

Community Profile

City of Adel

**Dallas County
Hazard Mitigation Plan 2023**

Local Planning Team

Table ADL.1: Adel Local Planning Team

Name	Title	Jurisdiction
Kip Overton	Public Works Director	City of Adel
Bob Ockerman	Council Member	City of Adel

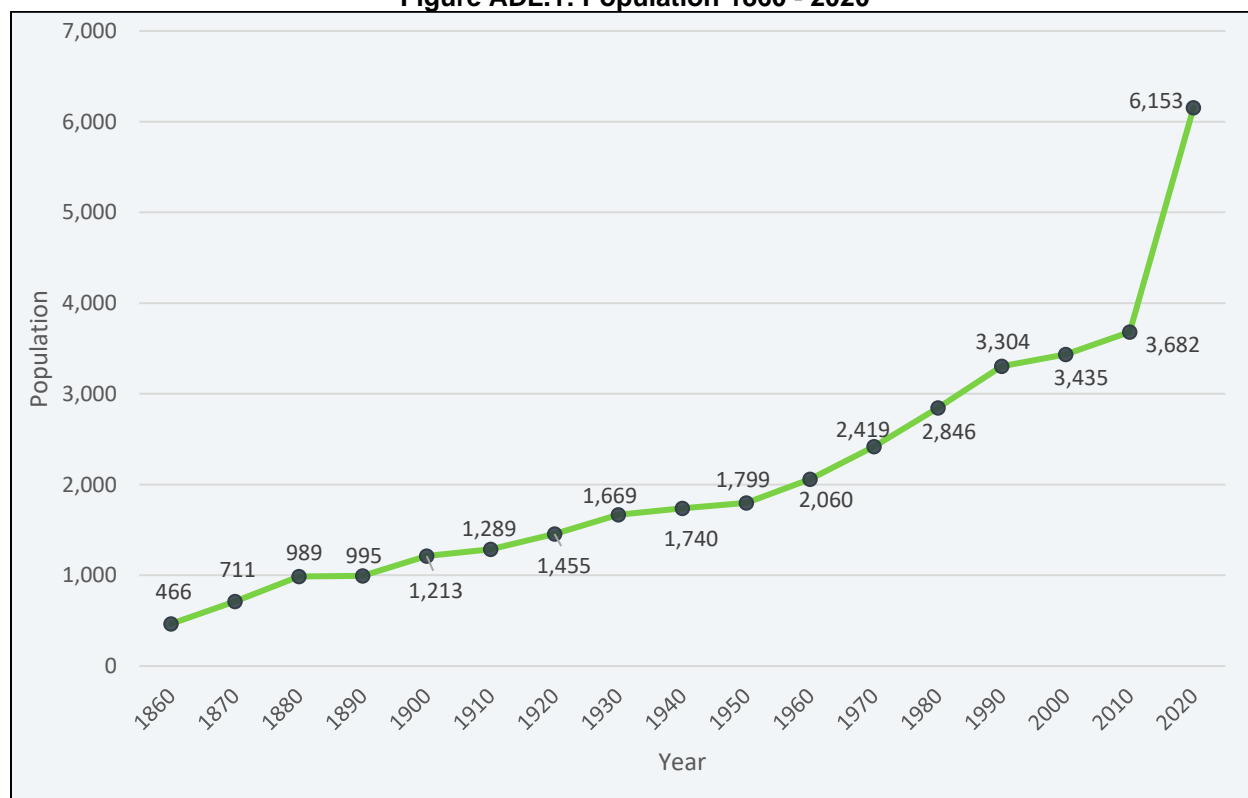
Location and Geography

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 2020.¹

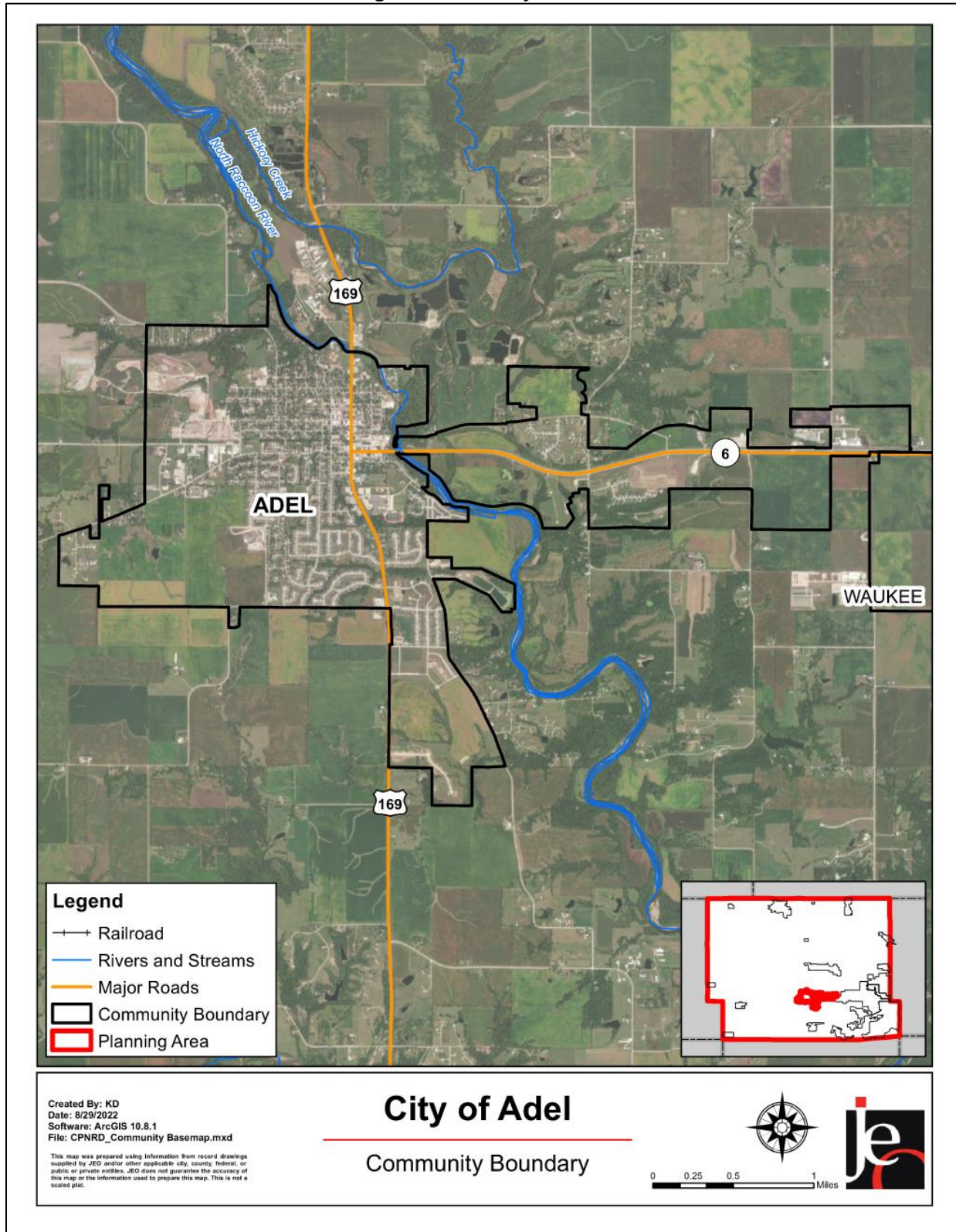
Figure ADL.1: Population 1860 - 2020



Source: U.S. Census Bureau

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

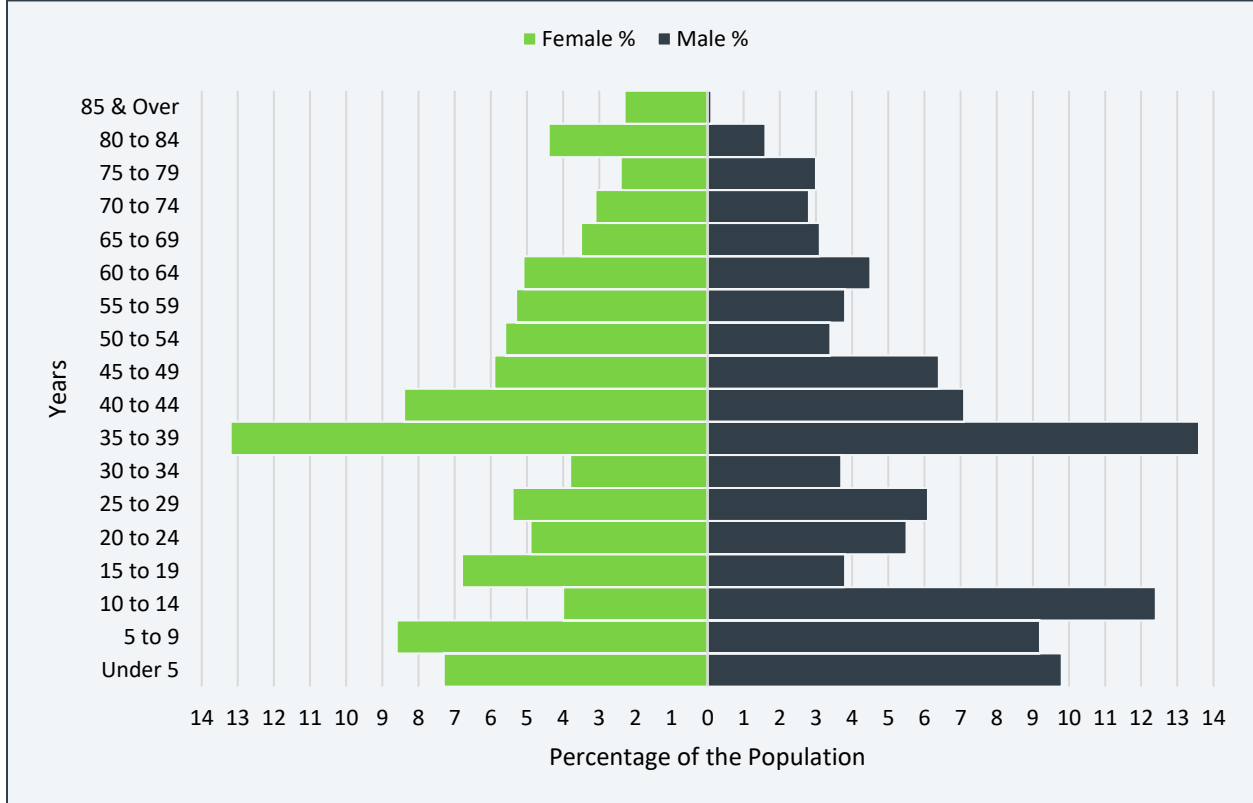
Figure ADL.2: City of Adel



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.^{2 3}
- **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.^{4 5}

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



Source: U.S. Census Bureau⁴

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.

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

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

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

⁵ 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 2020.⁶
- **\$66,005 median household income.** Adel's median household income in 2020 (\$66,005) was about \$4,200 higher than the state (\$61,836).⁷
- **5.3% unemployment rate.** In 2020 Adel had a higher unemployment rate (5.3%) compared to the state (3.9%).⁸
- **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%).⁹

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%).¹⁰
- **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.^{11 12}

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

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

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

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

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

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

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

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- **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%).¹³
- **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%.^{14 15}

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. 11th 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.

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

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

¹⁵ 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
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	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)	
Fiscal Capability	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)	
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No

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.¹⁶ The Des Moines International Airport is located about 19 miles southeast of Adel. Local N. 15th 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

