reported. Finally, in May 2020 an EF0 tornado briefly touched down causing minor damage at a church, a car dealership, and pulling shingles from a house under construction. Roughly \$30,000 in property damages were reported. Derechos impacted the community and caused power to be out for five days in August 2020. The local planning team's top concerns for this hazard including the reliability of the electrical grid.

To minimize the effects of tornadoes and windstorms, the city has begun collaborations with MidAmerican Energy Co. to convert overhead powerlines to underground powerlines. These powerline burials are combined with major roadway reconstruction along with the upgrading of traffic signal battery backup systems to ensure reliability. In the future, to reduce risk to the community, the local planning team hopes to continue to bury powerlines to reduce power grid failures due to tree debris and wind damage. The goal of the local planning team is to limit the duration of an electrical power loss for residents and to provide backup electrical generation to critical facilities during a severe thunderstorm event.

### **Transportation Incidents – I-80 Closure**

This hazard was identified as a top hazard due to the city's proximity to Interstate 80 that is just over 3 miles south of the city. The interstate experiences closures due to traffic incidents or planned roadway constructions. During these closures, traffic detours through Waukee, a main concern indicated by the local planning team.

To help reduce the risk of transportation incidents, the city is collaborating with IDOT and neighboring communities to establish detour routes, install detour signage, and consider coordination of traffic signal operations and timing plans. In the future, the city plans to deploy permanent and portable messaging boards to communicate traffic data to travelers in real time. The creation of a centralized traffic incident management team or facility would further reduce the risk of this hazard.



## Mitigation Strategy

### Completed Mitigation and Strategic Actions

Mitigation Action	<b>Drainage Improvements to Alleviate Flash Flooding near LA Grant and Booth Drive</b>
<b>Description</b>	Water runoff from adjacent properties causes this area to repetitively flood during periods of intense rain. Improvement in stormwater drainage is needed.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$500,000 to \$1,000,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	1 year
<b>Priority</b>	Medium
<b>Lead Agency</b>	Public Works Department
<b>Status</b>	Complete

### New Mitigation and Strategic Actions

Mitigation Action	<b>Backup Generators</b>
<b>Description</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$200,000
<b>Funding</b>	Tax Levy
<b>Timeline</b>	2-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	Fire Department
<b>Status</b>	The city is pursuing a new public building that will house fire & police and looking to begin construction in fall of 2023.

### Continued Mitigation and Strategic Actions

Mitigation Action	<b>Safe Rooms</b>
<b>Description</b>	Consider construction of tornado saferooms in public areas. Outdoor Public areas do not have safe areas for visitors to take refuge in the event of severe weather.
<b>Hazard(s)</b>	Tornadoes and Windstorms
<b>Estimated Cost</b>	\$100,000 to \$500,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	City Council
<b>Status</b>	Ongoing effort as new park amenities and public buildings are planned, financed, and constructed.

## Plan Maintenance

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

The 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 Fire Chief, Public Works Director, and Police Chief. The plan was reviewed in 2018 and updated to new staff. The plan will be reviewed annually. The public will be included in the review and revision process via city council meetings and city website updates.



