



Northern Virginia Hazard Mitigation Plan

Annex 3: City of Fairfax

July 2022—DRAFT



City of Fairfax Overview

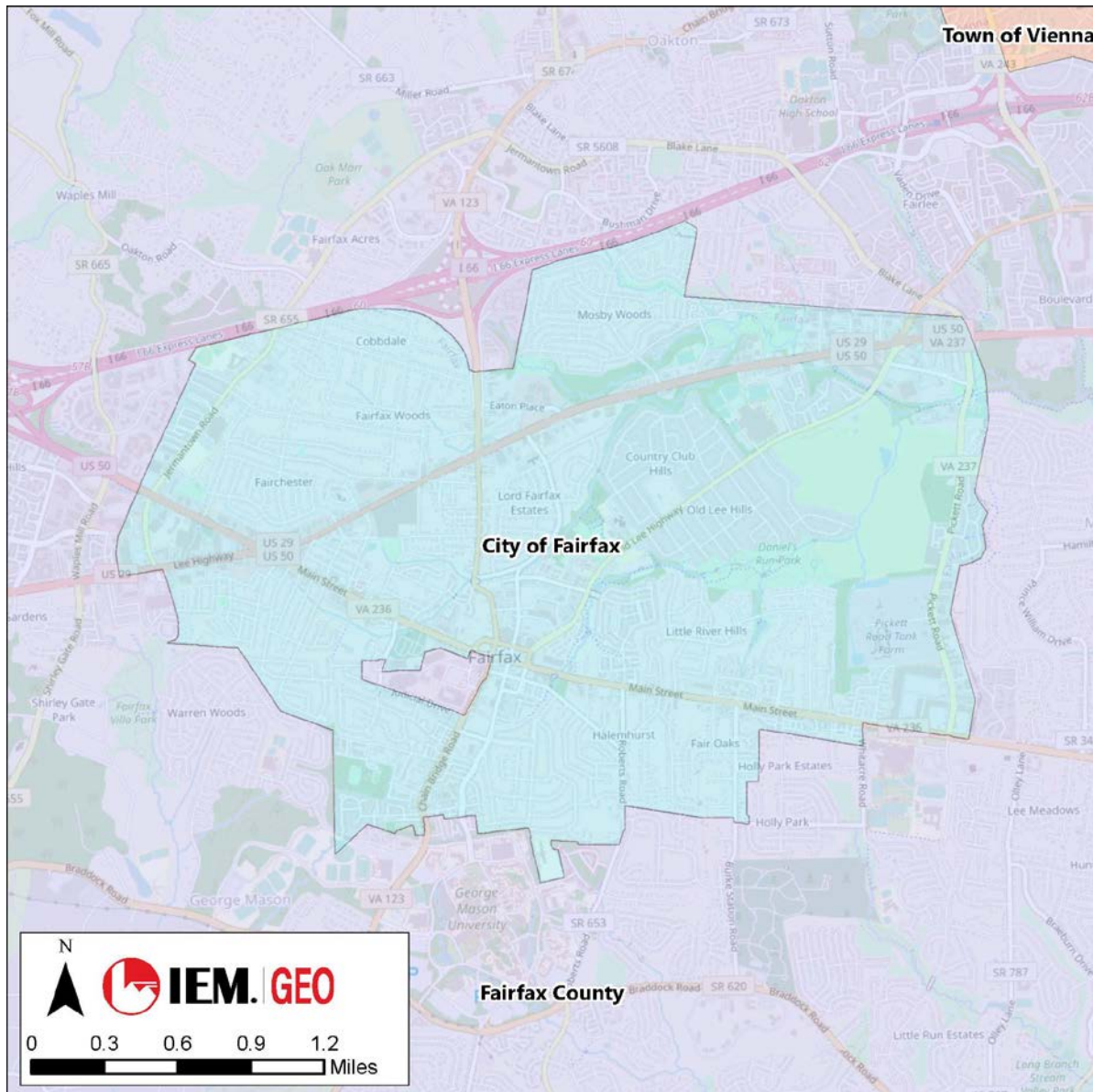


Table 1: Specific Jurisdictional Data

ESTABLISHED	LAND AREA	2020 POPULATION	GOVERNMENT ADDRESS	HOUSEHOLDS	MITIGATION FOCUS
1961	6.3 sq. mi.	24,146	10455 Armstrong St. Fairfax, VA 22030	8,751	Flood/Flash Flood/Winter Weather

City of Fairfax

The following is a snapshot of the details in this annex. The well-researched details form the basis of effective mitigation strategies to improve community resilience.

Hazard Event History

National Centers for Environmental Information (NCEI), 1950–June 2021

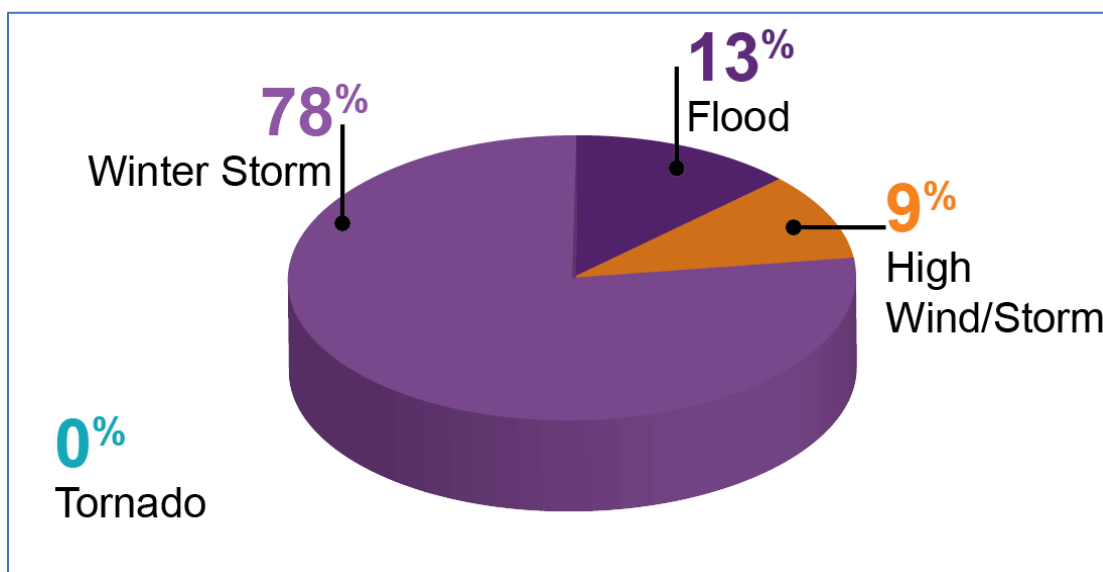


Figure 1: Percentage of Hazards

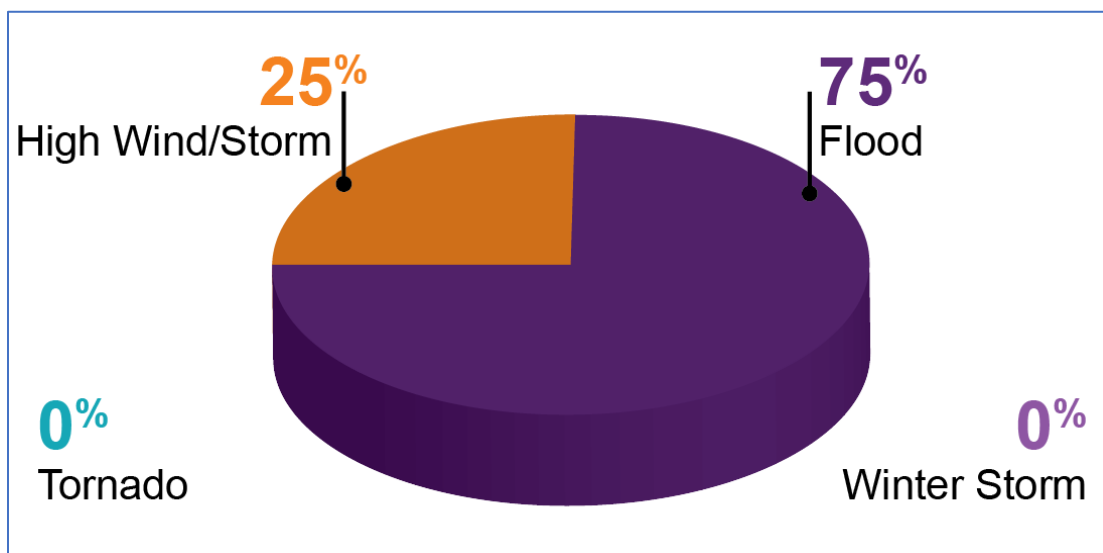


Figure 2: Property Damage Percentages from Natural Hazard Events

Natural Hazard Risk Ranking

Table 2: Ranking of Natural Hazards by Risk

Hazard	Hazard Ranking
Winter weather	High
Flood	High
High wind/severe storm	High
Dam failure	Medium
Tornado	Medium
Extreme temperatures	Medium
Drought	Medium
Earthquake	Medium
Wildfire	Low
Karst/sinkhole/land subsidence	Low
Landslide	Low

Community Lifelines and Respective Critical Assets

Table 3: Number of Critical Assets for Community Lifelines/Sectors

Lifeline/Sector	Number of Assets
Safety and Security	4
Food, Water, Shelter	0
Health and Medical	0
Energy	0
Communications	1
Transportation	6
Hazardous Materials	1
Education	9
Cultural/Historical	4
High Hazard Dams	0

A lifeline enables the continuous operation of government and business functions which are critical for human health, safety, or economic security. Lifelines are the most fundamental services for a community that, when stabilized, enable all other aspects of society to function. These lifelines are assets that may be a facility, infrastructure, operation, or entity.



