Volume II: Non-Natural Hazards Supplement

Table of Contents

List of Tables

List of Figures

Overview

The Northern Virginia Planning Group has chosen to include non-natural hazards in the *2022 Northern Virginia Hazard Mitigation Plan* (NOVA HMP) update to fulfill Emergency Management Accreditation Program (EMAP) standards. Due to the sensitive nature of non-natural hazard information, these hazard profiles and mitigation action items have been placed in Volume II of the NOVA HMP. A separate volume allows the material to be shared with a limited audience on a need-to-know basis at the discretion of planning participants.

The Federal Emergency Management Agency (FEMA) does not require the inclusion of non-natural hazards in hazard mitigation plans. Therefore, this volume will not be reviewed or approved by FEMA and does not have the same public participation or review requirements.

Short profiles of each non-natural hazard are provided in this volume. No formal risk assessment of these hazards was performed.

Only action items from jurisdictions that chose to profile non-natural hazards are included in this volume. Additionally, some jurisdictions chose to include action items for select non-natural hazards that impact their jurisdiction instead of all non-natural hazards. Although not all HMP planning participants have chosen to profile non-natural hazards, all participants should be aware of these hazards and should take steps to reduce the risks they present whenever it is practical to do so.

1. Hazard Profiles

The Emergency Managers Group and Planning Group have opted to include the following non-natural hazards in Volume II of the HMP:

- Active violence
- Civil unrest
- Communication disruption
- Cyberattack
- Hazardous materials
- Emerging Infectious Diseases
- Terrorism

These hazards were chosen after reviewing the event history and the potential impacts and consequences in the NOVA region.

After completing an internal risk assessment analyzing population vulnerability, geographic extent, probability of future occurrence, impacts, and consequences, it was determined that the non-natural hazards are likely to impact the planning area.

1.1. Active Violence

An active violence incident involves an individual actively engaged in killing or attempting to kill people in a confined and populated area. The individual may be armed with a firearm or bladed weapon or might

engage in other violent acts such as driving a vehicle into a crowd. A pattern or method to their selection of victims might not be revealed.

An active violence situation can involve a variety of weapons and tactics and can occur anywhere. Most incidents occur in public places where people congregate, such as schools, workplaces, places of worship, and dining and shopping areas.

1.2. Civil Unrest

Mass demonstrations, or direct conflict by large groups of people, as in riots, civil disorder, mass civil disobedience, and non-peaceful strikes are examples of civil unrest. These activities involve the assembling of people together in a manner to substantially interfere with public peace and/or constitute a threat. People may use unlawful force or violence against another person, cause property damage, or attempt to interfere with, disrupt, or destroy the government, political subdivision, or group of people.

Most events are within the capacity of local law enforcement to control. Large-scale civil disturbances rarely occur, but when they occur they are usually an offshoot or result of one or more of the following events: high profile/controversial laws or other governmental actions; resource shortages caused by a catastrophic event; disagreements between special-interest groups over a particular issue or cause; or a perceived unjust death or injury to a person held in high esteem or regard by a particular segment of society.

Proximity to high-profile government buildings, including the Pentagon in Arlington County and a large concentration of government buildings in nearby Washington, DC, make civil unrest more likely to occur in the NOVA region than in other regions of the Commonwealth or the United States.

1.3. Communication Disruption

A communication disruption can occur at any time but is more likely to occur at a larger scale during extreme conditions or catastrophic disasters. Disruptions can range from localized and temporary to widespread and long-term. Localized disruptions can occur due to mechanical failure, traffic accidents, power failure, line severance, and weather; however, these disruptions can typically be resolved promptly.

Widespread disruptions due to extreme events can result in major telephone outages, loss of local government radio facilities, long-term interruption of electronic broadcast services or emergency 911. Law enforcement, fire, emergency medical services, public works, and emergency warning systems are just a few of the vital services which rely on communication systems to effectively protect citizens.

The disruption of communications, whether complete or partial, causes inefficiency and delays in emergency relief efforts and response, which can lead to loss of life and preventable injuries. Due to increasing dependence upon communication systems during extreme events, the risk of communication failure is high. An extreme event situation with a severely disrupted telecommunications infrastructure amplifies chaos and uncertainty.

1.4. Cyberattack

A cyberattack is an attack, via cyberspace, targeting an enterprise's use of cyberspace to disrupt, disable, destroy, or maliciously control a computing environment or infrastructure. Cyberattacks can also destroy the integrity of data or steal controlled information. Widespread, prolonged outages can disable critical public safety, utility, and transportation systems, leading to severe disruptions of everyday life and endangering public safety. Moreover, cyberattacks can lead to loss of money or the theft of personal, financial, and medical information that can damage personal reputations and safety.

Cybersecurity and critical infrastructure protection are among the most crucial national security issues facing the United States today, and these sectors will only become more challenging in the years to come.

According to the *National Strategy for Homeland Security*, terrorists may seek to cause widespread disruption and damage, including casualties, by attacking electronic and computer networks linked to critical infrastructure such as energy, financial, and securities networks. In addition, terrorist groups are known to exploit information technology and the internet to plan attacks, raise funds, circulate propaganda, gather information, and communicate. Regarding hazard mitigation, cyberterrorism is often explored as a component in business continuity planning.

A high-profile cyberattack occurred in the planning region in 2021 when the Colonial Pipeline Company was hacked. This attack consisted of a hack, the result of a compromised password, which caused the pipeline to shut down for five days. The shutdown caused fuel shortages and higher fuel prices in the Eastern Seaboard of the United States.

1.5. Hazardous Materials

Hazardous materials (HazMat) incidents can apply to fixed facilities as well as mobile, transportation-related accidents in the air, rail, roads, and highways, or on the water. HazMat incidents consist of solid, liquid, and/or gaseous contaminants released from fixed or mobile containers, whether by accident or design, as with an intentional terrorist attack.

A HazMat incident can last hours to days, while some chemicals can be corrosive or otherwise damaging over longer periods. In addition to the primary release, explosions or fires can result from a HazMat release, and contaminants can be extended beyond the initial area by persons, vehicles, water, wind, and wildlife. HazMat incidents can also occur as a result of or in tandem with natural hazard events such as floods, high winds, severe storms, and tornadoes, which, in addition to causing incidents, can also hinder response efforts and result in major environmental impacts.

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 requires certain facilities, known as Tier II facilities, to submit reports detailing the type and amount of certain chemicals to the State Emergency Response Commission, the Local Emergency Planning Committee (LEPC), and the local fire department.

