

Book 7: Public Safety Supporting Analysis

Introduction

The Public Safety Book addresses fire and emergency medical services, police protection, and hazards and emergency management with respect to natural, humanmade, and technological disasters. The City of Arlington (City) seeks to protect the citizens of Arlington and enhance their quality of life by providing professional and progressive services.

The Police Department provides Arlington citizens protection from criminal activity through identification and apprehension of offenders, detection of crime, and crime prevention programs. The Fire department provides fire suppression, rescue, emergency medical care, and hazardous materials response. The Fire department also administers fire safety inspections and education programs aimed at reducing fire and medical emergencies. The Emergency Operations Plan is currently being developed to prepare the community for emergencies, prevent an emergency or reduce the damaging effects of an emergency through mitigation measures, respond to emergencies, and recover from emergencies.

Arlington's level of service for police, fire, and emergency medical services has generally been adequate as new growth and development have occurred. Arlington can maintain its level of service and accommodate growth with appropriate planning, adequate funding, and coordination. Individual service providers prepare for the future based on assumptions of growth from the Land Use and Housing Books of the Comprehensive Plan.

The Public Safety Book supports the provision of adequate public safety services. This includes supporting existing and future development and the correction and prevention of any existing deficiencies to ensure a sense of security. The policies in this Book lay out the equitable, efficient, timely, and adaptive management approaches that are needed to protect all members of the Arlington community.

This Book is interconnected with the Environment (Book 1), Land Use, (Book 2), Housing (Book 3), and Capital Facilities Books (Book 9). The Environment Book contains deeper context around the environmental setting of Arlington, climate change, and resiliency, all of which influence natural disasters. The Land Use and Housing Books designate future population growth, the proposed distribution and extent of land uses (including housing), and population and building densities which will impact the services discussed in this Book. The Capital Facilities Book reviews the capacity of existing capital facilities and forecasts a need for future facilities, including those for police, fire, and emergency services. The purpose of this Book is not to discuss capital facilities although supporting analysis is found here.

Background

There are several regulations, policies, and agreements that dictate elements of the public safety Book and allow the City to mitigate, prepare for, respond to, and recover from an emergency, disaster, or other event.

An emergency is any occasion or instance that warrants action to save lives and to protect property, public health, and safety, such as during a hurricane, tornado, storm, flood, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, fire, explosion, nuclear accident, or any other natural or humanmade catastrophe.¹

According to the Federal Emergency Management Agency (FEMA) a disaster is “an occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries.”² A large-scale disaster is a disaster that exceeds the capacity of a local jurisdiction to respond and requires involvement of the State and potentially the federal government. A major disaster, as defined by the Stafford Act, is “any natural catastrophe [...] or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under [the] Act to supplement the efforts and available resources or States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.”

Federal Planning

Snohomish County’s Hazard Mitigation Plan (HMP), which covers the City of Arlington, must be regularly updated to comply with the Disaster Mitigation Act (DMA). The DMA and Stafford Act mandate advanced planning for mitigation efforts. The Stafford Act provides the authority for most federal disaster response activities. The Disaster Mitigation Act of 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), creating the framework for governments (state, local, tribal and territorial) to engage in hazard mitigation planning to receive certain types of non-emergency disaster assistance. Snohomish County’s HMP was most recently updated in 2020 to comply with the DMA and is discussed in the Countywide Planning section below.

The City is a participant of the National Flood Insurance Program (NFIP) which provides flood insurance to reduce the socio-economic impact of floods. When the City joined the NFIP program, the City was required to adopt and enforce floodplain management regulations that help mitigate flooding effects. More information can be found in the Flood section.

The City of Arlington and the Emergency Management Division of the Washington Military Department (Military) have a Memorandum of Understanding (MOU) which allows the Military to use the Arlington Airport as necessary for a State Staging Area for emergency or disaster preparation, response, and

¹ <https://www.fema.gov/pdf/plan/glo.pdf>

² <https://www.fema.gov/pdf/plan/glo.pdf>

recovery activities. The Staging Area would be needed for managing life sustaining commodities, including water, food, generators, and more. The current MOU is valid through 2028.

State Planning

There are few State-level requirements that guide the City’s public safety program. The State requires the following per RW.35.103.010.³

The legislature intends for city fire departments to set standards for addressing the reporting and accountability of substantially career fire departments, and to specify performance measures applicable to response time objectives for certain major services.

The North County Fire Authority’s response time objectives can be found in the Fire and Emergency Medical Services section below.

In addition, the Washington Emergency Management Division encourages multi-jurisdictional hazard mitigation planning. Snohomish County has led these efforts with respect to the City of Arlington. More information can be found in the Countywide Planning section below.

Regional Planning

When the City of Arlington faces an emergency and the Emergency Operations Center (EOC) is activated, the Emergency Management team will work with appropriate City departments, the Arlington School District, Cascade Hospital as well as various county, state, and federal agencies to respond effectively and quickly to provide for the continuity of services to the public.