This Page is Intentionally Blank

## Community Profile

# City of Woodward

**Dallas County  
Hazard Mitigation Plan 2023**

## Local Planning Team

**Table WWD.1: Woodward Local Planning Team**

Name	Title	Jurisdiction
Steven Godwin	Council Member	City of Woodward

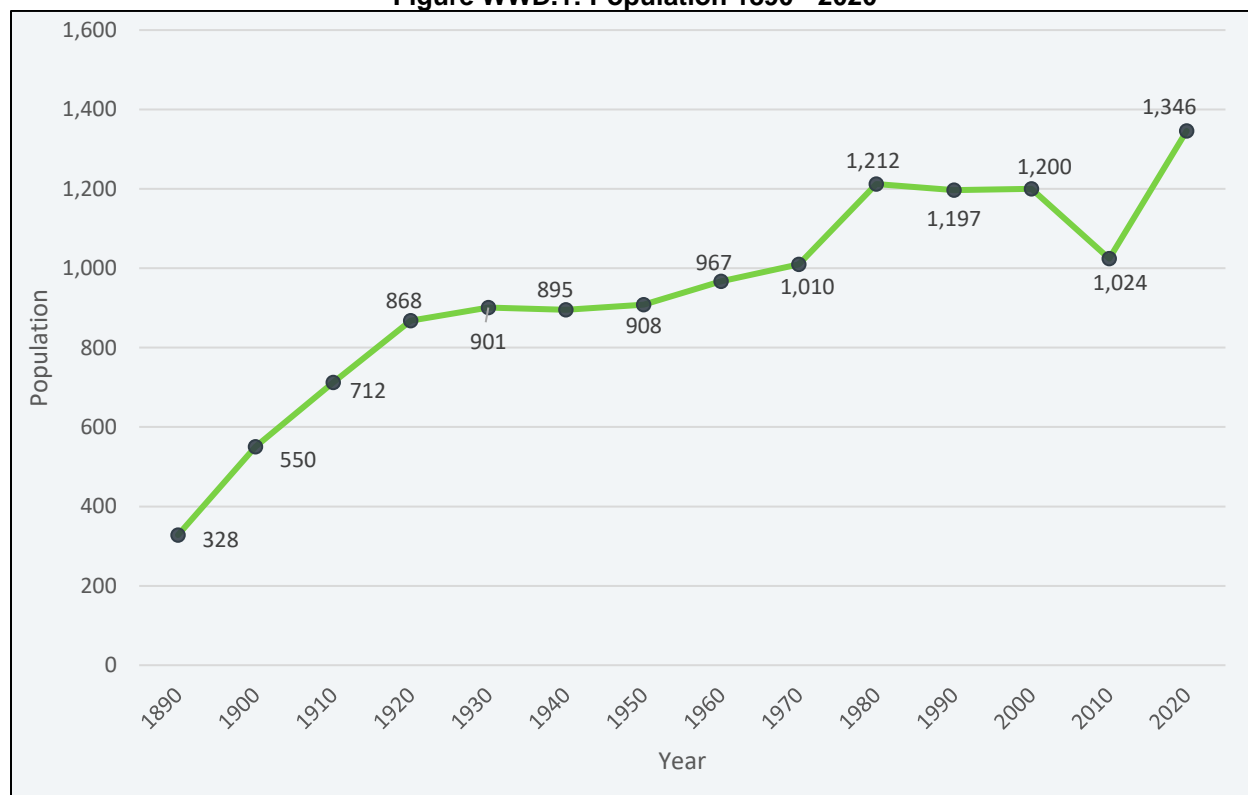
## Location and Geography

The City of Woodward is located in northeast Dallas County and covers an area of 3.65 square miles. Major waterways in the area include Des Moines River, Beaver Creek, and Preston Creek.

## Demographics

Woodward's population in 2020 was 1,346. The following figure displays the historical population trend from 1890 to 2020. This figure indicates that the population of Woodward gradually increased from 1890 to 1980, leveled off from 1980 to 2000, then saw a sharp drop followed by a sharp increase from 2000 to 2020. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Woodward's population accounted for 1.4% of Dallas County's population in 2020.<sup>256</sup>