As of 1999, companies of all sizes that use certain flammable and toxic substances are required to submit a Risk Management Plan (RMP) to the EPA. Each RMP must include a description of the "worst-case" scenario for the facility. Due to security concerns following September 11, 2001, these reports are not readily available. However, the extent of the damage from a chemical accident will be determined by factors that cannot be predicted: the specific chemical involved in the accident, the amount of chemicals involved, and the meteorological conditions at the time of the accident. Furthermore, the effects of a chemical spill will vary depending on which chemical is involved and which environmental medium the chemical is emitted into (i.e., land, air, water, or underground injection).

Since 2017, two HazMat events in the planning region were deemed significant by the United States Transportation Research and Special Programs Administration.[1]

- On **October 11, 2017**, in the Town of Hamilton in Loudoun County, 901 gallons of gasoline were released from a tractor-trailer due to a vehicular crash. Five major transportation arteries or facilities were closed due to the accident.

- On **March 28, 2019**, in Fairfax County, 650 gallons of gasoline were released from a tractor-trailer due to a vehicular crash. The trailer jack-knifed and came to rest across the I-495

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[1] United States Transportation Research and Special Programs Administration. (2021, September 23). Hazmat Incident Database. https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-statistics

highway. No fuel entered the nearby water. Highway I-495 was closed for 12 hours during cleanup and remediation.

1.6. Emerging Infectious Diseases

1.6.1. Emerging Infectious Diseases

Infectious disease outbreaks occur worldwide and are one of the leading global causes of death. The cause, nature, and treatment of each disease differ. Still, all create increased demand for health and medical resources and other government services that could potentially impact citizens' safety and security in every community in the region, Commonwealth, and nation.

Transmission of an infectious disease may occur through one or more means including physical contact with infected individuals. These infecting agents may also be transmitted through liquids, food, bodily fluids, contaminated objects, airborne inhalation, or vector-borne dissemination.

Three terms are commonly used to classify disease impacts[2]:

- **Endemic:** the amount of a particular disease that is usually present in a community. The baseline or expected level of the disease.

- **Epidemic:** an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area.

- **Pandemic:** an epidemic that has spread over several countries or continents, usually affecting a large number of people.

The Virginia Department of Health maintains a list of diseases that must be reported immediately and diseases that must be reported within three days of detection. Diseases on this list span include diseases from the following categories:

- **Zoonotic:** illnesses that spread from animals to humans and can be passed through direct contact with an infected animal or contact with areas where animals live.

- **Vector-borne:** diseases that spread to people and animals primarily through the bite of an infected mosquito, tick, or flea.

- **Viral:** a tiny organism that multiplies within cells and causes disease. Viruses are not affected by antibiotics, the drugs used to kill bacteria.

- **Foodborne and waterborne:** diseases that may be caused by food or water or other consumable liquids that contain harmful bacteria, parasites, viruses, or chemicals.

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[2] Centers for Disease Control and Prevention. (n.d.). *Section 11: Epidemic Disease Occurrence.* https://www.cdc.gov/csels/dsepd/ss1978/lesson1/section11.html

REPORT IMMEDIATELY	REPORT WITHIN 3 DAYS
Anthrax (Bacillus anthracis) [a]	Amebiasis (*Entamoeba histolytica*) [a]
Botulism (Clostridium botulinum) [a]	Arboviral infections (e.g., CHIK, dengue, EEE, LAC, SLE, WNV, Zika) [a]
Brucellosis (Brucella spp.) [a]	Babesiosis (*Babesia* spp.) [a]
Cholera (Vibrio cholerae O1/O139) [a]	Campylobacteriosis (*Campylobacter* spp.) [a]
Coronavirus infection, severe (e.g., SARS-CoV, MERS-CoV) [a]	***Candida auris*, infection or colonization** [a,c]
Diphtheria (Corynebacterium diphtheriae) [a]	**Carbapenemase-producing organism, infection or colonization** [a]
Disease caused by an agent that may have been used as a weapon	Chancroid (*Haemophilus ducreyi*) [a]
***Haemophilus influenzae* infection, invasive** [a]	Chickenpox (Varicella virus) [a]
Hepatitis A [a]	*Chlamydia trachomatis* infection [a]
Influenza-associated deaths if younger than 18 years of age	Cryptosporidiosis (*Cryptosporidium* spp.) [a]
Influenza A, novel virus [a]	Cyclosporiasis (*Cyclospora* spp.) [a]
Measles (Rubeola) [a]	Ehrlichiosis/Anaplasmosis (*Ehrlichia* spp., *Anaplasma phagocytophilum*) [a]
Meningococcal disease (*Neisseria meningitidis*) [a]	Giardiasis (*Giardia* spp.) [a]
Outbreaks, all (including but not limited to foodborne, healthcare-associated, occupational, toxic substance-related, waterborne, and any other outbreak)	Gonorrhea (*Neisseria gonorrhoeae*) [a]
Pertussis (*Bordetella pertussis*) [a]	Granuloma inguinale (*Calymmatobacterium granulomatis*)
Plague (*Yersinia pestis*) [a]	Hantavirus pulmonary syndrome [a]
Poliovirus infection, including poliomyelitis [a]	Hemolytic uremic syndrome (HUS)
Psittacosis (*Chlamydophila psittaci*) [a]	Hepatitis B (acute and chronic) [a]
Q fever (*Coxiella burnetti*) [a]	Hepatitis C (acute and chronic) [a]
Rabies, human and animal [a]	Hepatitis, other acute viral [a]
Rubella [a], including congenital rubella syndrome [a]	Human immunodeficiency virus (HIV) infection [a]
Smallpox (Variola virus) [a]	Influenza, confirmed seasonal strain [a]
Syphilis (*Treponema pallidum*), congenital, primary, and secondary [a]	Lead, blood levels [a]
Tuberculosis, active disease (*Mycobacterium tuberculosis* complex) [a,b]	Legionellosis (*Legionella* spp.) [a]
Tularemia (*Francisella tularensis*) [a]	Leprosy/Hansen's disease (*Mycobacterium leprae*)
Typhoid/Paratyphoid infection (*Salmonella* Typhi, *Salmonella* Paratyphi) [a]	Leptospirosis (*Leptospira interrogans*) [a]
Unusual occurrence of disease of public health concern	**Listeriosis (*Listeria monocytogenes*)** [a]
Vaccinia, disease or adverse event [a]	Lyme disease (*Borrelia* spp.) [a]
Vibriosis (*Vibrio* spp.) [a,e]	Lymphogranuloma venereum (*Chlamydia trachomatis*)
Viral hemorrhagic fever [a]	Malaria (*Plasmodium* spp.) [a]
Yellow fever [a]	Mumps [a]
	Neonatal abstinence syndrome (NAS)
	Ophthalmia neonatorum
	Rabies treatment, post-exposure
	Salmonellosis (*Salmonella* spp.) [a]
	Shiga toxin-producing *Escherichia coli* infection [a,d]
	Shigellosis (Shigella spp.) [a]
	Spotted fever rickettsiosis (*Rickettsia* spp.) [a]
	Streptococcal disease, Group A, invasive or toxic shock [a]
	Streptococcus pneumoniae infection, invasive and <5 years of age [a]
	Syphilis (*Treponema pallidum*), if not primary, secondary, or congenital
	Tetanus (*Clostridium tetani*)
	Toxic substance-related illness [a]
	Trichinosis/Trichinellosis (*Trichinella spiralis*) [a]
	Tuberculosis infection [a]
	Vancomycin-intermediate or vancomycin-resistant *Staphylococcus* aureus infection [a]
	Yersiniosis (*Yersinia* spp.) [a]