Figure 3: Community Lifeline Components

Community Lifelines Outlined

- **Safety and Security:** Law Enforcement/Security, Fire Service, Search and Rescue, Government Service, Community Safety
- **Food, Water, Shelter:** Food, Water, Shelter, Agriculture
- **Health and Medical:** Medical Care, Public Health, Patient Movement, Medical Supply Chain, Fatality Management
- **Energy:** Power Grid, Fuel
- **Communications:** Infrastructure, Responder Communications, Alerts Warnings and Messages, Finance, 911 and Dispatch
- **Transportation:** Highway/Roadway/Motor Vehicle, Mass Transit, Railway, Aviation, Maritime
- **Hazardous Materials:** Facilities, HAZMAT, Pollutants, Contaminants

Mitigation Capabilities Summary

Table 4: Capability Assessment Summary Ranking for the City of Fairfax

Capability	Ranking
Planning and Regulatory	High
Administrative and Technical	High
Safe Growth	Moderate
Financial	Moderate
Education and Outreach	Moderate

Hazard Mitigation Plan Points of Contact

Table 5: Points of Contact Information

Contact Type	Contact Information
Point of Contact	Walter English, Deputy Emergency Management Director City of Fairfax 703-934-8427 walter.english@fairfaxva.gov 10455 Armstrong Street Fairfax, VA 22030
Secondary Point of Contact	John O'Neal, Emergency Management Director 4081 University Drive Fairfax, VA 22030

City of Fairfax

This annex presents the following jurisdiction-specific information provided by the City of Fairfax for the 2022 update to the *Northern Virginia Hazard Mitigation Plan (NOVA HMP)*.

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1. Jurisdiction Profile

Established	1961
Incorporated Towns	0
Total Land Area	6.3 square miles
Geographic Region	Piedmont/Coastal Plain
Persons Per Household	2.59
Persons Per Square Mile	3,833
Median Age	38

1.1. Location

The City of Fairfax is an independent city identified by the Commonwealth of Virginia, surrounded by the separate political entity of Fairfax County.

1.2. History

The City derives its name from Thomas Fairfax, Sixth Lord Fairfax of Cameron, who was awarded 5,000,000 acres of land in northern Virginia by King Charles. The area that the City now encompasses was settled in the early eighteenth century by farmers from Virginia's Tidewater region.

1.3. Demographics, Economy, and Governance

The Northern Virginia regional profile is presented in **Section 1, Base Plan** as context for the overall plan. The 2020 U.S. census for the City of Fairfax shows an approximately 7.0% population increase since 2010. The City is densely populated with 3,833 residents per square mile.

Table 6: Demographics, Economy, and Governance in the City of Fairfax¹

Year	Population	Change
1970	22,727	
1980	20,537	-10%
1990	19,945	-3%
2000	21,650	9%
2010	22,565	4%
2020	24,146	7%

¹ *City of Fairfax Fact Book*. Retrieved at: <https://www.fairfaxva.gov/government/community-development-planning/demographics-and-statistical-profile>; Virginia Employment Commission; United States 2020 Census.

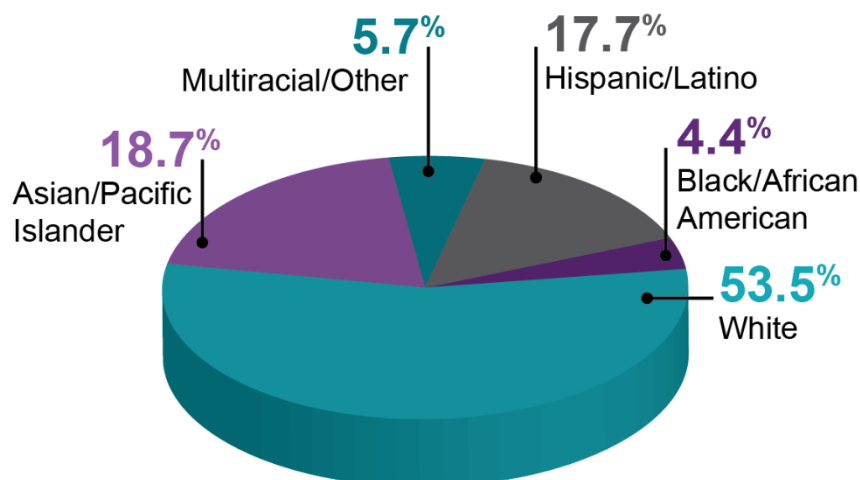


Figure 4: Race and Ethnicity Demographics

Table 7: Economic Data

Economy	Data
Median Household Income (2019)	\$109,708
Unemployment Rate (September 2021)	5.6%
Per Capita Income (2019)	\$50,029
Median House or Condo Market Value (2019)	\$405,800
Percentage Below Poverty (2019)	6.9%

1.4. Built Environment and Community Lifelines

The information related to Community Lifelines and critical assets in the City of Fairfax presented in this section has been collected from multiple sources, including the City of Fairfax Department of Emergency Management and Security, Hazus-MH[®] software (Version 4.2), and the Census. Data extracted from the Hazus Level 1 assessment indicates that the City of Fairfax has an estimated total of 25 Community Lifelines and critical assets.

This table provides a summary of the number of critical assets by type. The City of Fairfax maintains a detailed list of Community Lifeline facilities, sites, and critical assets.

Table 8: Number of Community Lifelines and Critical Assets in the City of Fairfax

Lifeline/Sector	Number of Assets
Safety and Security	4
Food, Water, Shelter	0
Health and Medical	0
Energy	0
Communications	1

Lifeline/Sector	Number of Assets
Transportation	6
Hazardous Materials	1
Education	9
Cultural/Historical	4
High-Hazard Dams	0

1.4.1. Safety and Security

The City of Fairfax has two fire stations and one district police station as of April 2021. In addition, there is one Emergency Operations Center, which is in the same building as the 911 dispatch center, and an alternate Emergency Operations Center.

1.4.2. Food, Water, Shelter

Food commodities are available throughout the City of Fairfax from public retail providers, wholesalers, and contracted services for specific institutions and facilities. Additional contracts may be entered into for post-disaster needs.

1.4.3. Health and Medical

The Inova emergency care medical center is identified inside the City of Fairfax. City residents also use Fairfax County, the District of Columbia, or other areas for treatment and care.

1.4.4. Energy

No energy facilities are listed in the City of Fairfax.

1.4.5. Communications

Most communications and information systems and infrastructure in the United States are privately owned; however, the county maintains authority and control over public safety communications for fire, police, and other responding agencies. The City of Fairfax does have one broadcast building, however, that provides services to the City.

1.4.6. Transportation

The maintenance of transportation facilities and systems is the responsibility of the owner or entity with authority, including municipal, county, state, and federal highway departments and agencies; toll and rail authorities; and the military.

The City of Fairfax owns and operates its own transportation system. The Transportation Division oversees all transportations planning and projects and includes roads, trails, sidewalks, City-University Energysaver (CUE) bus system, cycling and dockless mobility program.

The Hazus database notes a total of six transportation structures, facilities, or segments, including the following:

- Highway Bridges – 6

1.4.7. Hazardous Materials

One oil refinery is identified in the Hazus database. The location has four buildings, which are owned by gas companies with contracts to use the site.

1.4.8. Education

The City of Fairfax currently has nine education facilities teaching kindergarten through high school.

1.4.9. Recreational, Cultural and Historic Sites, and Assets

There are 488 acres of public open space² within the City that are primarily used for parks, recreation, and athletic fields.

The City of Fairfax maintains a master list of four historic sites and assets of special architectural, historic, archaeological, or cultural value to residents and visitors. These sites are designated by the National Register of Historic Places, Virginia Landmarks Register, and/or the Historic Overlay District.

1.5. Growth and Development Trends

The City of Fairfax, like most other jurisdictions in Northern Virginia, has maintained significant growth in the past decades and faces considerable pressure for future development. Commercial and retail properties are aging and becoming less competitive with other jurisdictions, creating opportunities for redevelopment that could interact with hazard risks in the future.

Transportation corridors provided by Interstate 66 on the northern border, and the Metrorail Orange Line from Washington have increased the overall growth in the City. Population growth projections indicate a continuous and steady increase in residents in the next two decades.

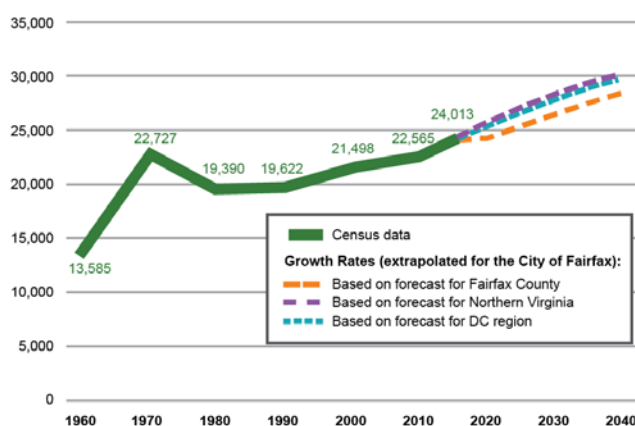


Figure 5: Population History and Forecasts, City of Fairfax, 1960–2040³

² City of Fairfax Demographics and Statistical Profile. Retrieved at: <https://www.fairfaxva.gov/government/community-development-planning/demographics-and-statistical-profile>

³ United State Census and Metropolitan Washington Council of Governments, Cooperative Forecasting. Retrieved at: <https://www.fairfaxva.gov/home/showpublisheddocument/12376/636873772980700000>

2. Jurisdiction Planning Process

For the 2022 NOVA HMP update, the City of Fairfax followed the planning process described in [Section 2, Base Plan](#). In addition to providing representation to the NOVA HMP Planning Team, the City supported the local planning process requirements by coordinating with representatives from other departments and agencies within its jurisdiction. Participants in the local planning activities are listed in Table 8.