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

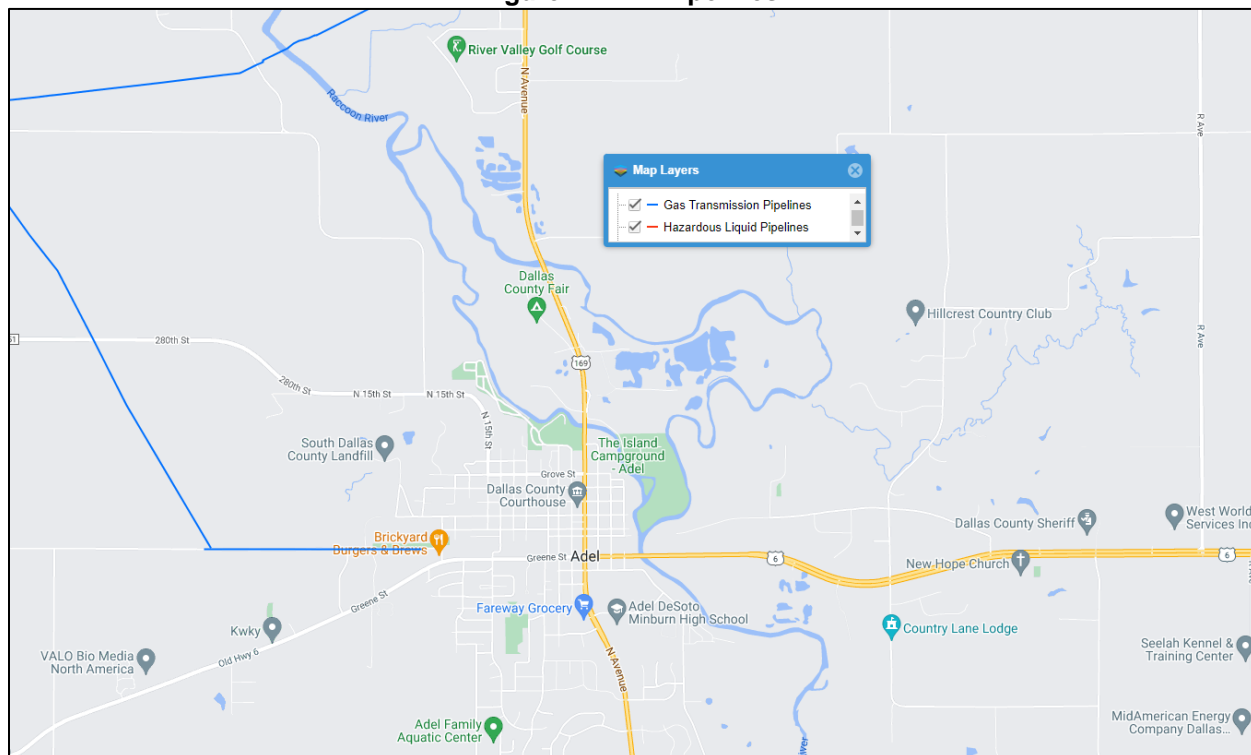
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significant transportation event. There are also no critical facilities located along the main transportation routes.

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 System¹⁷

According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are 13 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	2476 Highway 6	No
Adel Maintenance No 2	516 Greene Highway	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
Fuller Standard Service Inc	1505 Old Portland Road	No
Inland Coatings	26259 Highway 6	No

¹⁷ National Pipeline Mapping System. 2022. "Public Viewer." Accessed April 2022. <https://pvnpm.s.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
Glen Gary Brick & Tile	1831 W Main Street	No

Source: Iowa Department of Natural Resources¹⁸

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 Appeals¹⁹

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
12	St John’s Catholic Church	Y	N	N