LEGEND

[a] Reportable by directors of laboratories. These and all other conditions listed must be reported by physicians and directors of medical care facilities.

[b] Laboratories report AFB, *M. tuberculosis* complex or any other mycobacteria, and antimicrobial susceptibility for *M. tuberculosis* complex.

[c] Includes submission of *Candida haemulonii* specimens to DCLS.

[d] Laboratories that use EIA without a positive culture should forward positive stool specimens or enrichment broth to DCLS.

[e] Includes reporting of *Photobacterium* damselae and *Grimontia hollisae*.

BOLD = Laboratories must submit initial isolate or other initial specimen to the Division of Consolidated Laboratory Services (DCLS) within 7 days of identification. All specimens must be identified with patient and physician information, and the LHD must be notified within the timeframe specified below.

Figure 1: Virginia Reportable Disease List[3]

The spread of infectious disease is affected by changes in human behavior, including land-use patterns, increased trade and travel, and inappropriate use of antibiotics. Certain infectious diseases, such as airborne pathogens, have the potential to spread rapidly. A globalized economy and growing population foster large-scale international travel and trade. Growing populations increase the vulnerability of all areas to diseases as people can rapidly travel, creating difficulties in preventing the spread of infection.

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[3] Virginia Department of Health. (2018 November). *Virginia Reportable Disease List*. https://www.vdh.virginia.gov/content/uploads/sites/13/2018/11/Reportable_Disease_List.pdf

Coronavirus Disease (COVID-19)

Coronaviruses are a type of virus. There are many kinds of coronaviruses, and some cause disease. A coronavirus identified in 2019, SARS-CoV-2, has caused the pandemic respiratory illness COVID-19, which has been of particular concern during the development of this plan. The disease can be severe and has caused millions of deaths globally as well as lasting health problems in some who have survived the illness. The coronavirus can be spread from person to person. It is diagnosed by a laboratory test. COVID-19 vaccines have been authorized for emergency use by the United States Food and Drug Administration, and vaccination programs are in progress across the United States and in many parts of the world. Prevention involves physical distancing, mask-wearing, hand hygiene, and staying away from others if you feel sick. Further information about symptoms, prevention, and steps to take when sick are available from the Centers for Disease Control and Prevention. [4]

Some people infected with the coronavirus have mild COVID-19 illness, and others have no symptoms at all. In some cases, however, COVID-19 can lead to respiratory failure, lasting lung and heart-muscle damage, nervous system problems, kidney failure, or death.

As of January 2022, there have been multiple variants of the virus that spread worldwide. The Virginia Department of Health provides details of past and current conditions regarding the number of cases of Covid-19. As of January 25, 2022, the Commonwealth has recorded 1,491,993 total cases, 47,267 total hospitalizations, and 16,002 total deaths.[5] The current seven-day positivity rate polymerase chain reaction (PCR) laboratory testing in Virginia is 29.5%[6].

1.6.2. Additional Public Health Concerns

Planning participants opted to include public health concerns beyond infectious diseases because of the broad impacts these hazards can have that are distinct from disease impacts. Participants were particularly concerned with the adverse impacts environmental conditions can have on the public. Environmental pollutants can cause health problems such as respiratory diseases, heart disease, and some types of cancer. People with low incomes are more likely to live in polluted areas and have unsafe drinking water. In addition, children and pregnant women are at a higher risk of pollution-related health problems.[7]

Clean air, a stable climate, adequate water, sanitation and hygiene, safe use of chemicals, protection from radiation, healthy and safe workplaces, sound agricultural practices, health-supportive cities and built environments, and a preserved nature are all prerequisites for good health.[8]

The United States Department of Health and Human Services Healthy People 2030 goals include promoting healthier environments and includes the following objectives.[9]

- Reducing exposure to arsenic, lead, and mercury.

- Reduce disease and deaths related to heat.

- Increase the proportion of people whose water supply meets Safe Drinking Water Act regulations.

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[4] Centers for Disease Control and Prevention. About Covid-19 https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19.html
[5] Virginia Department of Health. (2022, January 25). *COVID-19 Data in Virginia*. https://www.vdh.virginia.gov/coronavirus/see-the-numbers/covid-19-in-virginia/
[6] Ibid.
[7] United States Department of Health and Human Services. (n.d.). Healthy People 2030 Environmental Health. https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health
[8] World Health Organization. (n.d.). *Environmental Health.* https://www.who.int/health-topics/environmental-health#tab=tab_1
[9] United States Department of Health and Human Services. (n.d.). Healthy People 2030 Environmental Health. https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health

- Reduce the amount of toxic pollutants released into the environment.

- Reduce health and environmental risks for hazardous sites.

- Reduce the number of days people are exposed to unhealthy air.

1.7. Terrorism

Terrorism is the use of force or violence against persons or property in violation of criminal laws for purposes of intimidation, coercion, or ransom. Terrorists often use threats to accomplish the following:

- Create fear among the public.

- Try to convince community members that their government is powerless to prevent terrorism.

- Gain immediate publicity for their causes.

- Destabilize Governments

Acts of terrorism include threats of terrorism; assassinations; kidnappings; hijackings; bomb scares and bombings; cyberattacks (computer-based); and the use of chemical, biological, nuclear, and radiological weapons. High-risk targets for acts of terrorism include military and civilian government facilities, international airports, large cities, and high-profile landmarks. Terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers.