Table 9: Local Planning Group Participants

Name	Position or Title	Agency
Walter English	Deputy Emergency Coordinator	City of Fairfax
John O'Neal	Fire Chief/ Emergency Coordinator	City of Fairfax
Michelle Coleman	Zoning Administrator	City of Fairfax
Brook Hardin	Director of Community Development and Planning	City of Fairfax
Satoshi Eto	Public Works Program Manager	City of Fairfax
Mike Wood	Emergency Management Specialist	City of Fairfax

Fairfax identified its chief hazard mitigation planning responsibility as providing oversight in the planning process and representation in the Emergency Managers Group. The City also identified the following tasks as part of its mitigation planning responsibilities:

- Management support for the planning effort
- Planning Group resource/subject matter expert
- Hazard risk and vulnerability assessment
- Provide technical data and hazard information
- Capabilities assessment
- Mitigation strategy development
- Sponsor mitigation actions
- Review Plan drafts and provide input
- Public outreach activities
- Implementation of the Plan
- Maintaining the Plan

The City of Fairfax planning participants coordinated primarily with virtual meetings during the planning process. Planning activities were independently carried out as needed using a series of worksheets that provided background information on the history of hazard events, hazard risks and vulnerabilities, capabilities, and past mitigation efforts. Additional planning process documentation of the NOVA HMP Planning Team meetings is included in the [Base Plan, Appendix A](#).

2.1. Public Participation

Several opportunities for public involvement were provided during the planning process, including a posting of the NOVA hazard mitigation public survey on the City's website and access to the draft plan for review and input.

In addition to the survey, the public was offered the opportunity to review and provide input to the Draft 2022 Plan update. Notification of the release of the Draft Plan was made through the same website. Documentation of the public survey and draft plan review is in [Attachment 2](#) of this annex.

3. Jurisdiction-Specific Hazard Event History

The City of Fairfax's comprehensive hazard history is described in [Section 5, Base Plan](#). The diversity of the landscape increases the vulnerability to a variety of hazards, most notably flooding and severe storms. In addition to snowmelt and rain-related river flooding episodes, low-lying areas of the city along the Potomac River are also subject to tidal and storm surge flooding. As sea levels rise, permanent inundation of low-lying areas along and near the river shoreline is also a threat. Additionally, winter storms pose significant threats, as evidenced during the 2015–2016 winter season, which resulted in a Federal Disaster Declaration.

The National Oceanic and Atmospheric Administration (NOAA) National Center for Environmental Information (NCEI) Storm Events Database includes 1,478 recorded natural meteorological events that took place in the City between January 1, 1950, and May 2021. The City has been included in three Federal Disaster Declarations and emergencies between 2017 and May 2021.

Table 10: Federal Disaster and Emergency Declarations (2017–2021), City of Fairfax⁴

Declaration	Date	Hazard	Assistance Type
DR 4512	April 2020	Virginia COVID-19 Pandemic	PA-B
EM 3448	March 2020	Virginia COVID-19 Pandemic	PA-B
EM 3403	September 2018	Virginia Hurricane Florence	PA-B

Table 11: Significant Hazard Events Identified by the City of Fairfax, 2017–2021

Date	Hazard	Event and Description
02/05/2010	Winter Storm	Snowfall amounts between 20 and 28 inches were received across the county. Power outages were reported throughout the county due to the weight of the snow on trees and power lines.
08/27/2011	Tropical Storm	Hurricane Irene tracked up the Mid-Atlantic Coast during the evening hours of the 27th through the early morning hours of the 28th. Irene passed by just to the east of Ocean City, Maryland, during the early morning hours of the 28th. The minimum central pressure was 958 millibars and maximum sustained winds were 80 mph, making Irene a category one hurricane.
06/19/2006	Thunderstorm Wind	A strong cold front moved from the Ohio Valley in the early morning of June 19, then across the Mid Atlantic during the late afternoon and evening. This cold front fired strong to severe thunderstorms as it encountered an atmosphere that was rich in moisture and very unstable. In addition to numerous occurrences of damaging wind gusts of around 60 mph across the Baltimore-Washington corridor, there

⁴ FEMA, Federal Disaster Declarations, 2017–2021.

Date	Hazard	Event and Description
		were also several instances of flash flooding. Numerous cars were stuck in flooded roadways across both Northern Virginia and Central and Southern Maryland. Strong winds also occurred on the tidal waters of the Potomac River and the Maryland portion of the Chesapeake Bay.

4. Hazard Risk Ranking

After developing hazard profiles, the City of Fairfax Planning Team conducted a two-step quantitative risk assessment for each hazard considering population vulnerability, geographic extent/location, probability of future occurrences, and potential impacts and consequences. The numerical scores for each category were totaled to obtain an Overall Risk Score, which is summarized as one of the following risk and vulnerability classifications:

- **Low:** Minimal potential probability and impact. Minimal or no property damage or loss of life expected.
- **Medium:** Moderate probability and potential impact; moderate threat level to the general population and/or the built environment. The potential damage is more isolated and less costly than a widespread disaster.
- **High:** Significant probability and widespread potential impact. This ranking carries a high threat to the general population and/or the built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past, causing a significant impact.

The two-step hazard risk ranking methodology is detailed in [Section 4.2, Base Plan](#). The Overall Risk Score for each hazard served as the basis for determining whether a vulnerability assessment should be conducted. Natural hazard profiles are presented within the hazard sub-sections in [Section 5, Base Plan](#), and local detail is provided in the Jurisdiction Annexes. Non-natural hazard profiles are presented in [Volume II](#) of this Plan.

Table 12: Hazard Risk Ranking Summary: Natural Hazards

Hazard	Total Probability Score	Total Consequence Score	Overall Risk Score	Hazard Ranking
Winter weather	3.7	3.5	7.2	High
Flood	1.7	4.2	5.9	High
High wind/severe storm	2.7	3.2	5.8	High
Dam failure	1.0	4.5	5.5	Medium
Tornado	1.3	4.2	5.5	Medium
Extreme temperatures	2.7	2.5	5.2	Medium
Drought	2.0	3.2	5.2	Medium
Earthquake	1.7	3.2	4.9	Medium
Wildfire	1.0	3.0	4.0	Low
Karst/sinkhole/land subsidence	1.0	2.5	3.5	Low
Landslide	1.0	2.5	3.5	Low

Table 13: Hazard Risk Ranking Summary: Non-Natural Hazards

Hazard	Total Probability Score	Total Consequence Score	Overall Risk Score	Hazard Ranking
Infectious disease/public health	3.0	5.8	8.8	High
Terrorism	1.0	6.4	7.4	High
Cyberattack	2.0	4.7	6.7	High
Civil unrest	1.3	5.0	6.3	Medium
Communication disruption	1.3	3.7	5.0	Medium
Hazardous materials	1.0	3.9	4.9	Low
Active violence	1.0	3.6	4.6	Low

Based on the hazard risk scores, the City of Fairfax evaluated the level of risk for 18 hazards: 11 natural and 7 non-natural.

Six natural hazards were identified as high- or medium-risk hazards to which the jurisdiction is vulnerable:

- **High:** Winter weather, flood (riverine/flash flood), and high wind/severe storm
- **Medium:** Dam failure, drought, earthquake, extreme temperatures, and tornado

Five non-natural hazards were ranked as high or medium risk:

- **High:** Infectious disease/public health, terrorism, cyber attack
- **Medium:** Civil unrest, communication disruption

All other hazards are ranked as “low,” signifying a minimal risk to the City of Fairfax.

4.1. Additional Hazard Risk Considerations

4.1.1. Flood/Flash Flood (Hazard Ranking: High)

Table 14: Flood/Flash Flood Events in the City of Fairfax 1950–May 31, 2021

Flood/Flash Flood Events	Direct Deaths	Direct Injuries	Property Damage	Crop Damage	Total Property and Crop Damage
6	1	0	\$2,500,000	0	\$2,500,000

4.1.2. High Wind (Hazard Ranking: High)

This table presents the number of severe storm events documented in the NCEI Storm Events Database, including high wind, and impacts on people, property, and crops.

Table 15: High Wind/Severe Storm Events in the City of Fairfax, 1950–May 31, 2021

High Wind and Severe Storm Events	Direct Deaths	Direct Injuries	Property Damage	Crop Damage	Total Property and Crop Damage
17	0	1	\$816,000	30,000	\$846,000

4.1.3. Winter Weather (Hazard Ranking: High)

This table presents the number of severe winter storm events documented in the NCEI Storm Events Database, including blizzards, heavy snow, winter storm, and winter weather.

Table 16: Severe Winter Storm Events in the City of Fairfax, 1950–May 31, 2021

Winter Weather Events	Direct Deaths	Direct Injuries	Property Damage	Crop Damage	Total Property and Crop Damage
39	2	4	\$5,000	0	\$5,000

Other hazard information for the City of Fairfax is presented in the [Base Plan](#).

5. Vulnerability Assessment

The methodology for calculating loss estimates presented in this annex is the same as that described in [Section 4, Base Plan](#). Quantitative loss estimates are provided when available. Qualitative measurement considers hazard data and characteristics, including the potential impact and consequences based on past occurrences. Accompanying the data is a discussion of community assets potentially at risk during a hazard event.

The assets at risk were identified during the planning process as potential assets vulnerable to one or more hazards.

5.1. National Flood Insurance Program

The City of Fairfax is a participant in the National Flood Insurance Program (NFIP). In addition, the City participates in the voluntary Community Rating System (CRS) program under the NFIP with a CRS Class of 6, which is associated with a 20% flood insurance discount for policyholders.