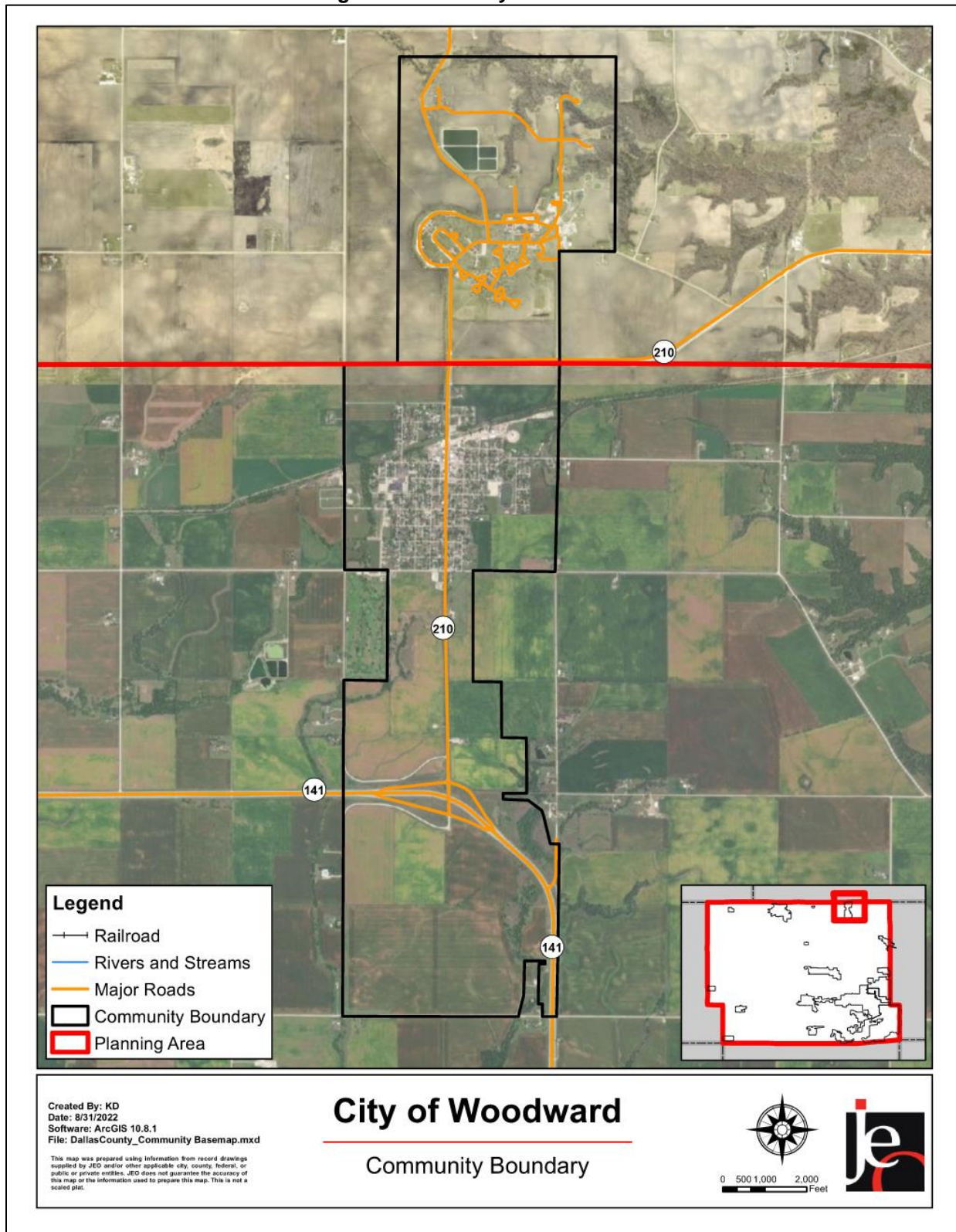
**Figure WWD.1: Population 1890 - 2020**