The presence of high-profile government buildings and military installations in the planning area, including the Pentagon, Quantico Station Marine Corps Base, and Joint Base Myer-Henderson Hall Army Base, increases the probability of a terrorism event occurring. Additionally, there are many potential high-value targets such as pieces of infrastructure and government and business facilities located in and near the planning area including Ronald Reagan National Airport, Dulles International Airport, gas pipelines, and federal offices and buildings in the Washington, DC, area.

The Northern Virginia Emergency Response System (NVERS) is a collaborative partnership between local governments, the Commonwealth of Virginia, and the private sector. NVERS enhances the ability of public safety agencies and partner organizations to effectively prepare for, respond to, and recover from acts of terrorism and other major emergencies. Moreover, NVERS helps build emergency management and homeland security capacity to respond to these emergencies through pre-incident knowledge sharing, training and exercises, operational coordination, priority-setting, and resource acquisition. The organization is an invaluable resource to the NOVA region and acts as an external stakeholder during the HMP planning process. NVERS offers data sources on hazards and input on mitigation action-items during the planning and reviewing of drafts.

Table 1: Non-Natural Hazards Profiled by Planning Participants

Jurisdiction	Hazard						
	Active Violence	Civil Unrest	Communication Disruption	Cyberattack	Hazardous Materials	Emerging Infectious Diseases	Terrorism
Arlington County	X	X	X	X	X	X	X
City of Alexandria	X	X	X	X	X	X	X
City of Fairfax							
City of Falls Church	N/A	N/A	N/A	X	N/A	X	N/A
City of Manassas	N/A	N/A	X	X	N/A	N/A	X
City of Manassas Park	X	X	X	X	X	X	X
Fairfax County	X	X	X	X	X	X	X
Town of Clifton	X	X	X	X	X	X	X
Town of Herndon	X	X	X	X	X	X	X
Town of Vienna	X	X	X	X	X	X	X
Loudoun County	X	X	X	X	X	X	X
Town of Leesburg	X	X	X	X	X	X	X
Town of Lovettsville	X	X	X	X	X	X	X
Town of Middleburg*	X	X	X	X	X	X	X
Town of Purcellville*	X	X	X	X	X	X	X
Town of Round Hill	X	X	X	X	X	X	X
Prince William County	X	X	X	X	X	X	X
Town of Dumfries	X	X	X	X	X	X	X
Town of Haymarket							
Town of Occoquan							
Town of Quantico							

*Covered by Loudoun County action items.

2. Mitigation Strategy

2.1. Mitigation Goals and Objectives

The Planning Group identified the following items as hazard mitigation goals for the 2022 NOVA HMP:

"Our goals are to protect life and reduce bodily harm from the natural and non-natural hazards identified in this Plan, and to lessen the impacts of these hazards on property, the environment, and the community."

These goals provide a long-term policy statement and vision that support the non-natural hazard mitigation strategies and will be achieved through the completion of the hazard mitigation actions identified in this volume.

2.2. Mitigation Actions

Detailed new action-items for hazard mitigation implementation and integration are in the jurisdiction annexes, including how a participant's risk assessment and goals will be incorporated into existing plans and procedures.

Mitigation action items for non-natural hazards are included below by jurisdictions that chose to profile non-natural hazards. Including action items for these hazards was not a requirement and not all planning participants have action items.

Table 2: Arlington County Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Select a third-party/ external Incident Response vendor.	Department of Technology Services (DTS)	Communication disruption, cyberattack	Future county general fund	2022	Additional tabletop exercises to test our internal Incident Response Plan	High	
2022-2	Work with regional partners to establish mutual aid prioritization plans for response to incidents.	Arlington County Police Department (ACPD)	Civil unrest	Future county general fund	2022	Mutual aid agreements codified in memorandums of understanding	High	
2022-3	Train additional officers for the Civil Disturbance Unit due to attrition.	ACPD	Civil unrest	Future county general fund	2022	Secure funding for training	Medium	
2022-4	Add additional analyst and detective to Homeland Security Section.	ACPD	Terrorism	Future county general fund	2022	Allocation of staff	Low	Contingent on overall department staffing needs
2022-5	Plan and conduct a functional or full-scale exercise to test Command and Coordination, Communications, and Reunification during and after an	Department of Public Safety Communication and Emergency Management (DPSCEM)	Active violence, terrorism	FEMA Urban Areas Security Initiative (UASI) Regional Preparedness System (RPS) Grant	December 2022	Identify a location to hold the exercise	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
	active shooter event in an Arlington County Public Schools building.							
2022-6	Develop a cyber incident response plan that details county roles and responsibilities in responding to cyberattacks of all types and sizes.	DTS; DPSCEM	Cyberattack	FEMA UASI RPS Grant	December 2022	Form a planning team; determine roles and responsibilities	High	
2022-7	Add cameras to the interior and exterior of Community Centers to aid in deterring crime and acts of opportunity.	Department of Parks and Recreation (DPR) (lead) working with Department of Environmental Services and possibly DPSCEM (Watch Desk)	Active violence, civil unrest, terrorism	Future county general fund, FEMA UASI RPS Grant, FEMA Homeland Security Grant Program (HSGP)	December 2023	Create list of needed cameras, begin to implement acquisitions and service over several years.	Medium	
2022-8	Enhance the current inventory of Emergency shelter-in-place kits located at Community Centers and create additional kits for programming teams (to include summer camps).	DPR- ASDT (Safety Pr.) and CRD	Active violence, civil unrest, hazardous materials	Future county general fund, FEMA UASI RPS Grant	December 2022	Review/update the list of contents in the current kits and acquire the needed supplies to update kits and make new ones; create a maintenance plan for reviewing and	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
						replenishing supplies.		
2022-9	Acquire shelf-stable meals that could be deployed during pandemics, weather emergencies, or long-term shelter-in-place events (put on by ESF-6).	DPR (lead) working with Department of Human Services (DHS) (ESF-6)	Emerging Infectious Diseases	Future county general fund, FEMA UASI RPS Grant	December 2022	Work with inter-departmental team to decide what should be acquired, make space in an existing location for the maintenance and purchase of supplies.	Medium	
2022-10	Conduct a comprehensive update of the Public Health Emergency Response Plan and accompanying annexes to reflect current capabilities and integration with other county response plans.	DHS Public Health Division	Emerging Infectious Diseases	Future county general fund, National Association of County and City Health Officials (NACCHO), Office of the Assistant Secretary for Preparedness and Response (ASPR), Centers for Disease Control and Prevention (CDC)	December 2025	Secure funding and staffing to support Plan updates	Low	