Table 17: National Flood Insurance Program Status, City of Fairfax⁵

Initial FHB Identified	Initial FIRM Identified	Current Eff Map Date	Reg-Emer Date	CRS Entry Date	Current Eff Date	CRS Class	% Disc SFHA	% Disc Non- SFHA
5/5/1970	12/23/1971	6/2/2006	12/17/1971	-	10/1/2014	0	0	0

Table 18: NFIP Policy and Claims Status, City of Fairfax⁶

Policy Statistics		Claim Statistics	
Policies In-Force	Premiums Paid	Total Claims	Total Payment
70	\$55,705	16	\$19,356

Table 19: NFIP Status, as of June 2021

NFIP Topic	Source of Information	Comments
Insurance Summary		
How many structures are exposed to flood risk within the community?	Community Floodplain Administrator (CFM) Estimate from FEMA	245 in the 2006 adopted floodplain 180 in the 2020 preliminary maps pending adoption

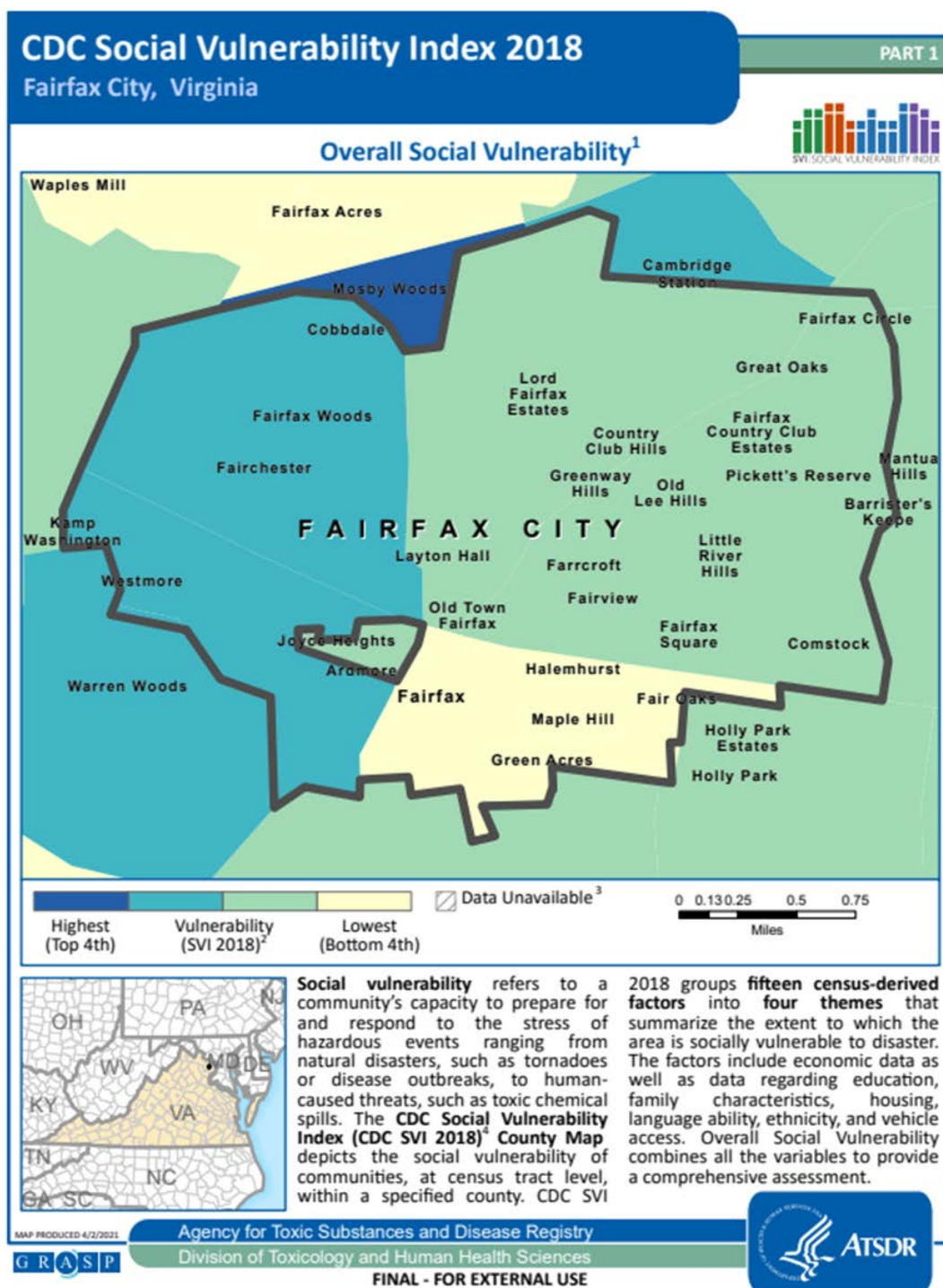
⁵ National Flood Insurance Program Community Status Book

⁶ FEMA NFIP Community Status Report, September 9, 2021

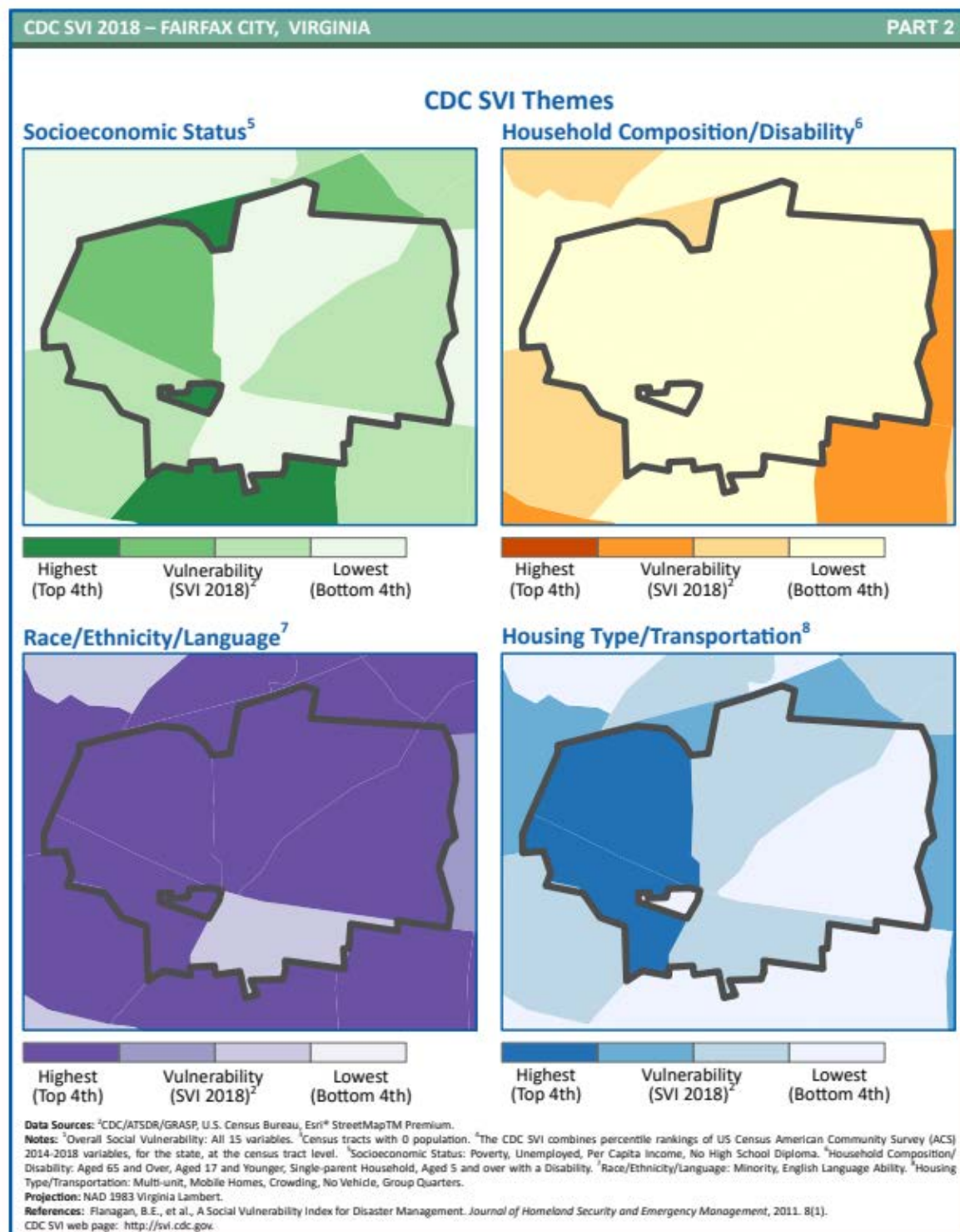
NFIP Topic	Source of Information	Comments
Describe any areas of flood risk with limited NFIP policy coverage	CFM and FEMA Insurance Specialist	From the 2019 Community Assistance Visit: None were identified.
Staff Resources		
Is the Community FPA or NFIP Coordinator certified?	Community FPA	No, completed certification course.
Is floodplain management an auxiliary function?	Community FPA	Yes, the floodplain regulations are contained in the Zoning Ordinance that is administered and enforced by the Zoning Administrator who has been designated as the FPA
Explain NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Community FPA	Floodplain permit review requirement for development in the floodplain; GIS floodplain mapping.
What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	None
Compliance History		
Is the community in good standing with NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, community records	Yes
Are there any outstanding compliance issues (i.e., current violations)?		Progressively investigating the 17 potential pre- and post-FIRM violations identified in the CAV
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?		April 29, 2019

5.2. Population

The Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) is a tool that can be used to identify specific vulnerable populations. The CDC SVI depicts the vulnerability of communities at the census tract level, by county, into fifteen census-derived factors grouped into four themes—socioeconomic status, household composition/disability, race/ethnicity/language, and housing type/transportation. *Social vulnerability* refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills.

Figure 6: Overall Social Vulnerability (2018), City of Fairfax⁷

⁷ Centers for Disease Control and Prevention, Social Vulnerability Index. Retrieved at: [Virginia2018_Fairfax city.pdf \(cdc.gov\)](#)



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Figure 7: Social Vulnerability, by Theme, City of Fairfax⁸

⁸ Ibid.