Source: U.S. Census Bureau

<sup>256</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

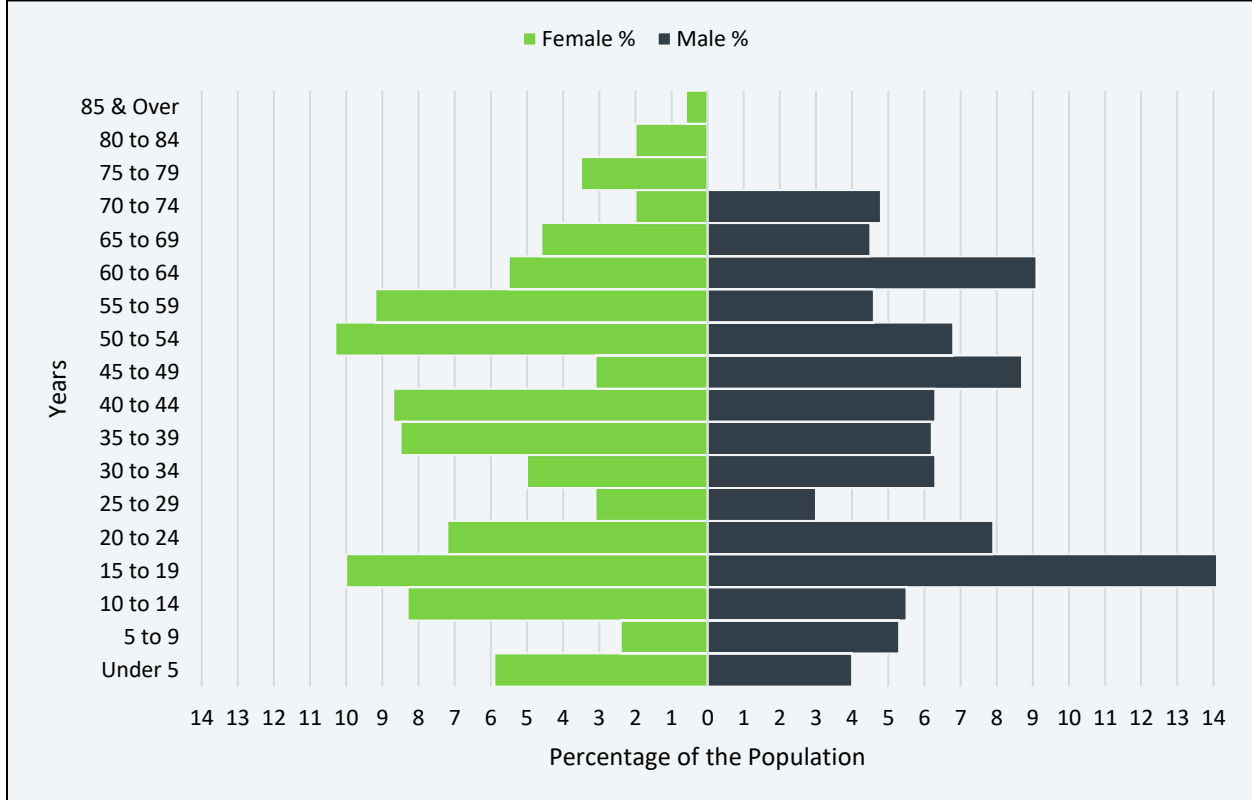
Figure WWD.2: City of Woodward



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

- **16.5% is non-white.** Since 2010, Woodward became more racially diverse. In 2010, 4.7% of the Woodward's population was non-white. By 2020, 16.5% was non-white.<sup>257 258</sup>
- **37.5 median age.** The median age of Woodward was 37.5 years old in 2020. The population grew older since 2010, when the median age was 35.6.<sup>259 260</sup>

**Figure WWD.3: Population by Age Cohort and Sex (2020)**



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

The figure above shows Woodward's population percentage broken down by sex and five-year age groups. Woodward's population is relatively stable with most of the population spread out between different age groups. This indicates that the population is likely to remain stable in the future.

<sup>257</sup> United States Census Bureau. "2020 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>258</sup> United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov>.

<sup>259</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

<sup>260</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: S0101: Age and Sex." <https://data.census.gov>.

## Employment and Economics

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

- **13.6% of people living below the poverty line.** The poverty rate (8.5%) in Woodward was higher than the state's poverty rate (11.1%) in 2020.<sup>261</sup>
- **\$27,214 median household income.** Woodward's median household income in 2020 (\$27,214) was about \$34,600 lower than the state (\$61,836).<sup>262</sup>
- **5.4% unemployment rate.** In 2020 Woodward had a higher unemployment rate (5.4%) compared to the state (3.9%).<sup>263</sup>
- **31.2% of workers commuted 30 minutes or more to work.** Fewer workers in Woodward commuted 30 minutes or more to work than workers commuting less than 15 minutes (31.2% compared to 42.3%).<sup>264</sup>

### Major Employers

Major employers for the city include Woodward Resource Center and Woodward Academy. According to the local planning team, a large percentage of residents commute to other communities for work, such as Perry, Granger, Des Moines, Minburn, and Dawson.

## Housing

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

- **62.4% of housing built prior to 1970.** Woodward has a greater share of housing built prior to 1970 than the state (62.4% compared to 50.4%).<sup>265</sup>
- **2.6% of housing units vacant.** Since 2010, Woodward's vacancy rate decreased. In 2010 the vacancy rate was 8.6%. By 2020, 2.6% of housing units were vacant.<sup>266 267</sup>

<sup>261</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>262</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>263</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov>.

<sup>264</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." <https://data.census.gov>.

<sup>265</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>266</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>267</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.



- **1.3% mobile and manufactured housing.** The City of Woodward had a smaller share of mobile and manufactured housing (1.3%) compared to the state (3.6%).<sup>268</sup>
- **18.2% renter-occupied.** The rental rate of Woodward was 18.2% in 2020. The percentage decreased since 2010, when renter occupied housing was at 23.2%.<sup>269 270</sup>

## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Woodward has a mayor, a five-member city council, and the following offices.

- Clerk/Treasurer
- Attorney
- Chief of Police
- Fire Chief
- Public Works Director
- Airport Authority Chairperson
- City Inspector
- Economic Development Director
- Library Board Chairperson
- GIS/Zoning Administrator

## Capability Assessment

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

**Table WWD.2: Capability Assessment**

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

<sup>268</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>269</sup> United States Census Bureau. "2020 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

<sup>270</sup> United States Census Bureau. "2010 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov>.

Survey Components/Subcomponents		Yes/No
	Community Rating System	No
	Other (if any)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<b>Fiscal Capability</b>	Capital Improvement Plan/ 1 & 6 Year Plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	
<b>Education &amp; Outreach Capability</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 WWD.3: Overall Capability

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

## Plan Integration

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

### Grants and Funding

The City of Woodward's funds are limited to covering maintenance of current facilities and municipal systems only. A large portion of municipal funds are dedicated to the upgrade of current municipal wells. Municipal funds have stayed the same over recent years. The city has applied for and been awarded multiple grants in the last five years.