Table 3: City of Alexandria Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Ensure Alexandria Radio Club (Amateur Radio Emergency Service-ARES) continues to function as backup communication option in case of disruption of main communication channels. This includes collaboration, training, and equipment.	Fire Department-Office of Emergency Management (OEM)	All hazards	Urban Areas Security Initiative (UASI), city funds	Ongoing	Continued utilization and communication with ARES	High	
2022-2	Ensure Dept. of Information Technology Services continues work to combat cyberattack risk. This includes hiring and training staff, planning, and purchasing equipment and software as needed.	Department of Information Technology Services	Cyberattack	City funds	Ongoing	Continued decrease of cyberattack risk	High	
2022-3	Maintain hazardous material response capabilities of fire department through continued training and updated equipment, as needed.	Fire Department	Hazardous materials	UASI, city funds	Ongoing	Appropriate and effective response to HazMat incidents	High	Hazardous materials train line goes through the city.
2022-4	Identify potential terrorism targets within the city and potential targets outside the city that, if attacked, would impact the city. Ensure public safety has	Fire Department and Police Department	Terrorism	UASI, city funds	Ongoing	Increased awareness of potential targets and response capabilities	High	Metro lines, federal courthouse, and historic buildings could be targets. DC infrastructure and buildings could be targeted.

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
	awareness and training to respond if needed.							
2022-5	Train city staff on non-natural hazards to increase awareness and personal preparedness.	Fire Department-OEM	All hazards	UASI, city funds	Ongoing	Increased awareness of non-natural hazards for city staff	High	

Table 4: City of Falls Church Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Create the position of Information Security Officer	IT Department	Cyberattack	TBD	TBD			
2022-2	Project/Study with lessons learned from COVID-19 Pandemic	Office of Emergency Management	Emerging Infectious Diseases	American Rescue Plan Act (ARPA) funds	2026			

Table 5: City of Manassas Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Identify gaps in the current Incident Response Plan to address how to reduce recovery time from a ransomware attack.	Information Technology	Communication disruption, cyberattack	Unknown	2023	Identify current gaps	High	
2022-2	Identify funding to decrease response time for a ransomware attack.	Information Technology	Communication disruption, cyberattack	Unknown	2024	Identify funding source	High	
2022-3	Investigate software/services that automate the defensive response of critical systems to a ransomware attack.	Information Technology	Communication disruption, cyberattack	Unknown	2025	Identify software/services	High	
2022-4	Investigate the feasibility of increasing fuel storage capacity.	Public Works	Cyberattack	Unknown	2024	Identify feasibility	Medium	
2022-5	Identify security protection methods for the airport bridges.	Airport	Terrorism	Unknown	2024	Identify security protections	Medium	The Broad Run River runs under the airport's main runway and parallels the taxiway. Cannon Branch River runs along the east side of the airport and Broad

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
								Run connects to Cannon Branch and runs along the south and west sides of the airport. No measures are in place to prevent kayakers and boaters from going under these bridges in the airport.

Table 6: City of Manassas Park Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Utilize Everbridge and Alert 911 public alert systems to provide information to the public, as needed before, during, or after an event.	Office of Emergency Management and Public Safety	All hazards	Grant funding	July 2023	Continuous outreach to residents, as measured by self-subscription to alert systems.	Medium	
2022-2	Conduct atmospherics to collect information from various sources, including social media, to monitor activities.	Office of Emergency Management and Public Safety	Active violence, civil unrest, terrorism	DHS grant funding	July 2023	Utilize all available resources to collect information and ensure public safety.	Medium	
2022-3	Obtain civil disturbance personal protective equipment for public safety personnel.	Office of Emergency Management and Public Safety	Active violence, civil unrest, terrorism	DHS, DOJ grant funding	July 2023	Research and apply for funding opportunities to purchase equipment.	High	Per the United States Department of Justice, standard PPE includes flame-retardant coveralls/uniforms, protective footwear, protective and flame-retardant gloves, protective helmets, personal defense shields, blunt-trauma limb protectors, and blunt-trauma torso protectors.

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-4	Increase and enhance Continuity of Operations Planning (COOP) for government entities, including the identification of alternate facilities.	Office of Emergency Management and Public Safety	All hazards	Grant funding	July 2023	Identify essential functions, personnel, and internal departments that could benefit from increased COOP capabilities and alternative facilities.	Medium	
2022-5	Determine and establish public safety communication capabilities and redundancy in case of communication disruption.	Office of Emergency Management and Public Safety	All hazards	Grant funding	July 2023	Research alternative methods of communication and apply for grant funding to purchase communication equipment and systems.	High	Focus on communication between encrypted and unencrypted radios.
2022-6	Continue to participate in Northern Virginia Emergency Response System (NVERS) regional cybersecurity efforts.	Office of Information Technology	Communication disruption, cyberattack	City funds	July 2023	Continue participation in ongoing regional cybersecurity events and preparation efforts.	Medium	
2022-7	Continue to coordinate with Prince William County HazMat team on preparedness and response efforts.	Office of Emergency Management and Public Safety	Active violence, civil unrest, hazardous materials, emerging	City funds, grant funding	July 2023	Successfully coordinate with county HazMat team before and during HazMat events.	High	Based on need due to lack of organic capabilities.

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
			infectious diseases, terrorism					
2022-8	Secure training and equipment for Public Safety to become a HazMat team.	Office of Emergency Management and Public Safety	X Active violence, civil unrest, hazardous materials, emerging infectious diseases, terrorism	City funds, grant funding	July 2023	Work with regional, state, and federal partners to identify HazMat training and equipment requirements and potential training and funding sources.	Medium	
2022-9	Continue to work with Prince William County Health District to improve public health capabilities.	Office of Emergency Management	Emerging Infectious Diseases	City funds, grant funding	July 2023	Work with the health district to identify opportunities for expansion of public health capacity in the city.	High	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-10	Increase threat assessment and threat training capacity for public safety.	Office of Emergency Management and Public Safety	All hazards	City funds, grant funding	July 2023	Review current Threat and Hazard Identification and Risk Assessment (THIRA) and identify training opportunities tied to the identified threats.	Medium	

Table 7: Fairfax County Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-16	Hold realistic public safety unified command training/exercises for field unified command personnel to assist with establishing unified command in the first minutes of an incident.	Fire and Rescue Department	All hazards	County Funds, state funds, grant funding	Ongoing	Incident Management culture in which agencies with statutory authority for incidents understand how UC works and how to implement it during the initial stages of an AVI event where rapid action is critical.	High	
2022-17	Seek funding for training and medical equipment and supplies to prepare public safety personnel to respond to active violence events.	Fire and Rescue Department	Active violence	County funds, grant funds	Ongoing	Delivering training and equipment to first responders to effectively provide medical care at active violence events.	High	This could be combined with the police department's Active Violence requests, though the medical element is typically a Fire/Rescue led aspect.
2022-18	Expand and strengthen the Office of Emergency Management Continuity Program.	Department of Emergency Management and Security	All hazards	County funds. Looking for grants to expedite program priorities.	Ongoing	Being able to effectively prepare for and mitigate against disruptions that may hamper the operations of the county.	High	Though the Continuity Program is not the primary responder for the identified hazards, the program plays a critical role in increasing the resilience of county operations, preparing the county to operate in adverse conditions, and in mitigating the

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
								impact of realized hazards.