Countywide Planning

Snohomish County Department of Emergency Management (DEM) provides emergency management services through an inter-local agreement to the City of Arlington. Snohomish County follows the National Preparedness Goal’s five mission areas: prevention, protection, mitigation, response, and recovery. Table 1 outlines the ways in which the County addresses these five mission areas.

³ <https://app.leg.wa.gov/rcw/default.aspx?cite=35.103&full=true>

Table 1 National Preparedness Goal Mission Areas Addressed by Snohomish County

Prevention	Protection	Mitigation	Response	Recovery
<ul style="list-style-type: none"> ▪ Complex-Coordinated Terrorist Attacks ▪ Crisis Communications Plans 	<ul style="list-style-type: none"> ▪ Strategic Plan ▪ Community Outreach and Education ▪ Crisis Communications Plans ▪ Training and Exercise Planning 	<ul style="list-style-type: none"> ▪ Hazard Mitigation Plan 	<ul style="list-style-type: none"> ▪ Comprehensive Emergency Management Plan ▪ Incident Annexes and Department and Emergency Support Function Specific Operational Plans 	<ul style="list-style-type: none"> ▪ Recovery Framework

Snohomish County has identified the following priorities during an emergency:

- To protect lives
- To protect private and government property
- To protect the environment
- To preserve the economy

The Snohomish County Hazard Identification and Risk Assessment (HIRA) identifies the County’s hazards, their potential, and their estimated consequences. The HIRA includes impacts to residents, buildings and infrastructure, the economy, and the natural environment. The HIRA identifies those hazards the County is at risk for as the basis for an all-hazards approach to preparedness, mitigation, response, and recovery.

Snohomish County DEM is compliant with the Homeland Security Exercise and Evaluation Program (HSEEP) and the four corresponding performance requirements:⁴

- Conduct an annual Training and Exercise Planning Workshop and maintain a Multiyear Training and Exercise Plan.
- Plan and conduct exercises in accordance with the HSEEP guidelines.
- Develop After Action Report/Improvement Plans (AAR/IP).
- Track and implement corrective actions identified in the AAR/IP.

The City of Arlington is a participating jurisdiction in Snohomish County’s 2020 Hazard Mitigation Plan (HMP). The HMP is in compliance with the Stafford Act and the Disaster Mitigation Act of 2000. The HMP

⁴ Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*.

identifies resources, information, and strategies for reducing risk from natural hazards and guides and coordinates mitigation activities throughout Snohomish County.

The City of Arlington is also a participating jurisdiction in Snohomish County’s Comprehensive Emergency Management Plan (CEMP).⁵ As a participating jurisdiction the City receives mitigation, preparedness, planning, training, exercises, and recovery programs and assistance. The CEMP establishes an all-hazards framework for the County to manage emergencies and disasters. The emergency management activities coordinated by the County’s Department of Emergency Management cover the City of Arlington. The CEMP identifies actions, responsible parties, and resources to address mitigation, preparedness, the emergency response, and initial recovery activities.

City of Arlington Planning

The City of Arlington, through the combined efforts of its many departments and public and private partnerships, seeks to protect the citizens of Arlington and enhance their quality of life. The City provides professional and progressive Emergency Management Services in the event of a catastrophic incident within the City of Arlington. The City of Arlington is planning to develop an Emergency Operations Plan.

The City’s regulations reduce the likelihood of an emergency by adopting the following by reference:

- Floodplain Management Regulations
- International Building Code
- International Fire Code
- International Plumbing Code
- International Mechanical Code
- International Property Maintenance Code
- International Residential Code
- International Existing Building Code
- International Code Council Performance Code

Existing Conditions

Fire and Emergency Medical Services

During the February 9, 2021 Special Election, voters overwhelmingly approved annexing the Arlington Fire Department to North County Regional Fire Authority (NCFRA).

As of August 2021, the NCFRA provides fire and emergency medical services to the City of Arlington. NCFRA has five divisions: Operations, Emergency Medical Services, Community Risk Reduction/Fire Marshal/Fire Prevention, Logistics, and Training Center. These divisions provide the following services:⁶

- Fire Suppression

⁵ Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*.

⁶ North County Regional Fire Authority 2022 Annual Report

Arlington Comprehensive Plan Update

Draft Content— Book 7: Public Safety Supporting Analysis —November 2024

- Basic Life Support (BLS) Emergency Medical Services and Transport
- Advanced Life Support (ALS) Emergency Medical Services and Transport
- Hazardous Materials "Operations Level" by all staff, with 6 Technician level members
- Fire Prevention, Inspections, and Plan Review
- Public Education
- Wildland Firefighting
- Rescue Swimmer
- Community Resource Paramedic

The Operations division provides emergency response and incident management for fires, rescues, medical emergencies, hazardous materials incidents, and disasters. The Emergency Medical Services division provides both BLS and ALS. The Community Risk Reduction/Fire Marshal/Fire Prevention division aims to minimize the probability and severity of occurrence of fire, natural disasters, and humanmade disasters. The Logistics department provides fire suppression, rescue, and medical response services. The Training Center division manages a Firefighter Training Center.