The themed maps illustrate the City's higher level of vulnerability within the race/ethnicity/language theme, demonstrating the importance of communicating essential hazard mitigation, preparedness, response, and recovery information to the public in alternate formats and multiple languages.

5.3. Built Environment

Based on data currently available through Hazus, the tables presented in this section provide a total number of exposed facilities and properties regarding earthquake, flood, and hurricane wind.

Table 20: Building Stock Exposure by General Occupancy⁹

Type	Amount
Residential	\$3,164,151,000
Commercial	\$1,210,584,000
Industrial	\$135,723,000
Agricultural	\$12,501,000
Religion	\$110,828,000
Government	\$13,954,000
Education	\$33,368,000
TOTAL	\$4,681,107,000

5.4. Community Lifelines and Assets

The City of Fairfax reviewed its community lifelines and assets to identify critical facilities, systems, and infrastructure that have the most significant risks and exposure. Vulnerabilities include structures, systems, resources, and other assets defined by the community as susceptible to damage and loss from hazard events. The vulnerability of critical infrastructure is presented within the lifeline sector categories identified by FEMA. None listed in the Hazus runs have been compiled.

Table 21: Critical Facilities Exposed to FEMA Floodplains, City of Fairfax

Facility Type	Total Facilities	In 100-Year Floodplain	In 500-Year Floodplain
Highway Bridges	6	3	2
Highway Segments	24	6	1

⁹ Hazus Building Stock Exposure Report, 2500-Year, 6.5 Magnitude Earthquake. August 3, 2021.

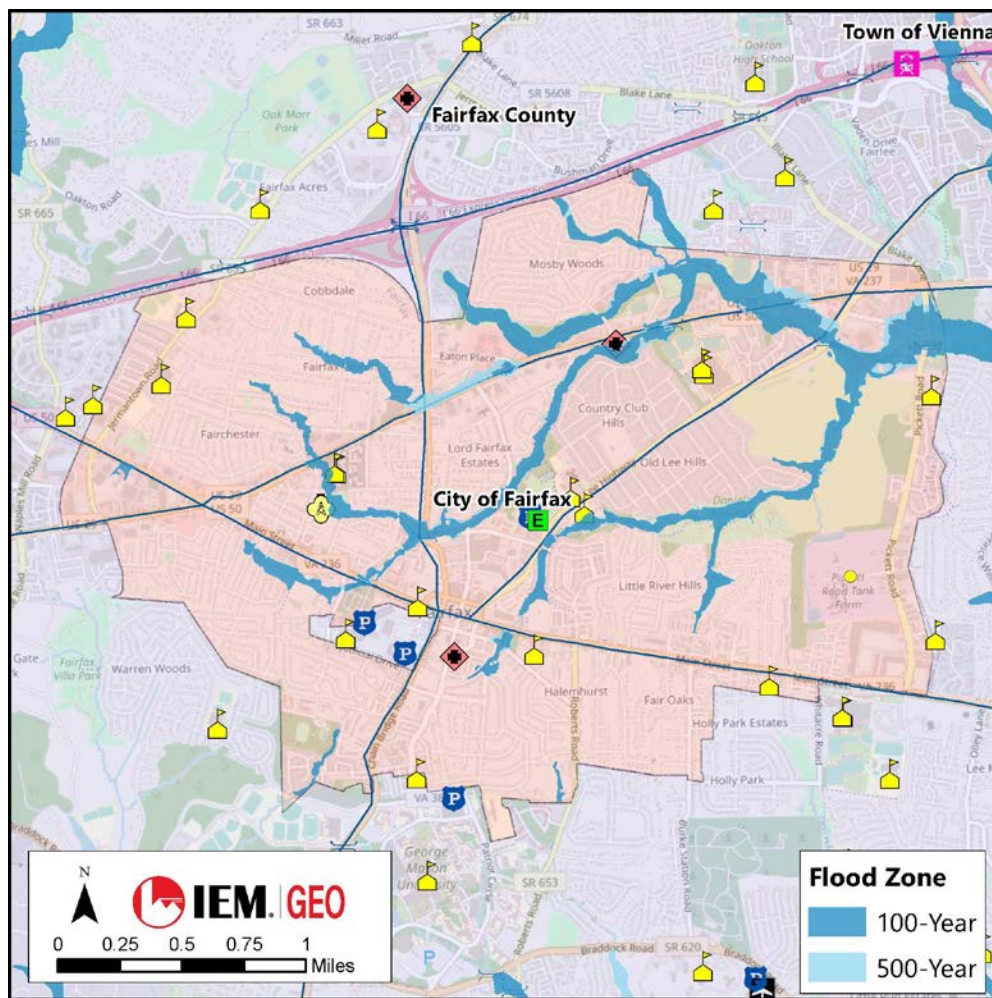


Figure 8: Critical Facilities in Flood Zones

5.5. Environment

Information related to environmental vulnerability is presented in the hazard-specific sections of the [Base Plan](#).

5.6. Economy

Information related to economic vulnerability is presented in the hazard-specific sections of the [Base Plan](#). Specific direct economic losses (in thousands of dollars) related to a 2,500-year 6.5 magnitude earthquake event are identified by Hazus for specific assets.

Table 22: Direct Economic Losses Related to Earthquake, Flood, and Hurricane Wind

Hazard	Buildings (capital stock and income)	Transportation	Utilities
Earthquake	\$67,670,000	\$127,000	\$88,000
Flood	\$4,681,107,000	0	0

Hazard	Buildings (capital stock and income)	Transportation	Utilities
Hurricane Wind	\$2,584,000	0	0

5.7. Cultural/Historical

Information related to the vulnerability of cultural and historical assets is presented in the hazard-specific sections of the [Base Plan](#).

Historic structures and sites are frequently more vulnerable to flood hazards due to the typical development of a city or town along waterways. Because removing historic structures from their original site affects their historical value, there are challenges to protecting these fragile sites.

Table 23: Cultural and Historic Properties Exposed to FEMA Floodplains, City of Fairfax

Total Facilities	In 100-Year Floodplain	In 500-Year Floodplain
6	0	0

6. Capability Assessment

The City of Fairfax reviewed its legislative and departmental capabilities to identify resources, strengths, and gaps for implementing hazard mitigation efforts. Using a Capabilities Assessment Worksheet, the community documented existing institutions, plans, policies, ordinances, programs, and resources that could be brought to bear on implementing the mitigation strategy. The capabilities in relation to hazard mitigation were assessed in the following categories:

- Planning and regulatory
 - Implementation of ordinances, policies, site plan reviews, local laws, state statutes, plans, and programs that relate to guiding and managing growth and development
- Administrative and technical
 - County, city, and town staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions
- Safe growth
 - Use of community planning through comprehensive plans as hazard mitigation to increase community resilience
- Financial
 - Resources that a jurisdiction has access to or is eligible to use to fund mitigation actions
- Education and outreach
 - Programs and methods that could be used to implement mitigation activities and communicate hazard-related information

In addition to the Capabilities Assessment Worksheet, the City of Fairfax completed a Jurisdiction Needs Identification Questionnaire that summarized capability changes and enhancements since the last plan. This information is integrated into the summaries in this section.

6.1. Capability Assessment Summary Ranking and Gap Analysis

The jurisdiction ranked the levels of capability for each assessment category to identify where elements could be strengthened or enhanced. Capabilities were ranked on a qualitative basis as demonstrated by the jurisdiction's authorities, programs, plans, and/or resources:

- **Limited:** The jurisdiction is generally unable to implement most mitigation actions.
- **Low:** The jurisdiction has some capabilities and can implement a few mitigation actions.
- **Moderate:** The jurisdiction has some capabilities, but improvement is needed to implement some mitigation actions.
- **High:** The jurisdiction has significant capabilities, as demonstrated by its authorities, programs, plans, and/or resources, and it can implement most mitigation actions.

Table 24: Capability Assessment Ranking Summary

Capability	Ranking
Planning and Regulatory	High
Administrative and Technical	High
Safe Growth	Moderate
Financial	Moderate
Education and Outreach	Moderate

6.1.1. Planning and Regulatory Capabilities Summary

The City utilizes the all-hazards approach when developing any jurisdictional plans, including emergency operations, and continuity of operations, as well as the hazard mitigation plan.

The following plans have been newly developed or updated since the 2017 HMP:

- Comprehensive Plan, 2020 and 2035
- Capital Improvement Plan, 2020–2024
- Local Emergency Operations Plan, 2021
- Flood Insurance Rate Map Updates (in progress)
- Continuity of Operations Plan (COOP), 2022
- Council of Governments (COG) Plan, 2022

Capability Analysis: High

Significant planning and regulatory tools are in place within the City of Fairfax and bring to light successes in integrating hazard mitigation planning with existing planning mechanisms. This demonstrates that the jurisdiction recognizes the benefit of incorporating hazard mitigation in local planning and regulatory processes such as the Comprehensive Plan, Capital Improvement Plan, and land development and floodplain regulations, and how to use these to develop and implement mitigation actions. Combining some of the plan into an overall, stormwater or floodplain management plan, etc. Currently, Public Works and Community Development/Zoning have separate plans. Noted areas for improvement include combining some of the plans into an overall, stormwater, or floodplain management plan. Currently, Public Works and Community Development/Zoning have separate plans, which could be combined to condense efforts across divisions.

6.1.2. Administrative and Technical Capabilities Summary

- Planning and Zoning staff include planners, engineers, and a floodplain manager with an understanding of natural and non-natural hazards who are integrated into mitigation planning.
- The City maintains an Information Technology department with GIS personnel.
- City emergency management, health department, fire department, and other staff are familiar with the community's hazards.