Table 8: Town of Clifton Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Work with Fairfax County Police Department to seek additional funding for staff and training to prepare for and respond to active violence events. Continue current operations and expand as necessary and/or as funding becomes available.	Town personnel or volunteers and Fairfax County Police Department	Active violence	County funds, state funds, Department of Homeland Security (DHS) funds, Department of Justice (DOJ) funds	Ongoing	Being able to effectively prepare for and respond to active violence events.	Medium	
2022-2	Work with Fairfax County Police Department to seek additional funding for staff and training to prepare for and respond to civil unrest events. Continue current operations and expand as necessary and/or as funding becomes available.	Town personnel or volunteers and Fairfax County Police Department	Civil unrest	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to civil unrest events.	Medium	
2022-3	Work with Fairfax County Police Department to seek additional funding for training and equipment to prepare for and respond to communication disruption events. Continue current operations and expand as necessary and/or as funding becomes available. This includes operations for internal county communication disruptions and broader communication disruptions within the town.	Town personnel and Fairfax County Police Department	Communication disruption	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to communication disruption events.	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-4	Work with Fairfax County Police Department to seek additional funding for staff and training to prepare for and respond to cyberattack events. Continue current operations and expand as necessary and/or as funding becomes available.	Town personnel and Fairfax County Police Department	Cyberattack	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to cyber-attacks.	High	
2022-5	Work with Fairfax County Police Department to seek additional funding for staff, training, and equipment to prepare for and respond to terrorism events. Continue current operations and expand as necessary and/or as funding becomes available. This includes intel and fusion center operations.	Town personnel or volunteers and Fairfax County Police Department	Terrorism	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to terrorism events.	Medium	
2022-6	Work with Fairfax County Police Department to seek additional funding for staff and training to prepare for and respond to hazardous material events. Continue current operations and expand as necessary and/or as funding becomes available.	Town personnel or volunteers and Fairfax County Police Department	Hazardous materials	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to hazardous material events.	Medium	
2022-7	Seek additional funding for staff and training to prepare for and respond to infectious disease issues. Continue current operations and expand as necessary and/or as funding becomes available.	Town personnel or volunteers and Fairfax County Police Department	Emerging Infectious Diseases	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to infectious disease issues.	High	

Table 9: Town of Herndon Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Seek additional funding for staff and training to prepare for and respond to active violence events. Continue current operations and expand as necessary and/or as funding becomes available.	Herndon Police Department	Active violence	County funds, state funds, Department of Homeland Security (DHS) funds, Department of Justice (DOJ) funds	Ongoing	Being able to effectively prepare for and respond to active violence events.	Medium	
2022-2	Seek additional funding for staff and training to prepare for and respond to civil unrest events. Continue current operations and expand as necessary and/or as funding becomes available.	Herndon Police Department	Civil unrest	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to civil unrest events.	Low	
2022-3	Seek additional funding for training and equipment to prepare for and respond to communication disruption events. Continue current operations and expand as necessary and/or as funding becomes available. This includes operations for internal town communication disruptions and broader communication disruptions within the town.	Herndon Police Department	Communication disruption	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to communication disruption events.	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-4	Seek additional funding for staff and training to prepare for and respond to Cyberattack events. Continue current operations and expand as necessary and/or as funding becomes available.	Herndon Police Department	Cyberattack	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to cyber-attacks.	Medium	
2022-5	Seek additional funding for staff and training to prepare for and respond to hazardous material events. Continue current operations and expand as necessary and/or as funding becomes available.	Herndon Police Department	Hazardous materials	County funds, state funds, DHS funds, DOJ funds		Being able to effectively prepare for and respond to hazardous material events.	Medium	
2022-6	Seek additional funding for staff and training to prepare for and respond to pandemic/public health issues. Continue current operations and expand as necessary and/or as funding becomes available.	Herndon Police Department	Emerging Infectious Diseases	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to Pandemic/Public Health issues.	High	
2022-7	Seek additional funding for staff, training, and equipment to prepare for and respond to terrorism events. Continue current operations and expand as necessary and/or as funding becomes available. This includes intel and fusion center operations.	Herndon Police Department	Terrorism	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to terrorism events.	Medium	

Table 10: Town of Vienna Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Seek additional funding for staff and training to prepare for and respond to active violence events. Continue current operations and expand as necessary and/or as funding becomes available.	Vienna Police Department	Active violence	County funds, state funds, Department of Homeland Security (DHS) funds, Department of Justice (DOJ) funds	Ongoing	Being able to effectively prepare for and respond to active violence events.	Medium	
2022-2	Seek additional funding for staff and training to prepare for and respond to civil unrest events. Continue current operations and expand as necessary and/or as funding becomes available.	Vienna Police Department	Civil unrest	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to civil unrest events.	Medium	
2022-3	Seek additional funding for training and equipment to prepare for and respond to communication disruption events. Continue current operations and expand as necessary and/or as funding becomes available. This includes operations for internal county communication disruptions and broader communication disruptions within the town.	Vienna Police Department	Communication disruption	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to communication disruption events.	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-4	Seek additional funding for staff and training to prepare for and respond to cyberattack events. Continue current operations and expand as necessary and/or as funding becomes available.	Vienna Police Department	Cyberattack	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to cyberattacks.	High	
2022-5	Seek additional funding for staff, training, and equipment to prepare for and respond to terrorism events. Continue current operations and expand as necessary and/or as funding becomes available. This includes intel and fusion center operations.	Vienna Police Department.	Terrorism	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to terrorism events.	Medium	
2022-6	Seek additional funding for staff and training to prepare for and respond to hazardous material events. Continue current operations and expand as necessary and/or as funding becomes available.	Vienna Police Department	Hazardous materials	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to hazardous material events.	Medium	
2022-7	Seek additional funding for staff and training to prepare for and respond to infectious disease issues. Continue current operations and expand as necessary and/or as funding becomes available.	Vienna Police Department	Emerging Infectious Diseases	County funds, state funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to infectious disease issues.	High	