While the Firefighter Training Center is not yet complete, members were able to complete a significant amount of training in 2022, the first year as a merged entity. The Washington Survey and Rating Bureau requires 120 hours of category-specific training per member to be accredited. The training program includes emergency medical services, fire, rescue, administrative, and other categories. All members completed well above the required training. Members completed a total of 37,651 hours of training in 2022, an average of 409 hours per member. Participants received training on ventilation, driving, aerial placement, and other specialized techniques.

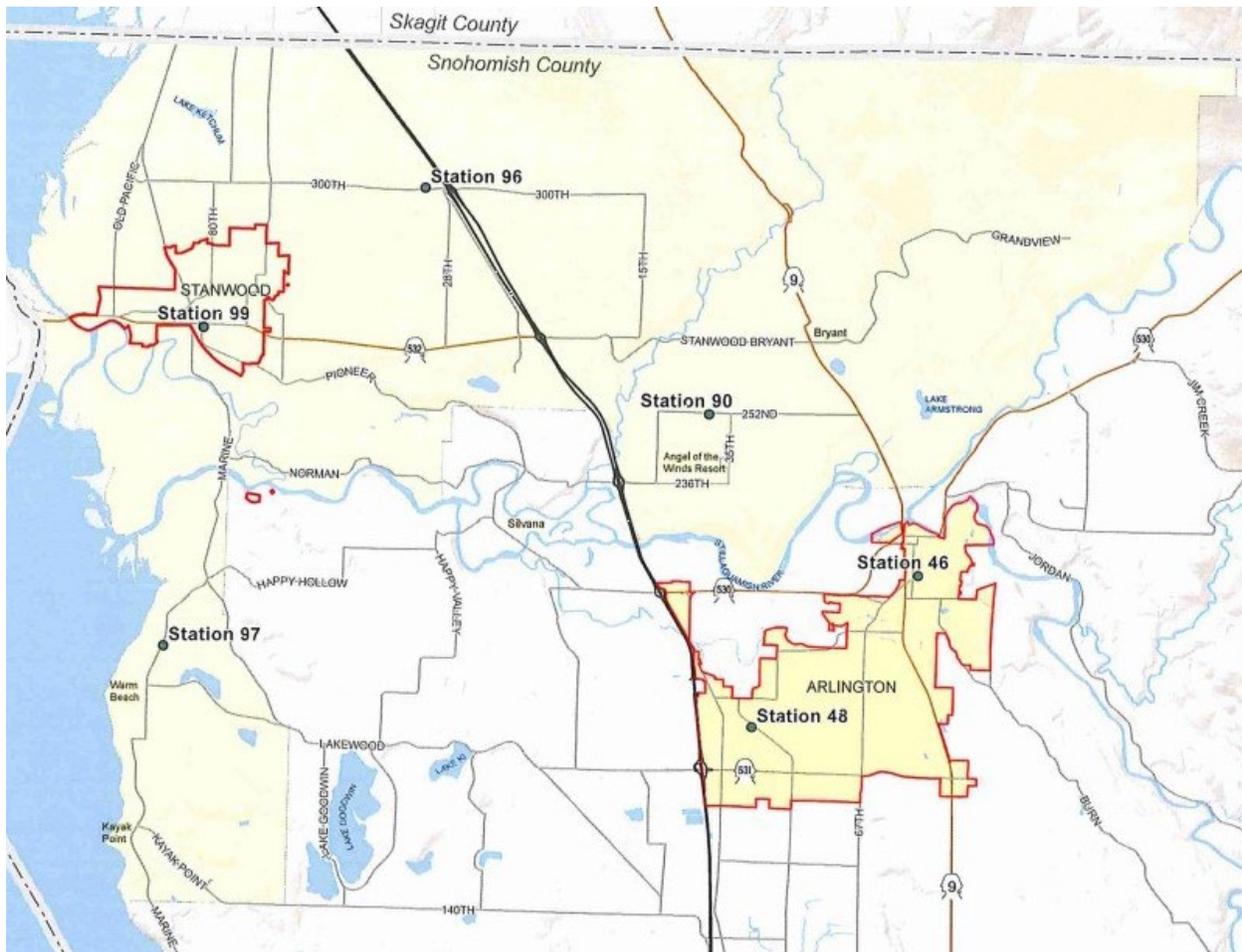
There are also several community programs operated by NCFCA including the following:

- North County Community Emergency Response Team (NC CERT)
- Fire Explorers Post 697
- Address Signs
- First Aid/CPR Classes
- Station Tours
- Blood Pressure Checks

The NC CERT program is a growing group of volunteers in the Arlington-Stanwood area that have received FEMA-approved hands-on training to help the community in the event of a disaster. This training teaches volunteers disaster preparedness, building safety after a natural disaster, search and rescue, fire suppression, medical triage, first-aid, and team organization. If the capacity of NCFCA has been exceeded or there is an obstruction and professional first responders are not the first on the scene the NC CERT volunteers have been trained to ensure non-professional response is as safe and effective as possible.

While there are 5 staffed fire stations that NCFCA operates, two are in the City of Arlington, Station 46 and 48. Station 46 is located in downtown Arlington and has a medic unit, an engine, and a brush truck (a wildland suppression engine). Station 48 is located at the Arlington Airport and has a medic unit, ladder, and aid unit.