### Capital Improvements Plan (2017)

The capital improvement plan outlines large purchases and projects that the city would like to pursue. Projects identified in the plan include: storm water projects; upsizing culverts and drainage structures; regular maintenance for drainage structures; upgrading storm sewer systems; regular maintenance for the storm sewer system; and installing emergency generators in critical facilities. The plan does not have a current timeline to be updated.

### Comprehensive Plan (2017)

The comprehensive plan is designed to guide the future actions and growth of the city. The city's plan contains goals aimed at Safe Growth and identifies areas that need emergency shelters. The city does not have a current timeline to update the plan, but the local planning team has indicated that the next update will limit density in areas adjacent to known hazardous areas, encourage infill development and clustering of development in sensitive areas, and encourage preservation of open space in hazard-prone areas.

### Building Code (2021)

The building code sets standards for constructed buildings and structures. The city has adopted the 2021 International Building Codes. These Codes require the elevation of structures and mechanical systems in the floodplain as well as the installation sewer backflow valves for structures in the floodplain. They also outline proper sump pump installation and require onsite stormwater detention for commercial structures. They allow for raingardens in residential areas, encourage the use of hail resistant building materials, and require hurricane clips during construction. Lastly, the Codes require the use of fire-resistant building materials and the use of defensible space around structures built in the extraterritorial jurisdiction.

### Zoning Ordinance (2022), Subdivision Regulation (2021)

The Zoning Ordinances are continually updated as needed. They prohibit development within the floodplain and limit population density in the floodplain.

### Community Wildfire Protection Plan (2014)

The City of Woodward participated in the Saylorville Flood Plain Community Wildfire Protection Plan (CWPP), which was developed in 2014. The Saylorville floodplain is located along the Des Moines River. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses area-specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies.

## Future Development Trends

In the last five years, the Siglin Estates housing development was built in the city. The structure is not located within a floodplain or other hazardous area. In the next five years, the east portion of Woodward will be developed into the Hawks Landing housing development.