Table 11: Loudoun County Non-Natural Hazard Mitigation Action Items[10]

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Cybersecurity assessment – improvements	Loudoun Water	Cyberattack	Loudoun Water Capital Improvement Plan	Ongoing	The cybersecurity assessment program has recently matured. Assessments will be conducted every 3 years to maintain optimal cybersecurity.	Medium	This project entails the continued assessment and implementation of a multifaceted cybersecurity program, including a cybersecurity master plan, cybersecurity awareness training, continuity of operations planning and exercises, cybersecurity policies and procedures, intrusion detection and prevention technology, data loss prevention technology, and advanced persistent threat detection.
2022-2	Community systems risk assessment	Loudoun Water	Cyberattack, terrorism	Loudoun Water Capital Improvement Plan	2025	Two or three Community Risk Assessments will be completed every year for 4 years. Ongoing, on target.	Medium	Risk Assessment for the community systems is similar to the water risk and resiliency assessment that was completed in 2020. This will include scoring and analyzing the likelihood and consequence of failure on critical wastewater assets and providing a risk score. Threats analyzed will include both natural hazards and malevolent acts. Ideas for mitigation of risk will also be included.
2022-3	Wastewater risk assessment	Loudoun Water	Hazardous materials, Emerging Infectious Diseases	Loudoun Water Capital Improvement Plan	2023	Design is being completed. Not started on target.	High	Risk Assessment for the central wastewater system is similar to the water risk and resiliency assessment that was completed in 2020. This will include scoring and

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[10] The Towns of Middleburg and Purcellville are also covered by Loudoun County action items.

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
			health, terrorism					analyzing the likelihood and consequence of failure on critical wastewater assets and providing a risk score. Threats analyzed will include both natural hazards and malevolent acts. Ideas for mitigation of risk will also be included.
2022-4	Public safety radio town coverage sites	Fire and Rescue, Sheriff's Office, Department of Information Technology	All hazards	Loudoun Water Capital Improvement Plan	Ongoing	Phase I was a study to identify where and how many additional towers are needed to provide optimal coverage. Phase I has been completed. Quotes are being requested to begin Phase II (construction of new towers). Construction of new towers is expected to continue every two years.	High	This project consists of two phases. Phase I will conduct a study that will identify how many and where additional towers may be needed, and if existing tower locations should be relocated for optimal coverage. Phase II will construct new towers or relocate existing towers.
2022-5	Public safety school emergency radio coverage	Public Schools, Sheriff's Office, Department of Information Technology	All hazards	Capital Improvement Projects	FY 2026	Phase I (Coverage Study) has been completed. Phase II will install and replace the Bi-	Medium	This project consists of two phases. Phase I will conduct a coverage study to determine needs and identify schools that need additional equipment to meet coverage requirements. Phase II will install and replace the Bi-

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
						Directional Amplifiers identified in the study.		Directional Amplifiers (BDAs) identified in the study. This project provides funding to purchase and install Bi-Directional Amplifiers (BDAs) in public school buildings to provide Public Safety radio coverage for the school resource officers. Funding is based on a coverage study that was administered by the Department of Information and Technology which identified the location of schools that needed boosters and determined the proper replacement schedule of existing BDAs. The project budget was revised during the FY2022 CIP budget development process to include planned funding for the remaining phases of project implementation for FY2022, FY2023, FY2024, FY2025, and FY2026.
2022-6	Backup emergency communications center	Fire and Rescue, Sheriff's Office, Building and Development	All hazards	Capital Improvement Projects	FY 2025	Schedule a kickoff meeting	Medium	This project provides funding for the relocation of the Backup Emergency Communications Center (ECC) to a modern, technically redundant, and secure facility. This migration could be a step whereby the technology and operations are moved to a data center. The existing ECC facility is aging and has been identified on

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
								the County's Technology Roadmap as a key backup facility that must be migrated to a modern data center due to the critical nature of the work performed in the facility
2022-7	Data center and fiber plant relocation	Dept of Information Technology	All hazards	Capital Improvement Projects	FY 2023	Continue migration of data center. Once complete, ensure the stability of the new center before collapsing existing facilities	High	This project provides funding to continue the migration of the County's data center facilities to a private, fit-for-purpose data center within Loudoun County. Once complete, DIT will collapse the existing, aging data center facilities which present a significant risk to continuity of operations.
2022-8	Public safety - 911 phone switch replacement	Fire and Rescue, Sheriff's Office, Department of Information Technology	All hazards	Capital Improvement Projects	FY 2024	Develop scope of the plan and schedule kick-off meeting	High	This project provides funding to replace the County's current E-911 phone switch. All emergency communications in the County transmit through the E-911 phone switch which makes it an essential piece of equipment for the health and safety of Loudoun's citizens. The current E-911 phone switch was installed in the Emergency Communications Center and became fully operational in July 2015. The estimated lifespan for this mission-critical system is seven years.
2022-9	Public safety - radio tower expansion program	Fire and Rescue, Sheriff's Office, Department of	All hazards	Capital Improvement Projects	Ongoing	The first phase has been completed to identify locations	High	This project provides funding for the installation of additional Public Safety Radio Towers that are needed to provide required radio

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
		Information Technology				for additional towers. Installation of new towers will be ongoing every two years.		coverage for First Responders based on the findings of a coverage study that was managed by the Department of Information and Technology. The first phase of this project identified the need for nine additional towers in various locations throughout the County. The second phase includes the installation of the new towers as identified in the coverage study which will begin in FY2021 and continue every two years. Due to population growth within the County, it is expected that additional Public Safety Radio Towers are needed to provide the required radio coverage for First Responders. Future funding for this program will be re-evaluated based on updated requirements.
2022-10	Broad Run Farms waterline extension	DGS	Cyberattack			Currently in design and bidding phase.	High	EPA is using Federal Funds to extend water service to 142 parcels in Broad Run Farms. Capital Improvement Funds are extending water mains to the remaining 311 parcels in Broad Run Farms. The Hidden Lane Landfill is an Environmental Protection Agency (EPA) Superfund Site in the Broad Run Farms community in Sterling. The Board of Supervisors has authorized an extension of public water lines throughout the Broad Fun Farms subdivision in

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
								response to groundwater contamination from the Hidden Lane Landfill.