Figure 1 North County Regional Fire Authority Stations



NCFA has adopted response time standards throughout the region they serve. The adopted response times for the City of Arlington can be seen in Table 2 and Table 3. Response times are a combination of the turn out time and the travel time. Turn out time is the time from when the unit is dispatched to when the crew has the appropriate gear on and are in the vehicle to respond. Travel time is the time from when the vehicle starts moving to when it arrives at the destination. NCFA must meet these response times 50% of the time but strives to meet the objectives 90% of the time.

Table 2 North County Fire Authority Response Time Standards⁷

Response	Adopted Response Time Objectives	
	Area	Minutes
Turn Out Time	Whole Department	2:00
Travel Time 1 st Arriving Engine	City of Arlington	8:00
Travel Time 1 st EMTs	City of Arlington	6:00

⁷ North County Regional Fire Authority 2022 Annual Report

Response	Adopted Response Time Objectives	
	Area	Minutes
Travel Time 1 st Paramedic	City of Arlington	6:00
Travel Time 1 st HazMat Technician	City of Arlington	10:00
Travel Time Marine Rescue	Whole Department	15:00

Table 3 North County Fire Authority 2022 Response Times Standards for Urban Areas*

Response Area	Turn Out Time	Travel Time	Response Time
Fire	1:59	4:30	6:25
EMS	1:14	4:20	5:29
HazMat	1:14	3:59	5:13

**Urban Areas consist of the City of Arlington and the City of Stanwood*

NCFA is funded through tax levies based on assessed property value, one for fire and one for EMS. As the calls for NCFA increase, the cost for personnel, equipment, fuels, maintenance, and medical supplies increases.⁸ However, NCFA is limited to a one percent revenue increase per year (less than inflation).⁹ Over time, levy rates drop as property values rise to limit NCFA to a set amount of revenue each year plus a one percent increase allowed by state law (or any other voter-approved increase). Even if property values double, NCFA can only collect one percent more. This is called “levy compression” and impacts a fire authority’s ability to provide emergency services.

On August 1, 2023 a primary election ballot asked voters for an EMS levy lid lift.¹⁰ EMS is NCFA’s most used service, accounting for 86% of emergency calls. If passed, the levy lid lift would support an additional six firefighter/EMTs or firefighter/paramedics per shift to provide an additional transport unit and full-time staffing at Station 96 in Freeborn. It would also replace three ambulances and fund local training programs.

NCFA developed a 2019-2024 strategic plan in response to an increase in demand. However, NCFA did not start serving the City of Arlington until 2021, so this strategic plan does not address the City.

One of the challenges identified in the 2022 Annual Report are large wildland fires. NCFA has 3 brush trucks that are available for wildland fires. The brush trucks are smaller than standard fire engines to allow for access to remote terrain. In 2022, NCFA responded to 44 calls to extinguish wildland fires within

⁸ <https://www.northcountyfireems.com/about-us/strategic-plan/strategic-plan>

⁹ <https://www.northcountyfireems.com/home/showpublisheddocument/1260/638248380392330000>

¹⁰ <https://www.northcountyfireems.com/home/showpublisheddocument/1134/638188754520670000>

the response area. NCFR also responded to 2 state mobilizations, totaling 21 days of deployment and 17,966 acres of wildland fires.

The current edition of the International Fire Code is adopted by reference as the City’s fire code. This includes the following chapters of the International Fire Code’s appendix: B, E F, G, H, I, J and K. The International Fire Code is published by the International Code Council as set forth in Washington Administrative Code Chapter 51-54. It is then adopted by the state building code council under the provisions of RCW 19.27.

Police

The Arlington Police Department’s mission is to, in partnership with the community, provide exceptional law enforcement services 24 hours a day to improve the quality of life in Arlington. The Police Department is responsible for law enforcement patrol, parking enforcement, and traffic enforcement. Services include complaint response, investigations, school safety, and records and evidence control. The department also offers a social worker program, bicycle registration program, fingerprinting services, and concealed pistol licenses.

The Arlington Police Department is guided by the following five core values:

- Teamwork - Setting aside individual motivations to serve the common purpose of community safety.
- Respect - Enforcing the law courteously and appropriately without fear or favor, malice or ill will.
- Integrity - Our decisions and actions are based on trust and honesty.
- Professionalism - Our sense of duty to conduct ourselves to the highest level of competence and character.
- Innovation - To better protect our community, deter and solve crime, while keeping pace with expectations to meet the level of complexity of future threats.