The City identified the following departments and agencies as key stakeholders in its hazard mitigation planning process and implementation of the plan:

- Community Development and Planning
- Energy and Environment
- Emergency Management
- Information Technology
- Health Department
- Public Works

Capability Analysis: High

The City of Fairfax has a robust staffing capability that provides a high level of coordination for mitigation planning and action implementation. While enhancements in the City's administrative and technical capabilities were gained through an increase in department and agency positions resulting from the COVID-19 pandemic, the need for continuing education and training as well as funding for positions offer areas for improvement. Capability can be improved through better coordination of staffing and mitigation efforts across Emergency Management, Public Works, and Community Development/Zoning.

6.1.3. Safe Growth Capabilities Summary

- A land map clearly identified natural hazard areas.
- Goals and policies of the comprehensive plan were related to those of the FEMA-approved Local Hazard Mitigation Plan.
- The small areas or corridors plan recognized the need to avoid or mitigate natural hazards.

Capability Analysis: Moderate

The City of Fairfax can benefit from adding staff and funding to enhance the capabilities of the City and ensure appropriate development in areas that will be safe for infrastructure and residents.

6.1.4. Financial Capabilities Summary

- The City's Capital Improvements Plan provides funding for projects outside of the jurisdiction's annual operational budget.
- The City has the authority to incur debt through general obligation bonds and/or special tax bonds, as well as fees for utility services and impact fees for new development.
- The City utilizes a stormwater utility fee for stormwater management.
- The City intends to access BRIC, stormwater management, and flood mitigation funding programs for future mitigation actions.

Capability Analysis: Moderate

Onsite work restrictions imposed during the COVID-19 pandemic beginning in March 2020 and continuing throughout 2021 presented challenges to staff availability and coordination. To address these shortfalls, the jurisdiction may access technical assistance available to potential applicants provided by many grant programs or expand capabilities to develop and manage mitigation actions through contracted services. The City will work with businesses to ensure they meet zoning and floodplain requirements and continue to identify more funding opportunities and leverage existing funds for better mitigation opportunities.

6.1.5. Education and Outreach Capabilities Summary

- Work with local citizen groups and non-profits focusing on environmental protection
- Emergency Management does community outreach for all hazards via Engage Fairfax.
- Natural disaster safety-related school programs
- Community Rating System initiatives within the NFIP program can increase public awareness of and involvement in hazard mitigation.

Capability Analysis: Moderate

Jurisdictions have multiple opportunities to promote hazard mitigation and increase the involvement of stakeholders and the public. There is a critical need to inform the additional stakeholders and the public about the benefits of hazard mitigation planning and implementation. Virginia Department of Emergency Management mitigation staff can provide technical assistance to support increased jurisdictional involvement. The City identified ways to expand education and outreach by increasing public outreach to teach about the hazards in the area and mitigation actions. In addition, increasing outreach opportunities in multiple languages, including the deaf and hard-of-hearing community will extend the reach of hazard mitigation.

6.2. Capability Summary – Activities that Reduce Natural Hazard Risk or Impacts

As a component of the capability assessment, the City of Fairfax identified activities related to each natural hazard that support risk reduction.

Table 25: Capability Summary – Activities that Reduce Natural Hazard Risk or Impacts

Hazard	Activity
Dam failure (including levees)	<ul style="list-style-type: none"> • Public education and operational plans address preparedness and response to reduce risk.
Drought	<ul style="list-style-type: none"> • Public education and operational plans address preparedness and response to reduce risk. • Land use and environmental policies acknowledging the importance of protecting the natural environment.
Earthquake	<ul style="list-style-type: none"> • State and International building codes provide for seismic design regulations. • Public education and operational plans address preparedness and response to reduce risk.
Extreme temperature	<ul style="list-style-type: none"> • Public education and operational plans address preparedness and response to reduce risk.
Flood/flash flood	<ul style="list-style-type: none"> • Floodplain administration and regulations ensure that inappropriate activities and future development in the floodplain are prohibited.

Hazard	Activity
	<ul style="list-style-type: none"> Stormwater management programs and projects address flood prevention and risk reduction.
High wind/severe storm	<ul style="list-style-type: none"> State and international building codes provide for wind-load design regulations.
Karst/sinkhole/land subsidence	<ul style="list-style-type: none"> Land use and environmental policies acknowledge the importance of protecting the natural environment.
Landslide	<ul style="list-style-type: none"> Land use and environmental policies acknowledge the importance of protecting the natural environment.
Tornado	<ul style="list-style-type: none"> Public education and operational plans address preparedness and response to reduce risk.
Wildfire	<ul style="list-style-type: none"> Public education and operational plans address preparedness and response to reduce risk.
Winter weather	<ul style="list-style-type: none"> Public education and operational plans address preparedness and response to reduce risk.
Non-natural hazards	<ul style="list-style-type: none"> Public education and operational plans address preparedness and response to reduce risk. Beginning with the 2022 NOVA HMP, hazard mitigation planning is being integrated into existing planning and risk reduction activities for technological and human-caused hazards.
Climate change	<ul style="list-style-type: none"> Ongoing resilience planning and utilizing the Fairfax County <i>Community-wide Energy and Climate Action Plan</i> will allow for the identification and mitigation of climate change related issues in future planning cycles.

7. Resilience to Hazards

7.1. National Risk Index

The National Risk Index (NRI) provides an overview of hazard risk, vulnerability, and resilience. The designation of “low risk” is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.

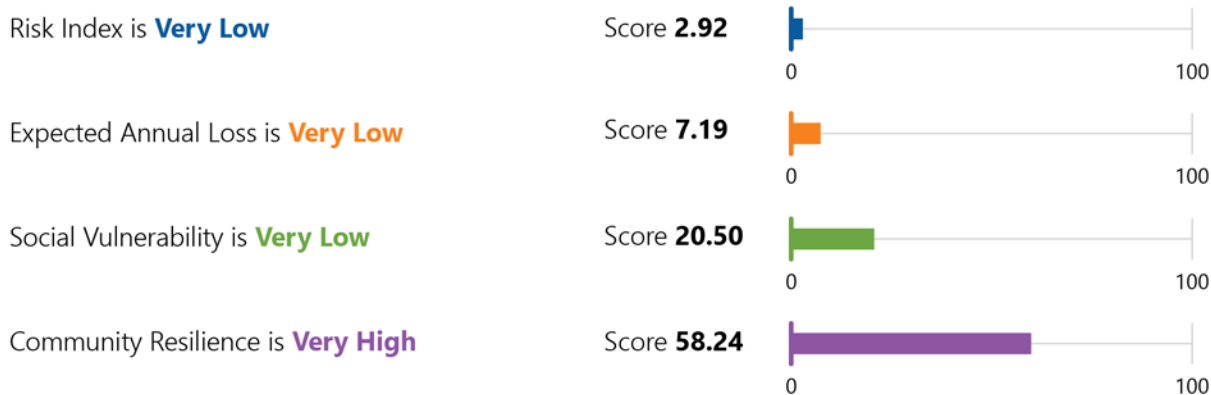


Figure 9: Summary of National Risk Index Findings, City of Fairfax¹⁰

The National Risk Index (NRI) is a dataset and online tool developed by the Federal Emergency Management Agency (FEMA) and other partners to help illustrate communities in the United States at risk for 18 natural hazards. Hazard risk is calculated on data for a single hazard type and reflects its relative risk. The relative risk measurement should be considered only as a baseline for a general comparison with the local hazard risk ranking in the Hazard Risk Ranking section of this annex. In addition, some hazards are defined differently from the hazards in this plan; therefore, a direct hazard-to-hazard comparison of risk is indeterminable.

Based on the NRI findings, the highest five hazards by risk rating for the City of Fairfax are winter weather, strong wind, tornado, cold wave (known within this plan as extreme cold), and heat wave (known within this plan as extreme heat). Lightning, ice storm, hail, and riverine flooding received lower risk ratings; however, 14 of the 15 hazards rated for risk were all determined to be “very low,” with one hazard (heat wave) determined as “relatively low.”

¹⁰ National Risk Index, Community Report for City of Fairfax.















Hazard Types	Risk Index Rating	Risk Index Score		
Avalanche	Not Applicable	--		
Coastal Flooding	Not Applicable	--		
Cold Wave	Very Low	4.68	0 	100
Drought	No Rating	0.00	0 	100
Earthquake	Very Low	1.09	0 	100
Hail	Very Low	5.24	0 	100
Heat Wave	Relatively Low	4.08	0 	100
Hurricane	Very Low	1.89	0 	100
Ice Storm	Very Low	2.35	0 	100
Landslide	Very Low	5.23	0 	100
Lightning	Very Low	5.76	0 	100
Riverine Flooding	Very Low	2.68	0 	100
Strong Wind	Very Low	6.09	0 	100
Tornado	Very Low	6.36	0 	100
Tsunami	Not Applicable	--		
Volcanic Activity	Not Applicable	--		
Wildfire	No Rating	0.00	0 	100
Winter Weather	Very Low	4.80	0 	100

Figure 10: Hazard Type Risk Index, National Risk Index

The NRI calculation does not follow the same criteria and formulas used in the hazard risk ranking methodology for this plan but is provided as a comparative measurement tool.

Table 26: City of Fairfax Risk Ranking

Index	Rank
Risk	2.92
Expected Annual Loss	7.19
Social Vulnerability	20.50
Community Resilience	58.24

Table 27: Comparison of City of Fairfax Risk Index Scores with Virginia and National Averages

Index	City of Fairfax	Virginia Average	National Average
Risk	2.92	6.50	10.60
Expected Annual Loss	7.19	9.22	13.33
Social Vulnerability	20.50	35.32	38.35
Community Resilience	58.24	54.92	54.59

7.2. Community Resilience Estimate

The Community Resilience Estimate (CRE) is a data product produced by the U.S. Census Bureau that can be utilized to estimate potential community resilience to disasters by combining data from several sources to analyze individual and household level risk factors.