## Community Lifelines

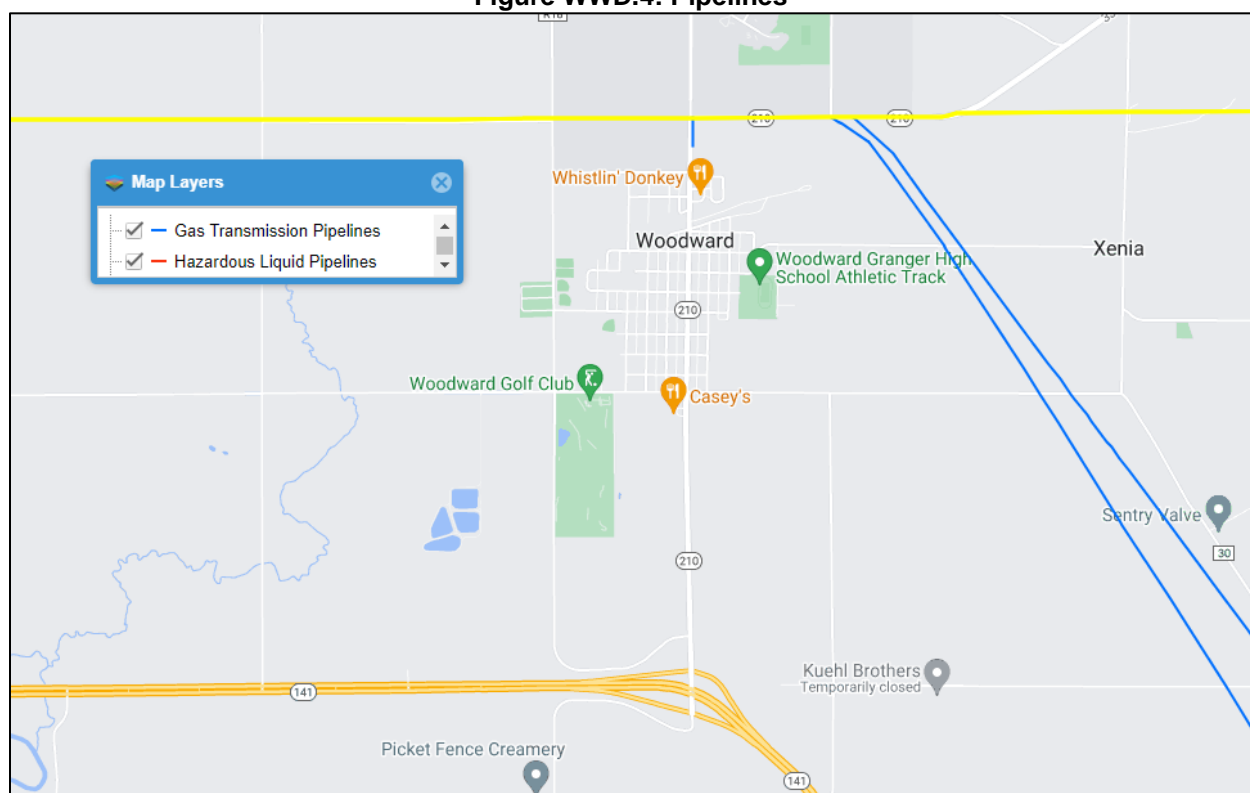
### Transportation

Woodward's major transportation corridors include State Highway 210 and 2<sup>nd</sup> Street. The most traveled route is Highway 210, with an average of 3,400 vehicles daily, 126 of which are trucks.<sup>271</sup> One of the city's critical facilities, the water tower, is located along the main transportation route one block east of highway 210. No chemical spills or other significant transportation events have occurred within the city. The nearest airport, Perry Municipal Airport, is located about 12 miles southwest of Woodward. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

### Hazardous Materials

There are gas transmission pipelines that travel near the city and can be seen as blue lines in the figure below.

**Figure WWD.4: Pipelines**



Source: National Pipeline Mapping System<sup>272</sup>

<sup>271</sup> Iowa Department of Transportation. 2020. "Iowa Traffic Data". Accessed May 2022.

<https://iowadot.maps.arcgis.com/apps/MapSeries/index.html?appid=0cce99afb78e4d3b9b24f8263717f910>.

<sup>272</sup> National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.phmsa.dot.gov/PublicViewer/>.

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are two chemical storage sites in Woodward that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

**Table WWD.4: Chemical Storage Sites**

Facility Name	Address	Located in Floodplain?
<b>Landus Cooperative - Woodward</b>	110 Railway Street	No
<b>Minburn Telecommunications Inc</b>	108 W 2nd Street	No

Source: Iowa Department of Natural Resources<sup>273</sup>

## Health and Medical Facilities

According to the Iowa Department of Inspection and Appeals, there are no medical and health facilities located within the community.

## Critical Facilities

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

**Table WWD.5: Critical Facilities**

CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Minburn Communications	N	Y	N
2	Lil' Sprouts Mission	N	N	N
3	Woodward City Hall	Y	N	N
4	Woodward Public Library	Y	N	N
5	Woodward Public Works Building	N	Y	N
6	Woodward Social Center	Y	N	N
7	Hope Wellness Center	N	N	N
8	Woodward Resource Center	Y	Y	N
9	Woodward Fire Station	Y	N	N
10	Woodward Police Department	N	N	N
11	Woodward Academy	Y	N	N
12	Woodward State Hospital	Y	Y	N
13	Woodward Senior Citizens Housing	N	N	N
14	Woodward Senior Citizens Housing	N	N	N
15	Woodward Water Plant	N	Y	N
16	Woodward-Granger High School	Y	N	N
17	Woodward-Granger Middle School	Y	N	N
18	Grandwood Education Center*	N	N	N
19	Woodward Granger Hawk Stadium	N	N	N
20	Minburn Telecommunications, Inc.	N	Y	N
21	West Central Cooperative - Woodward	N	N	N