Level of Service standards for police services include the following performance goals:

Table 4¹¹

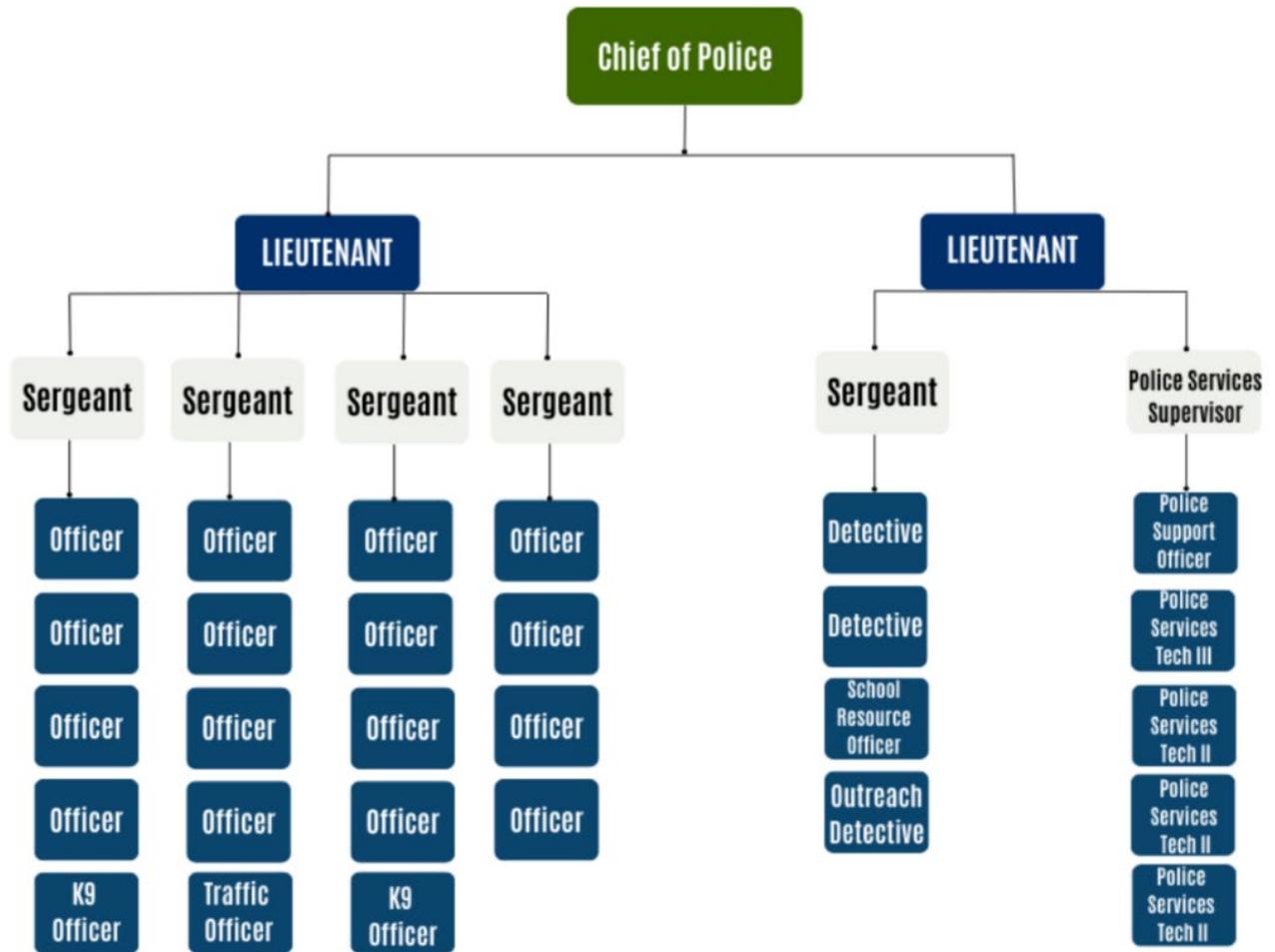
Indicator	Goal	Arlington (2023)
Crime Rate per 1000 pop.	34.6	30.44
Crime Clearance Rate %	20	40
Emergency Response Time in Minutes	3	3.76
Events per Officer per Year	1,000	1,015

The Arlington Police Department has 37 total personnel. The organization of the department is shown below in Figure 2¹².

¹¹ [11 \(arlingtonwa.gov\)](http://arlingtonwa.gov)

¹² arlingtonwa.gov/ArchiveCenter/ViewFile/Item/176

Figure 2 - Arlington Police Department Organizational Chart



The Patrol Division is the largest division in the department, headed by the Operations Lieutenant who oversees 4 patrol sergeants, 16 patrol officers, and 2 Canine (K9) teams. The Patrol Division is responsible for handling 911 calls for service, traffic enforcement, and pro-active crime prevention in the city. Theft is the number one reported crime in the City with double the amount of theft incidents than any other crime (Figure 3¹³). There were 690 traffic collisions reported in 2022, up 4% since 2018 (Figure 4¹⁴).