The index produces aggregate-level (census tract, county, and state) small area estimates providing a tool for understanding how at-risk specific neighborhoods might be to disasters due to characteristics that may make specific segments of the population more vulnerable to the impacts and consequences of disasters. The 10 risk factors include the following:

1. Income-to-poverty ratio
2. Single or zero caregiver household
3. Unit-level crowding
4. Communication barrier
5. Aged 65 years or older
6. Lack of full-time or year-round employment (household)
7. Disability
8. No health insurance coverage
9. No vehicle access (household)
10. No broadband internet access (household)

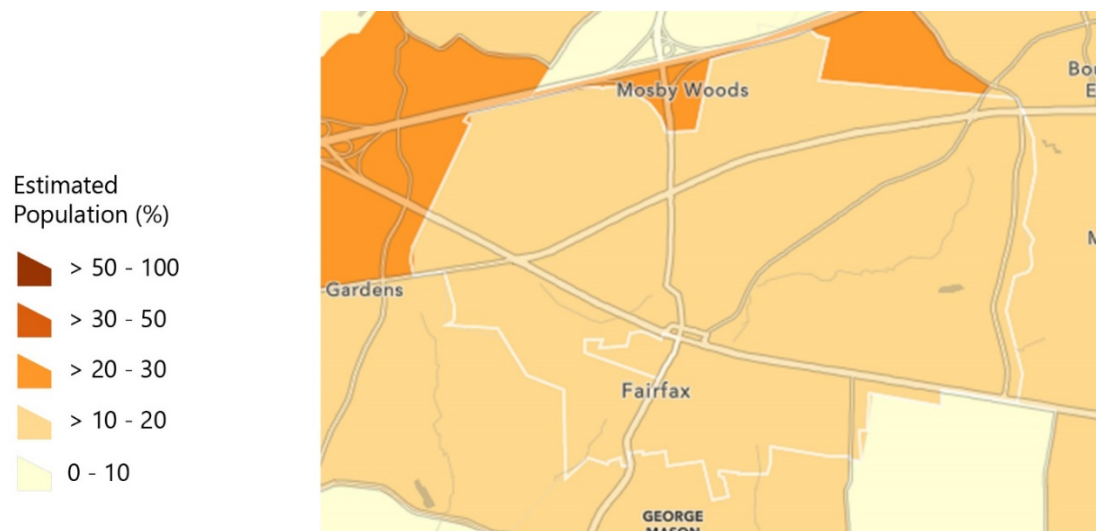


Figure 11: Community Resilience Estimate¹¹

The estimate is categorized into these three groups:

- Zero risks,
- One to two risks, and
- Three or more risks

The combination of data and analysis described in this section provides a comprehensive representation of the City's risk, vulnerability, and resilience to all hazards.

7.3. New Hazard Risk Challenges or Obstacles to be Monitored in the Next Planning Cycle

The City of Fairfax Planning Team identified specific hazard challenges and obstacles to be monitored in the next planning cycle:

- The risk of cyber-related incidents on critical infrastructure and key resource sites
- Impacts of climate change
- Increases in the number of excessive rainfall events that impact new areas with flooding

¹¹ Community Resilience Estimates, U.S. Census. Retrieved at: [2019 Community Resilience Estimates \(arcgis.com\)](https://arcgis.com)

8. Mitigation Actions

8.1. Goals and Objectives

The City of Fairfax Planning Team adopted the regional goal statement presented in [Section 8, Base Plan](#).

8.2. Status of Previous Actions

The comprehensive list of previous mitigation actions, including descriptions of progress made and current status, is presented in [Attachment 3](#) of this annex.

8.3. New Mitigation Actions

In addition to the actions carried forward from previous plans, the City of Fairfax Planning Team identified two new mitigation actions to include in this plan to address the expansion and strengthening of the Office of Emergency Management and Security's continuity program by increasing the resilience of county operations, and to coordinate with FEMA to re-evaluate flood zones and update Flood Insurance Rate Maps (FIRMs) as a basis for future National Flood Insurance Program Activities. [Attachment 3](#) of this annex includes a table that summarizes each new and continued action, describing the proposed activity, priority level, estimated cost, and lead agency.

8.4. Action Plan for Implementation and Integration

The Plan for Implementation and Integration describes how the City's hazard mitigation risk assessment and goals will be incorporated into its existing plans and procedures.

Table 28: Action Plan for Implementation and Integration, City of Fairfax

Existing Plan or Procedure	Description of How Mitigation Will Be Incorporated or Integrated
Integrate goals into a local comprehensive plan.	When the City's comprehensive plan undergoes 5-year update, add mitigation action goals and action items into the plan, as applicable.
Review/update land development regulations for consistency with mitigation goals.	When the City's land development regulations undergo an update, add mitigation actions goals and action items into the plan, as applicable.
Review/update building/zoning codes for consistency with mitigation goals.	Current fire marshal is looking to include mitigation into the building codes.
Maintain regulatory requirements of floodplain management program (NFIP).	Continue to do this using the floodplain manager.
Enhance floodplain management through Community Rating System (CRS).	Become a CRS community
Review/Update economic development plan and policies for consistency with mitigation goals.	Office to ensure that when plan updates occur, they are coordinating with mitigation goals.

Existing Plan or Procedure	Description of How Mitigation Will Be Incorporated or Integrated
Continue public engagement in mitigation planning.	Continue holding events to educate the public about mitigation planning efforts during National Preparedness Month, and other appropriate times, including Flood Safety Awareness Week.
Identify opportunities for mitigation education and outreach.	Look into partnership with local NGOs.
Review/update stormwater plans and procedures for consistency with mitigation goals.	Currently being revised to include mitigation goals and objectives.
Review/update emergency plans to address evacuation and sheltering.	Ensure timely review and update as needed.
Monitor funding opportunities.	Continue to investigate and apply for funding sources to use for mitigation planning and actions.
Incorporate goals and objectives into day-to-day government functions.	Increase frequency of tree-trimming operations to minimize or eliminate the effect of ice weighing down tree limbs and downing power lines, especially along Old Lee Highway.

9. Annex Maintenance Procedures

9.1. Maintenance of the NOVA HMP, Base Plan

The point of contact for the NOVA HMP Planning Team is the facilitator for the process to monitor, evaluate, and update the **NOVA HMP, Base Plan** and is responsible for initiating the annual activities, convening the Planning Team, and providing follow-up reports to designated entities defined in the method and schedule for the plan maintenance process, as outlined in **Section 3, Base Plan**.

Table 29: City of Fairfax Plan Maintenance Responsibilities for the Northern Virginia Hazard Mitigation Plan, Base Plan

Activity	Responsibilities
Monitoring the plan	<ul style="list-style-type: none"> • Represent the jurisdiction during the monitoring process. • Collect, analyze, and report data to the NOVA Planning Team. • Maintain records and documentation of all jurisdictional monitoring activities. • Assist in disseminating reports to stakeholders and the public. • Promote the mitigation planning process with the public and solicit public input.
Evaluating the plan	<ul style="list-style-type: none"> • Represent the jurisdiction during the evaluation process. • Collect and report data to the NOVA Planning Team. • Maintain records and documentation of all jurisdictional evaluation activities. • Assist in disseminating information and reports to stakeholders and the public.
Updating the plan	<ul style="list-style-type: none"> • Represent the jurisdiction during the planning cycle, including plan review, revision, and update process. • Collect and report data to the NOVA Planning Team. • Maintain records and documentation of all jurisdictional plan review and revision activities. • Help disseminate reports to stakeholders and the public.

9.2. Maintenance of the Jurisdiction Annex

In addition to maintenance of the **NOVA HMP, Base Plan**, the City of Fairfax Mitigation Planning Coordinator will facilitate the method and schedule for maintaining the **Jurisdiction Annex**.

9.2.1. Plan Maintenance Schedule

- **Monitor:** Annually and/or following major disaster(s)
- **Evaluate:** Annually and/or following major disaster(s)
- **Update:** Annual tasks over the five-year planning cycle; planning process in the fifth year

Table 30: City of Fairfax Jurisdiction Annex Maintenance Procedure

Activity	Procedure and Schedule	Outcome
Monitoring the annex	<ol style="list-style-type: none"> 1. Schedule the annual plan review with the jurisdiction planning team. 2. Review the status of all mitigation actions, using the Mitigation Action Implementation Worksheet (NOVA HMP Base Plan, Section 3, Attachment A). 	<p>Produce an annual report that includes the following:</p> <ul style="list-style-type: none"> • Status update of all mitigation actions • Summary of any changes in hazard risk or vulnerabilities and capabilities • Summary of activities conducted for the Action Plan for Implementation and Integration
Evaluating the annex	<ol style="list-style-type: none"> 1. Schedule the annual plan evaluation with the jurisdiction planning team. 2. Evaluate the current hazard risks and vulnerabilities, and hazard mitigation capabilities using the Planning Considerations Worksheet (NOVA HMP Base Plan, Section 3, Attachment C). 	Submit the annual report to the NOVA HMP Project Team Point of Contact
Updating the annex	<ol style="list-style-type: none"> 1. Coordinate with Northern Virginia jurisdictions to identify the method and schedule for the five-year update of the NOVA HMP. 2. Participate in the planning process. 3. Provide input related to the plan components. 4. Adopt the updated plan while following the FEMA Approvable Pending Adoption (APA) designation, adopt the updated plan. 	Adoption of the FEMA-approved plan every five years will maintain the jurisdiction's eligibility for federal post-disaster funding.

The City of Fairfax will continue to be a planning partner with multiple jurisdictions and regional entities to identify hazard mitigation opportunities that reduce risk to the hazards identified in this plan.

10. Annex Adoption

The City of Fairfax Jurisdiction Annex will be adopted simultaneously with the adoption of the *Northern Virginia Hazard Mitigation Plan*.