<sup>273</sup> Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

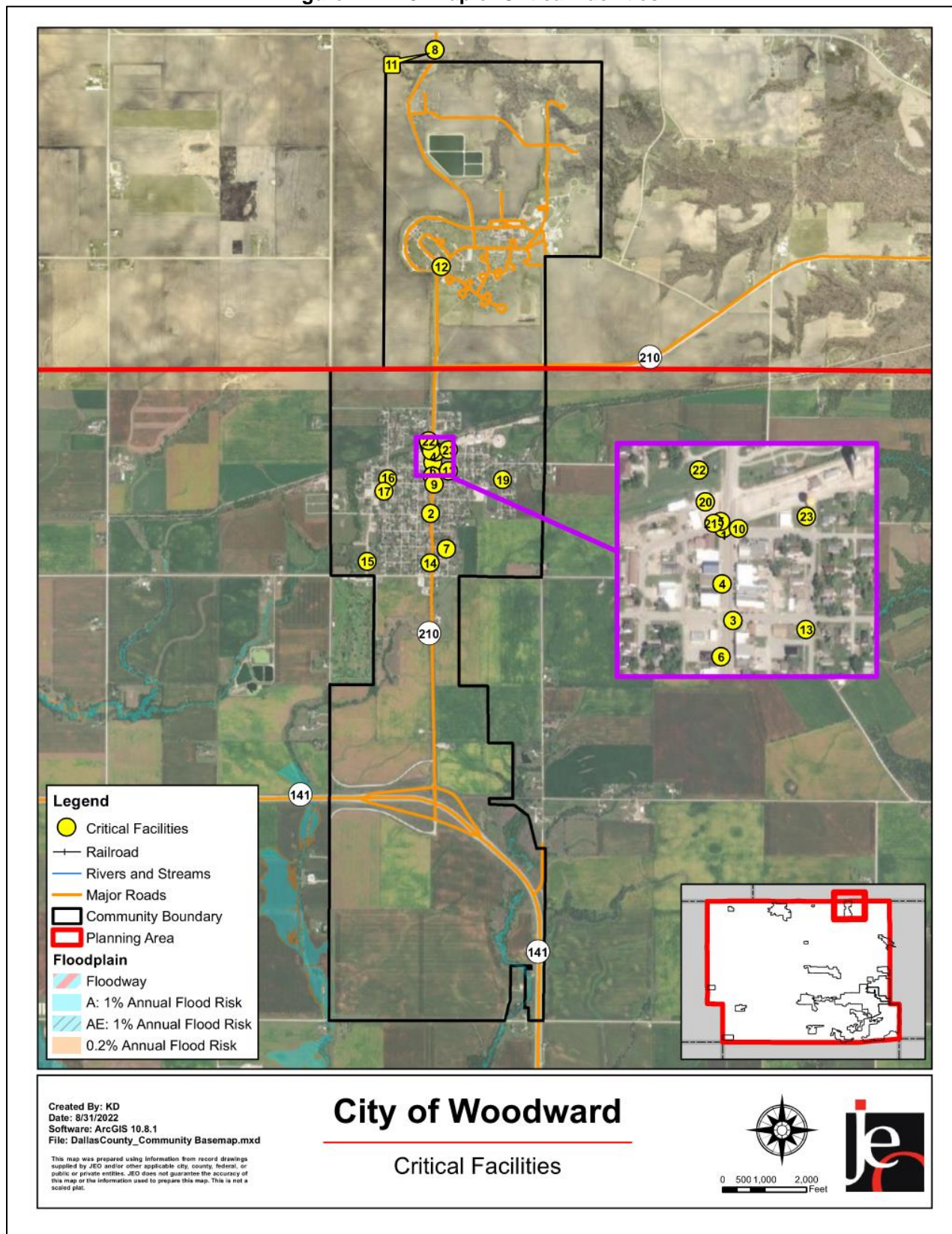
Section Seven: City of Woodward Community Profile

<b>CF #</b>	<b>Name</b>	<b>Mass Care (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Floodplain (Y/N)</b>
<b>22</b>	Iowa Electric Power & Light Co - Electric Substation	N	N	N
<b>23</b>	Woodward Water Tower	N	N	N

\*Grandwood Education Center is not mapped but is located in the City of Granger.



Figure WWD.5: Map of Critical Facilities



\*Floodplain maps were created based on the available FIRM data at the time. Updated effective FIRM data was scheduled to be available on December 15, 2022. Please refer to FEMA's Flood Map Service Center for the current FIRM information.

## Parcel Improvements and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2022. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
488	\$70,083,820	0	-	-

Source: County Assessor, 2022

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

Total Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	% of Improvements in Floodplain
488	\$70,083,820	0	-	-

Source: County Assessor, 2022

**Table WWD.8: Woodward Flood Map Products**

Type of Product	Product ID	Effective Date	Details
FIS Report	19015CV000A	10/21/2021	Flood Insurance Study
FIS Report	19049CV000C	12/15/2022	Flood Insurance Study

Source: FEMA Flood Map Service Center<sup>274</sup>

### National Flood Insurance Program (NFIP)

Woodward is not a member of the NFIP. The initial FIRM for the community was delineated on September 1, 1996, and the current effective map date is October 21, 2021. (See Figure WWD.5) To date, the community has not been able to garner the support to participate in the NFIP due to minimal development anticipated, particularly near the location of the floodplain. However, the city will reevaluate participation if new information becomes available such as interest in development further south of the community.

<sup>274</sup> Federal Emergency Management Agency. 2022. "FEMA Flood Map Service Center." Accessed December 2022. <https://msc.fema.gov/portal/advanceSearch>.

## Hazard Prioritization

The hazards discussed in detail below were selected by the local planning team from the county 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. For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*.