¹³ arlingtonwa.gov/ArchiveCenter/ViewFile/Item/176

¹⁴ arlingtonwa.gov/ArchiveCenter/ViewFile/Item/176

Figure 3 - Crime Statistics

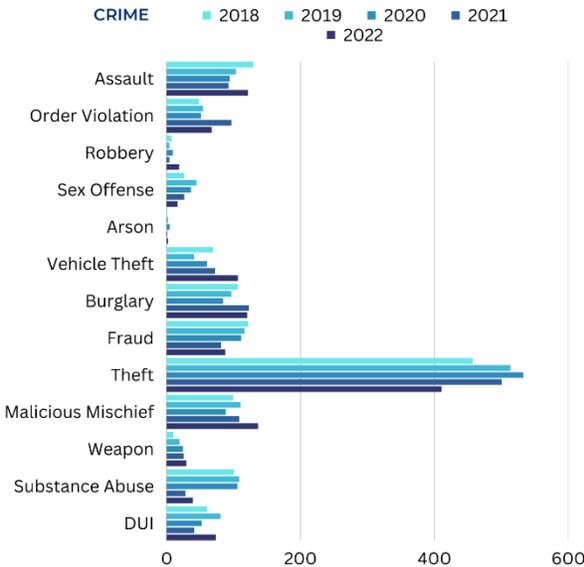
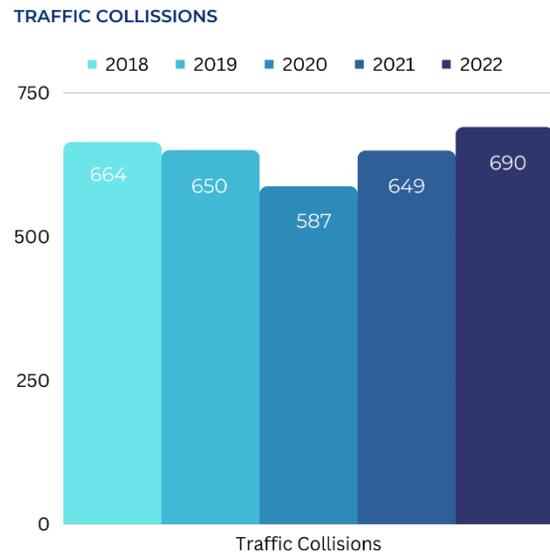


Figure 4 - Traffic Collisions



2022, Arlington Police Department adopted and implemented a new training program, Vector Solutions, to improve the administration, management, and efficiency of trainings for staff. The implementation and transition of this new training system was a significant undertaking to modernize the agency. The adoption and implementation of this system was necessary to meet the expanded training standards and requirements for Peace Officers in the State of Washington. The project has continued into 2023 with creation and utilization of the Department’s Field Training Program in Vector, as well as processing all historical training records for active staff members from 2021 and before. In 2022, Arlington Police Department’s staff received a total of 4,323 training hours. 2,136 of those hours were “required” training consisting of 696 “In-Service” hours and 1,440 Basic Law Enforcement Academy training hours. Arlington Police Department also invested a total of 2,187 hours of Professional Development training into staff members, accounting for 51% of all training for the year.

The Embedded Social Worker Program is an important resource within the City of Arlington Police Department to effectively focus on issues related to homelessness, substance addiction and mental health that are interrelated. This is a Co-Response Team that involves one full time City of Arlington Police Officer and one full time Social Worker. This outreach team is visible and pro-active within the community. The team takes both an outreach and enforcement role to address identified problems. They work collaboratively with City of Arlington, local, and state services. During the 2022 period the team tracked the following data:

- 28 homeless persons housed
- 530 camp, car, park, business checks
- 444 contacts
- 133 new clients
- 147 enforcements related to trespass, parking, camping, other arrests\
- 160 transports to required services

The Arlington Police Department also utilizes a Mobile Integrated Health (MIH) program. The goal of MIH is to reduce the over-utilization of emergency services by addressing the root cause of the issues leading to consistent 911 calls. The Arlington Police Department works with the Center for Justice Social Work to assist community members in need of behavioral health or social supports. In 2020, the City received \$750,000 to integrate a two-year pilot program to demonstrate how providing integrated social services to community members can decrease the use of 911 emergency calls for non-emergent requests. February 2022 reports show that 50 clients were served, 41 new referrals were made, and 222 services were provided, including therapeutic intervention, assessments of needs, planning with clients, coordination of care, home visit, and advocating for clients.

Hazards & Emergency Management

The City of Arlington is a participating jurisdiction in Snohomish County’s Hazard Mitigation Plan. Snohomish County (County) has ranked the probability of select hazard events occurring in Arlington, seen in Table 5.¹⁵

Table 5 Hazard Probability, Exposure, and Vulnerability

Type of Event	Probability	Local Description of Exposure and Vulnerability
Natural Hazards		
Earthquake	High	May cause building damage, infrastructure damage to transportation, water supply and sewer systems, and physical and emotional threat to humans.
Flood	High	Major flooding impacts Arlington directly and indirectly through inundation of property as well as transportation interruptions. Potential to impact Haller Well field. Precipitation and flooding events are increasing in magnitude due to climate change.
Mass Earth Movement	High	Damage can be site specific or adjacent to a location that can cause direct harm or indirect harm to municipal services such as water, sewer, transportation. Areas most susceptible to this occurring would be along Burn Road, Tveit Road, and properties located within the East Hill area.
Tsunami	Low	Pending creation of County mapping (CW35) damage is unknown but may occur along the river channel at Island Crossing.
Volcanic Hazard	Low	The main threat from lahar would be impacts to the Haller Well field, Water Reclamation plant, and Island Crossing infrastructure and structures.