Table 12: Town of Leesburg Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2002-1	Water supply and wastewater Supervisory Control and Data Acquisitions (SCADA) systems replacement.	Utilities Department, IT, and Emergency Management	Cyberattack	Capital Improvements Plan (CIP) funding	Summer 2024	Kick off and project scope meeting.	Medium	Requires IT personnel to deploy and maintain systems.
2022-2	Develop additional incident-specific annexes in support of the Town of Leesburg Emergency Operations Plan.	All departments	Active violence, civil unrest, communication disruption, cyberattack, terrorism	General fund	2027	Begin planning process to develop draft of annexes identified by Town departments.	Low	Requires additional planning support above current resources.
2022-3	Add cameras to the interior and exterior of Community Facilities	All departments	Active violence, civil unrest, terrorism	FEMA UASI RPS Grant, FEMA Homeland Security Grant Program (HSGP)	December 2023	Create list of needed cameras, begin to implement	Medium	

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-4	Identify gaps in the current Incident Response Plan to address how to reduce recovery time from a cyber incident	Information Technology	Communication disruption, cyber attack	Unknown	2023	Identify current gaps	High	
2022-5	Seek additional funding for staff and training to prepare for and respond to Cyberattack events.	Information Technology	Cyber attack	State funds, DHS funds, DOJ funds	Ongoing	Being able to effectively prepare for and respond to cyber-attacks.	Medium	

Table 13: Town of Lovettsville Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Update Town ordinance and code	Planning Commission	All hazards	Town reserves	Spring 2022		High	The updates to the code and ordinances are being reviewed by Town Council. Updates include stricter language on addressing civil unrest and violence in the community. And ensuring there is specific language to address and handle any of the non-natural hazards that may pose a threat to the Town.

Table 14: Town of Round Hill Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Improve security measures as needed around critical facilities.	Town Utility Department	Communication disruption, cyberattack, terrorism	Town utility fund	Summer of 2023		High	The town started the project in FY2018 as a 5-year plan to secure all the town utility facilities and is ongoing.
2022-2	Develop and conduct active violence training for Town employees.	Town Administration	Active violence, civil unrest, terrorism	Split town general fund & town utility fund	Summer of 2023		High	Town Administration will recommend this document creation/printing in the FY2023 budget. If funding becomes available (or free training) staff could complete this in FY2022.
2022-3	Deploy redundant communication systems to ensure connectivity.	Town Administration	All hazards	Split town general fund & town utility fund	Summer of 2023		High	Town Administration will recommend this be included in the FY2023 budget. If funding becomes available (or it can be incorporated into the existing budget) it could be completed in FY2022.
2022-4	Route 7 Bypass Pedestrian Tunnel	Public Works	Active violence, terrorism	Capital improvement project funding, Northern Virginia Transportation Authority, 30% Local funds	July 1, 2022		Medium	

Table 25: Prince William County Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Promote PWC Alerts and continue Everbridge system build-out to maximize alert and warning capability both internal and external.	Office of Emergency Management	All hazards	Urban Areas Security Initiative (UASI) funding	Ongoing	Complete capability buildout and increase opt-in users.	High	
2022-2	Continue to train and exercise field/EOC coordination and integration.	Office of Emergency Management, PWC Fire and Rescue System, Police Department	All hazards	Various funding sources	Ongoing	Develop and conduct PWC-specific field/EOC coordination course for command staff.	Medium	
2022-3	Continue to develop and enhance hazard-specific and functional annexes of the *PWC Emergency Operations Plan*.	Office of Emergency Management	All hazards	County and federal grant funds	2023	Develop draft annexes.	High	All first draft annexes should be completed no later than 2023.

Table 36: Town of Dumfries Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Staff training	Director of Public Works	All hazards	General fund	2024	2 annual training days	Medium	Train staff on all non-natural disasters.
2022-2	Public education	Director of Public Works	All hazards	General fund	2025	2 literature mailings	Low	Use Town newsletter, community events, and mailings to inform citizens on what to do in non-natural emergencies.
2022-3	Provide broadband and free Wi-Fi to Dumfries residents	Director of Public Works	All hazards	American Rescue Plan Act (ARPA) funds	2025	IT contract	High	American Rescue Plan Act funds.
2022-4	Purchase Personal Protective Equipment	Director of Public Works	Emerging Infectious Diseases	General fund	2027	5 annual training days	Medium	Purchase masks, hand sanitizer for staff.

Table 47: Town of Haymarket Non-Natural Hazard Mitigation Action Items

Project No.	Mitigation Action	Lead Agency/ Department/ Organization	Hazard(s)	Funding Source	Target Completion Date	Interim Measures of Success	Priority	Comments
2022-1	Assist businesses in preparing for pandemic shutdowns.	Town of Haymarket	Emerging Infectious Diseases	American Rescue Plan Act (ARPA) and Coronavirus Aid, Relief, and Economic Security Act (CARES) Act funds	December 2024	Have actions plans for each business in draft form by December 2024.	High	This plan would be to assist all businesses to remain open during pandemic shutdowns.
2022-2	Work with railroad authorities to develop plan of action for train derailment involving hazardous materials or act of terrorism.	Town of Haymarket	Hazardous materials, terrorism	Town, county, and railroad	December 2024	Draft copies of plans written by December 2023.	High	
2022-3	Work with Prince William County Police Department and Sheriff's Office on plan of action for protest.	Town of Haymarket	Active violence, civil unrest, terrorism	Town and county	December 2024	Have action plan in draft form by December 2024.	High	

3. Plan Maintenance

This volume of the Plan is a living document that will guide mitigation actions over time. As conditions and circumstances change, new information may become available, and actions may progress over the life of the Plan. The actions and Plan contents may adjust as necessary to maintain the relevance and effectiveness of the Plan.

Periodic revisions and updates of the volume should occur to ensure the goals of the Plan are kept current while considering potential changes in hazard vulnerability and mitigation priorities. In addition, periodic evaluation of the Plan will also ensure specific mitigation actions are being reviewed and conducted according to each participating jurisdiction's individual Mitigation Action Plan for Implementation and Integration.

Implementation and maintenance of the Plan work in parallel to ensure the success of the mitigation strategy. Maintenance of this volume may take place in concert with the maintenance activities of the Base Plan and jurisdiction annexes. Alternatively, the NOVA Planning Group may determine an alternative method and schedule for maintenance of the separate volume.