11. City of Fairfax Attachments

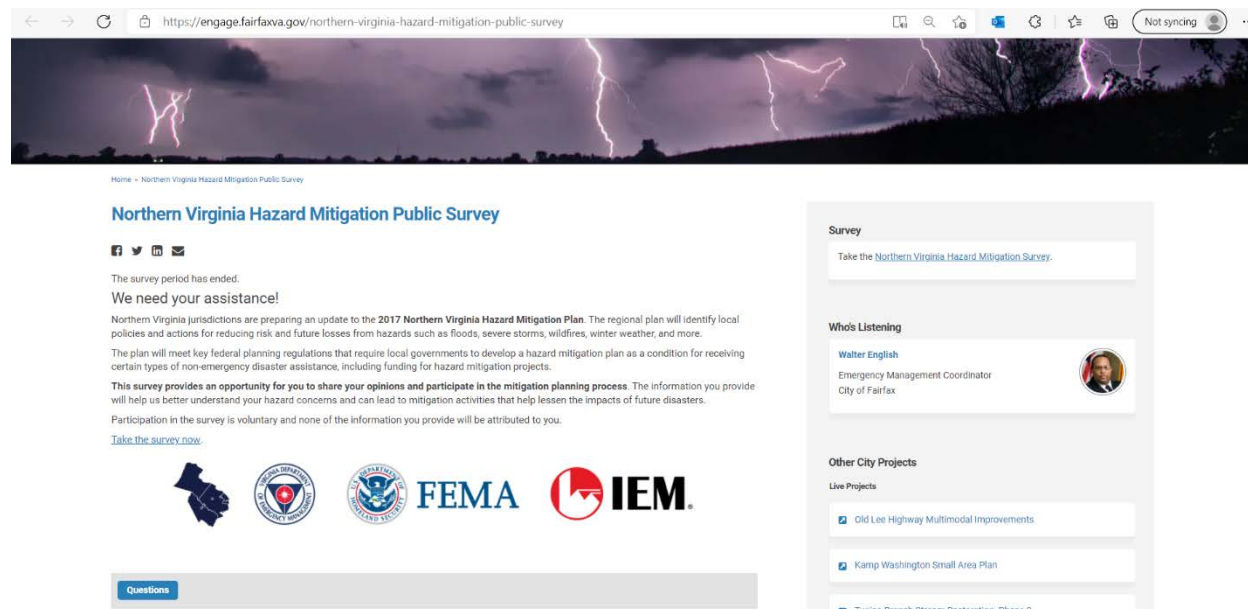
- Attachment 1: Adoption Resolution
- Attachment 2: Documentation of Public Participation
- Attachment 3: Mitigation Actions

11.1. Attachment 1: Adoption Resolution

[This page is a placeholder for the Adoption Resolution for this jurisdiction.]

11.2. Attachment 2: Documentation of Public Participation

The following social media post reflects the advertisement of the public hazard mitigation survey. The survey and results are captured in [Appendix A](#) of the [Base Plan](#).



11.3. Attachment 3: Mitigation Actions

Table 31: Previous Mitigation Actions

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
2006-7	Consider becoming members of the Community Rating System.	Public Works	<ul style="list-style-type: none"> Flood High wind/ severe storm 	FEMA Unified Hazard Mitigation Assistance Grants	2019	Secure funding by January 2018	High	Action carried over from previous plan; still relevant and necessary
2010-1	Secure funding and conduct a safety analysis of the gas tank farm within the City. Consider hardening the facility.	Fire Department	<ul style="list-style-type: none"> All hazards 	UASI funding, FEMA Unified Hazard Mitigation Assistance Grants, Hazard Mitigation Grant Program	Target completion date 2025	Secure funding by 2023	High	Action carried over from previous plan; still relevant and necessary
2010-5	Identify and secure funding to conduct a generator cost estimate for city shelters.	Office of Emergency Management	<ul style="list-style-type: none"> All hazards 	FEMA Unified Hazard Mitigation Assistance Grants	December 2018	Secure funding as available by HMPG	Medium	Action carried over from previous plan; still relevant and necessary; some progress has been accomplished since previous, but work remains to be done
2010-6	Consider posting permanent evacuation signs on City-operated evacuation routes.	Office of Emergency Management	<ul style="list-style-type: none"> Dam failure Earthquake Flood 	FEMA Unified Hazard Mitigation	2023	Have identified where and how many signs will be needed. Create and put	Medium	Action carried over from previous plan;

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
			<ul style="list-style-type: none"> High wind/ severe storm Landslides Tornado Wildfire Winter storm 	Assistance Grants		up signs once funding secured		still relevant and necessary
2010-10	Conduct annual outreach to each FEMA-listed repetitive loss and severe repetitive loss property owner providing information on mitigation programs (grant assistance, mitigation measures, flood insurance information) that can assist them in reducing their flood risks.	Public Works	<ul style="list-style-type: none"> Flood High wind/ severe storm 	FEMA Unified Hazard Mitigation Assistance Funding	Ongoing	Develop outreach materials, or identify appropriate outreach materials for dissemination by 2023	Medium	Action carried over from previous plan; still relevant and necessary
2010-11	Support mitigation of priority flood-prone structures through the promotion of acquisition and demolition, elevation, flood-proofing, minor localized flood control projects, mitigation reconstruction, and where appropriate and feasible, using FEMA HMA programs.	Public Works	<ul style="list-style-type: none"> Flood High wind/ severe storm 	FEMA Unified Hazard Mitigation Assistance Funding	2025	Identify all priority flood-prone structures by 2023	Medium	Action carried over from previous plan; still relevant and necessary
2010-12	Promote structural mitigation to assure redundancy of critical	Office of Emergency Management	<ul style="list-style-type: none"> Flood 	FEMA Unified Hazard Mitigation	Ongoing	Query local government building	Medium	Action carried over from previous plan;

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
	facilities, to include but not limited to roof structure improvement, to meet or exceed building code standards, upgrade of electrical panels to accept generators, and more.		<ul style="list-style-type: none"> High wind/ severe storm 	Assistance Funding		services staffs as to the effectiveness of provided information regarding the structural review		still relevant and necessary
2010-13	Review locality's compliance with the National Flood Insurance Program with an annual review of the Floodplain Ordinances and any newly permitted activities in the 100-year floodplain. Additionally, conduct an annual review of repetitive loss and severe repetitive loss property list requested by VDEM to ensure accuracy. Review will include verification of the geographic location of each repetitive loss property and a determination whether that property has been mitigated and by what means. Provide corrections if needed by filing form FEMA AW-501.	Public Works	<ul style="list-style-type: none"> Flood High wind/ severe storm 	City funding	Ongoing	Establish a schedule of review and review committee, if necessary, by 2022. Review and update yearly, as needed	Medium	Action carried over from previous plan; still relevant and necessary

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
2017-1	Increase departmental awareness regarding funding opportunities for mitigation.	Office of Emergency Management	All hazards	City funding	Ongoing	Conduct yearly outreach to interested parties related to FEMA hazard mitigation grant programs	Low	
2017-2	Conduct a building assessment and analysis to identify vulnerability to extreme heat.	Public Works	Flood	City funding	September 2019	Prioritize City building for assessment, completing one every 3 months	Low	
2017-3	Develop repository for storage and access of hazard, risk, and vulnerability data for all city assets.	Office of Emergency Management/ Information Technology	All hazards	City funding	2023	Implement a repository for needed access by city employees	Low	
2017-4	Prioritize critical facilities and complete site surveys to identify vulnerabilities.	Office of Emergency Management/ Public Works	All hazards	City funding	Ongoing	Implement a strategy to help identify critical facilities	Medium	
2017-5	Provide grants information, planning tools, training, and technical assistance to increase the number of hazard mitigation projects.	Office of Emergency Management	All hazards	City funding	Ongoing	Continue support of hazard mitigation planning, project identification, and implementation	Medium	

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
2017-6	Offer user-friendly hazard-data accessibility for mitigation and other planning efforts and for private citizens.	Information Technology	All hazards	City funding	Complete by 2025	Update and maintain GIS information and maps of critical facilities inventories and information about hazards	Low	
2017-7	Implement mitigation projects and programs intended to reduce risk to critical facilities and critical infrastructure.	Public Works	All hazards	Hazard Mitigation Grants	Ongoing	Monitor the need for mitigation projects	High	
2017-8	Integrate hazard mitigation and notification system training into existing employed training.	Information Technology	All hazards	City funding	Ongoing	Add program to new employee orientation	Medium	
2017-9	Prioritize servers to ensure that critical data remains available during and after hazard events.	Information Technology	All hazards	City funding	October 2017	Identify all City-owned servers by 2017	Medium	
2017-10	Determine necessary equipment/ hardening to maintain administrative services during and after a hazard event.	Information Technology	All hazards	City funding/HMGP	January 2018	Develop a list of services needed to be maintained	Medium	
2017-11	Ensure all critical facilities have a storage location for generators or fuel or quick connects for temporary generator use.	Public Works	All hazards	City funding/HMGP	2023	Identify all City-owned facilities with and without generators	High	

Table 32: New Mitigation Actions

Project No.	Agency/Department Mitigation Action	Lead Agency/ Department/ Organization	Hazard Type	Funding Source	Target Completion Date	Interim Measure of Success	Priority
2022-1	Increase public awareness of all hazards, specifically by providing outreach in multiple languages, including to the deaf and hard-of-hearing community.	Emergency Management	<ul style="list-style-type: none"> All hazards 	State Homeland Security Grant Program	2025	Continue or implement public awareness opportunities, including presentations	Low
2022-2	Identify vulnerable populations within the city.	Human Services	<ul style="list-style-type: none"> All hazards 	City budget	2023	Survey residents to identify those who are vulnerable	Medium
2022-3	Reduce public infrastructure in high hazard areas.	Zoning	<ul style="list-style-type: none"> All hazards 	City budget	2025	Ensure zoning and building plans include high-risk areas, especially areas that flood	Medium
2022-4	Ensure building code enforcement, which a specific focus on tall wooden buildings.	Fire Marshal, Code Enforcement	<ul style="list-style-type: none"> High wind/severe storm Tornado Winter weather 	City budget	2025	Establish a review schedule to ensure building codes are being enforced	Low