¹⁵ https://snohomishcountywa.gov/DocumentCenter/View/78297/SnoCo_HMP_Volume-2_09302020_Final?bidId=

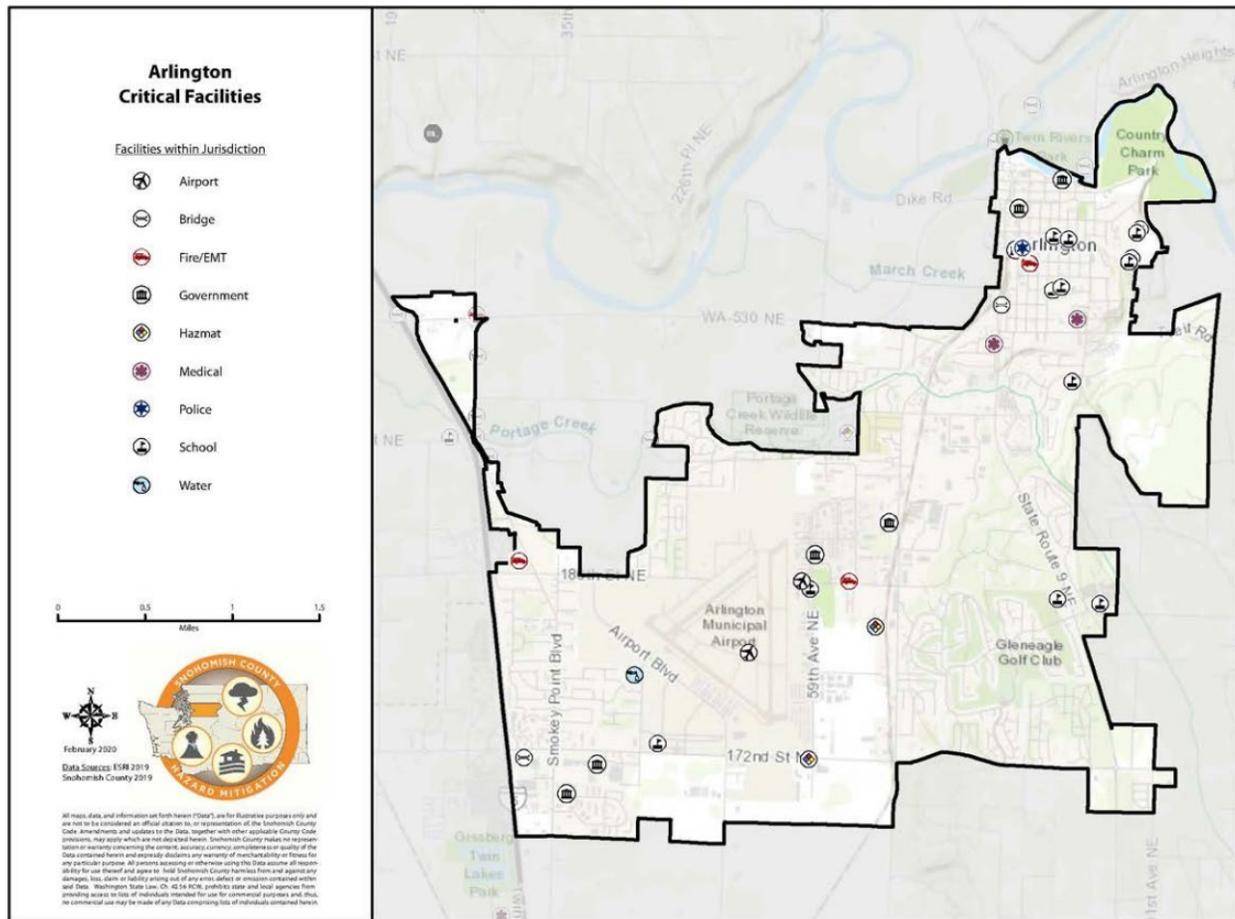
		Human life impacts should be limited due to ample notification.
Weather Events	High	Wind, rain or snow all present physical destruction and flooding hazards depending on the magnitude of the event.
Wildfire	High	Due to climate change, there is potential for urban wildfires to impact structures, potentially first within the mapped low to moderate hazard zones. Wildfire is also a threat due to increased temperatures and temporal changes to frequency of precipitation events. Threats are to human, wildlife and fish depending on Natural Resources, limited snowpack, and local weather conditions. Each year, human-caused fires damage on average more than 4,000 acres of state-protected lands in Washington. As Arlington becomes more urbanized, hardscapes are replacing areas where natural fuels once existed, reducing the potential for widespread wildfire.
Humanmade Hazards		
Aircraft Accident	Medium	
Dam Failure	Low	No dams exist within the riverine systems that would affect Arlington.
Epidemic	High	All of Arlington is potentially exposed to human health hazards and epidemics. COVID-19 is an excellent example of this.
Technological Hazards		
Cybersecurity Incident	Medium	
Hazardous Materials	High	Accidental releases of petroleum, toxic chemicals, gases, and other hazardous materials occur frequently throughout Snohomish County. They occur on transportation corridors that include highways, railroads, air/flight paths, pipelines, and navigable waterways. The likelihood of this becoming more prevalent may increase as the Cascade Industrial Center continues to expand.