### **Severe Thunderstorms (Includes Hail and Lightning)**

Severe thunderstorms are a regular part of the climate and weather for Woodward. These storms can cause damage through lightning strikes, hail, and high winds. The NCEI reports 14 instances of severe thunderstorms occurring in Woodward from 1998 to 2021. The typical damage seen caused by these severe thunderstorms was toppled trees and power poles or wires due to high winds. These storms caused a total of \$80,000 worth of damage across Dallas County. The local planning team reports experiencing Derecho winds in 2020 that resulted in mass damages to houses and property with downed trees and power loss. Additionally, the NCEI reported 16 instances of hail occurring in Woodward. The hail ranged from 0.88 inches to 3 inches that resulted in \$106,000 of property damage.

The local planning team is highly concerned with severe thunderstorms is acquiring the equipment and manpower required to clean up storm debris. The planning team did not indicate any specific actions or projects implemented to reduce risk and impacts from this hazard. There are no current projects planned for the city to reduce risk of severe thunderstorms either.

### **Tornado and Windstorm**

The local planning team identified tornado and windstorm as a top hazard due to their prevalence in the area and potential for damage and loss of life. Windstorms are common across the county and can cause property and tree damage and brief power outages. Tornadoes are much less common, but the impacts can be far greater. Between 1996 and 2021, the NCEI recorded 31 high wind events in Dallas County and two tornadoes in Woodward. The brief tornado event occurred in August 1997 with an F0 tornado that reportedly damaged \$1,000 worth of crops. The second tornado occurrence was in May 2000 with an F0 tornado that briefly touched down. There were no injuries or other damages were reported. Derechos in 2020 impacted the community and caused power outages, uprooted trees, and damaged structures.

The local planning team's top concerns for this hazard was resulting mass damage to properties. The planning team did not indicate any specific actions or projects implemented to reduce risk and impacts from this hazard. There are no current actions or projects planned for the city to reduce risk of severe thunderstorms either.

A resident from Woodward responded to the public survey and indicated that they would like there to be a central place during a disaster where information on repairs and recovery can be found.

## Mitigation Strategy

### Continued Mitigation and Strategic Actions

Mitigation Action	Generator Hookup
<b>Description</b>	Install a transfer switch to enable a portable generator to be hooked up to 3 buildings (Police Station, Fire Station, and City Hall) and potentially any above ground shelter that is built. This will allow power to be restored to continue vital functions and provides continuity of services.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$8,500 per building
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	12 months
<b>Priority</b>	High
<b>Lead Agency</b>	City of Woodward
<b>Status</b>	This project is waiting on funding.

Mitigation Action	Public Education and Awareness
<b>Description</b>	The city has a bike trail and campground located where an old trailer park previously existed that has nowhere for people to take shelter during a severe storm. Education on open area safety and where to seek shelter is needed.
<b>Hazard(s)</b>	All hazards
<b>Estimated Cost</b>	\$25,000
<b>Funding</b>	City General Fund, HMA
<b>Timeline</b>	12 months to ongoing
<b>Priority</b>	High
<b>Lead Agency</b>	City of Woodward, Police Department, and Public Works
<b>Status</b>	This project will be completed by October 31, 2022

Mitigation Action	Storm Water Management
<b>Description</b>	By adding properly sized storm sewers in different areas of town it mitigates the damaging effects of a significant rain event.
<b>Hazard(s)</b>	Flooding
<b>Estimated Cost</b>	\$1,006,250
<b>Funding</b>	Storm Sewer User Fees, City General Fund, CDBG, HMA
<b>Timeline</b>	2 years
<b>Priority</b>	High
<b>Lead Agency</b>	Public Works, Clerks, and City Council
<b>Status</b>	This project is on hold due to funding

### Removed Mitigation and Strategic Actions

Mitigation Action	Alert/Warning Sirens
<b>Description</b>	Purchase and install at least one warning siren in recently annexed areas.
<b>Hazard(s)</b>	Tornado and Windstorms
<b>Status</b>	Warning apps are available and are more reliable for inside warning.

Mitigation Action	Safe Room/Storm Shelter
<b>Description</b>	Construct an above ground storm shelter with 200-person capacity as well as retrofitting another structure as an underground shelter. By building a large capacity shelter, the city can accommodate large numbers of people, reducing the potential for loss of life. By retrofitting an inground cement container as a shelter the city can offer multiple venues for protection.
<b>Hazard(s)</b>	Tornado and Windstorm
<b>Status</b>	Leadership decision to remove from plan

### Plan Maintenance

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

The 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 Mayor, City Council Members, and Community Members. The plan will be reviewed annually. The public will be included in the review and revision process via social media updates and the city websites.