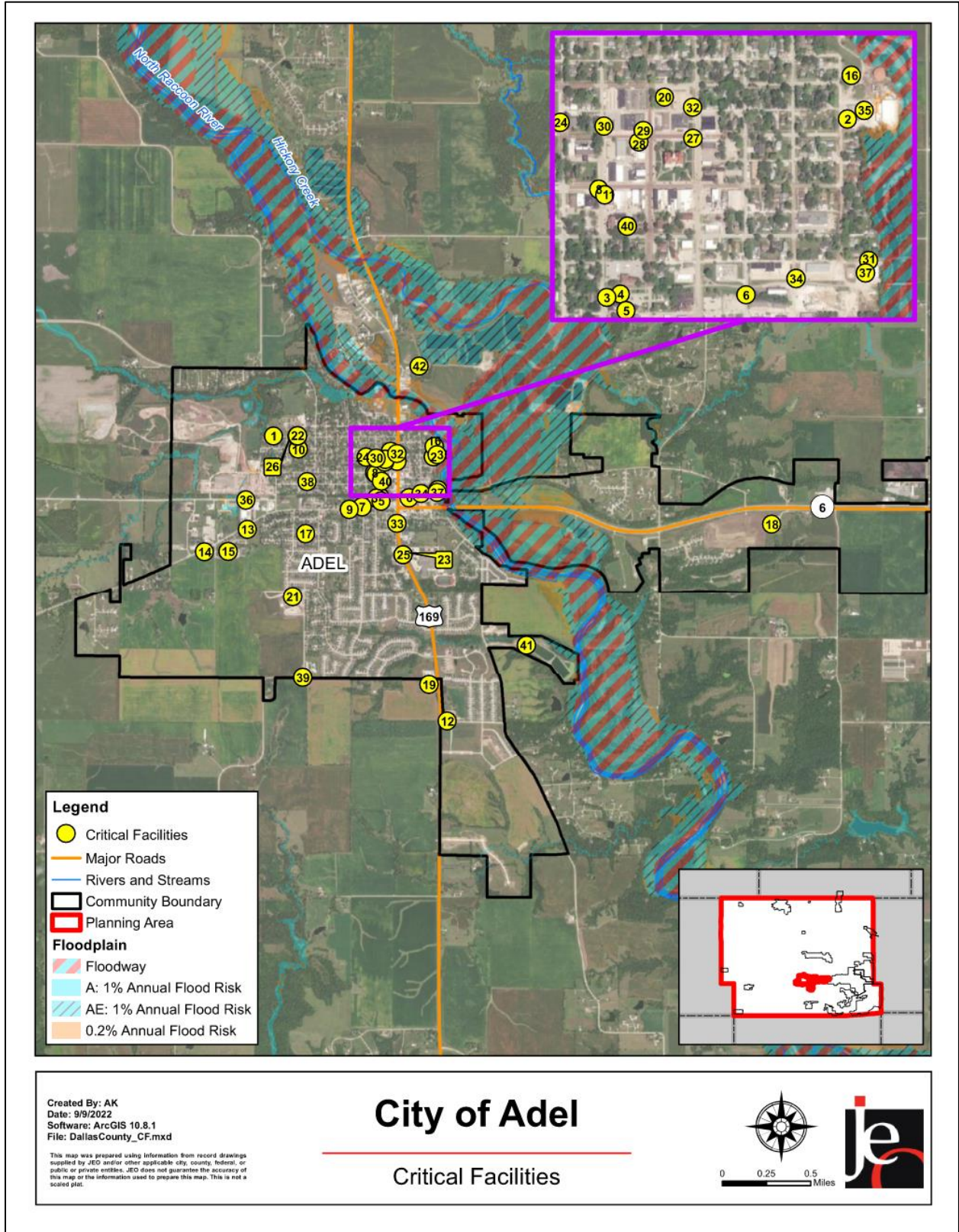
¹⁸ Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." Accessed April 2022. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

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

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CF #	Name	Mass Care (Y/N)	Generator (Y/N)	Floodplain (Y/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 Gary 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



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	19049CV000B	12/7/2018	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 Center²⁰

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.

²⁰ Federal Emergency Management Agency. 2022. “FEMA Flood Map Service Center.” Accessed July 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 streets 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.

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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
Description	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.
Hazard(s)	All hazards
Estimated Cost	\$40,000
Funding	City General Fund, HMA
Timeline	5 years
Priority	High
Lead Agency	City Hall
Status	Completed – Updated as needed

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

Continued Mitigation and Strategic Actions

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

Mitigation Action	Improve Flood Control Structure
Description	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.
Hazard(s)	Flooding
Estimated Cost	\$150,000
Funding	City General Funds, HMA
Timeline	5 years
Priority	High
Lead Agency	City Hall
Status	Not started. The city currently has a structure with Hesco Barriers in place for flood control.

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

Mitigation Action	Stormwater System and Drainage Improvements
Description	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.
Hazard(s)	Flooding
Estimated Cost	\$1,000,000 to \$3,000,000
Funding	City General Funds, HMA
Timeline	5-10 years
Priority	High
Lead Agency	City Hall
Status	This project is in progress

Mitigation Action	Stream Bank Stabilization/ Grade Control Structures/ Channel Improvements
Description	Stabilize 1200 ft. of streambank along the waterway from S. 6 th Street to S. 10 th 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.
Hazard(s)	Flooding
Estimated Cost	\$100,000-\$150,000
Funding	City General Funds, HMA
Timeline	3 years
Priority	Low
Lead Agency	City Hall
Status	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.