The County also did an assessment of critical infrastructure and facilities exposed to hazards. Table 6 indicates which critical infrastructures and facilities are at risk of natural hazards based on best-available data. Figure 5 displays where the critical infrastructures and facilities are located in Arlington.

Table 6 Critical Infrastructures and Facilities Exposed to Hazards

Critical Infrastructures and Facilities	Total Critical Infrastructures	Wildfire	Volcano	Liquefaction	Landslide	Earthquake
Airport	2			2		2
Bridge	2			1	2	1
Fire/Emergency Medical Services	3			2	1	3
Government	7		1	4	7	4
Hazmat	3			3	3	3
Medical	2			1	1	1
Police	1				1	
School	13	4		3	10	2
Water Facility	1			1	1	1

Figure 5 Critical Infrastructures and Facilities¹⁶



The City of Arlington must be prepared for a significant emergency or region-wide disaster and be able to respond using only those resources located within the City in the most efficient manner. A disaster or emergency could cause the City to be isolated for a period of several days and exist solely on its own resources. Because of this possibility, the City is planning to develop an emergency operations plan, which will address roles, responsibilities, and procedures to be followed in the case of an emergency.

According to the County’s CEMP “training and exercises are conducted using the HSEEP process to regularly test planning and preparedness efforts”.¹⁷ Snohomish County’s Training and Exercise Plan forecasts training needed to support emergency management.

Natural Hazards

Unlike in many other parts of the United States, the risk of natural disasters is relatively low in the Arlington area. Tornadoes, hurricanes, extreme freezes, blizzards, locust infestation, debilitating heat

¹⁶ https://snohomishcountywa.gov/DocumentCenter/View/78297/SnoCo_HMP_Volume-2_09302020_Final?bidId=

¹⁷ P. 7 of CEMP

waves and pestilence are unknown in the region. However, the below listed natural events do have various probabilities of occurring.

Snohomish County’s Hazard Mitigation Plan lists Arlington’s severe event history, seen in Table 7.¹⁸

Table 7 Severe Hazard Event History

Type of Event	FEMA Disaster Number (if applicable)	Date of Hazard Event	Preliminary Damage Assessment (if applicable)
Severe Winter Storm	4418/DR	December 2018	
Severe Storm	4249/DR	November 2015	
Severe Windstorm	4242/DR	August 2015	
Oso Slide Support		March 2014	
Severe Winter Storm	1825/DR	2012	FEMA assistance \$250
Severe Winter Storm	1825/DR	2012	FEMA assistance \$111,048
Severe Winter Storm	1817/DR	January 2009	\$96,323
Severe Winter Storm	1825/DR	December 2008	\$239,256
Severe Storm	1671/DR	November 2006	\$2,700
Windstorm	N/A	January 2003	\$30,000
Flood/Landslide	1172/DR	March 1997	\$160,247
Flood	896/DR	March 1990	\$168,948

Flood

The Federal Emergency Management Agency (FEMA) has defined areas showing the extent of the 100-year flood boundary to establish actuarial flood insurance rates and assist communities in efforts to promote sound flood plain management. Development on flood plains impedes their ability to absorb water, restricts the flow of water, and causes hazards downstream by causing higher water and creating flood debris.

FEMA's Flood Insurance Rate Maps (FIRM) were most recently updated in and around Arlington in 2020. The FIRM show only one 100-year floodplain within the City, that being along the Stillaguamish River and

¹⁸ https://snohomishcountywa.gov/DocumentCenter/View/78297/SnoCo_HMP_Volume-2_09302020_Final?bidId=

generally defined by the toe of the slope of the plateau surrounding the Stillaguamish Valley (though there are some areas of the valley that are high enough to be out of the floodplain). Generally, only small portions of the City limits extend into this area, as they are parts of parcels mainly on the upper plateau. There is a large 110-acre portion of the City referred to as Island Crossing that is located in the 100-year floodplain.

Not being listed on the FIRM does not mean that some of the smaller creeks running through town couldn't also experience flooding during 100-year (or lesser or greater) storm events: FEMA just doesn't map these smaller areas. The City may require landowners to perform additional modeling of anticipated flood impacts for project proposals in the floodplain. All development permits are reviewed for potential flooding hazards at the time of development permit application review. Additionally, the City's Environmentally Critical Area regulations and flood prevention regulations prohibit most types of development within the 100-year floodway, allowing only those types of uses that are non-impactive.

The National Flood Insurance Program (NFIP) is administered by FEMA, which works with private insurance companies to offer flood insurance to property owners and renters. In order to qualify for flood insurance, a community must join the NFIP and agree to enforce sound floodplain management standards. The City of Arlington has been a participant of the National Flood Insurance Rate Program since 1983.¹⁹ Anyone in a community that participates in the NFIP, including Arlington, can purchase flood insurance. According to the HMP there are no FEMA identified repetitive flood loss properties, severe repetitive loss properties, or repetitive loss properties that have been mitigated. As seen in Table 7, however, several floods caused damage in the City in the 1900s.

Earthquake

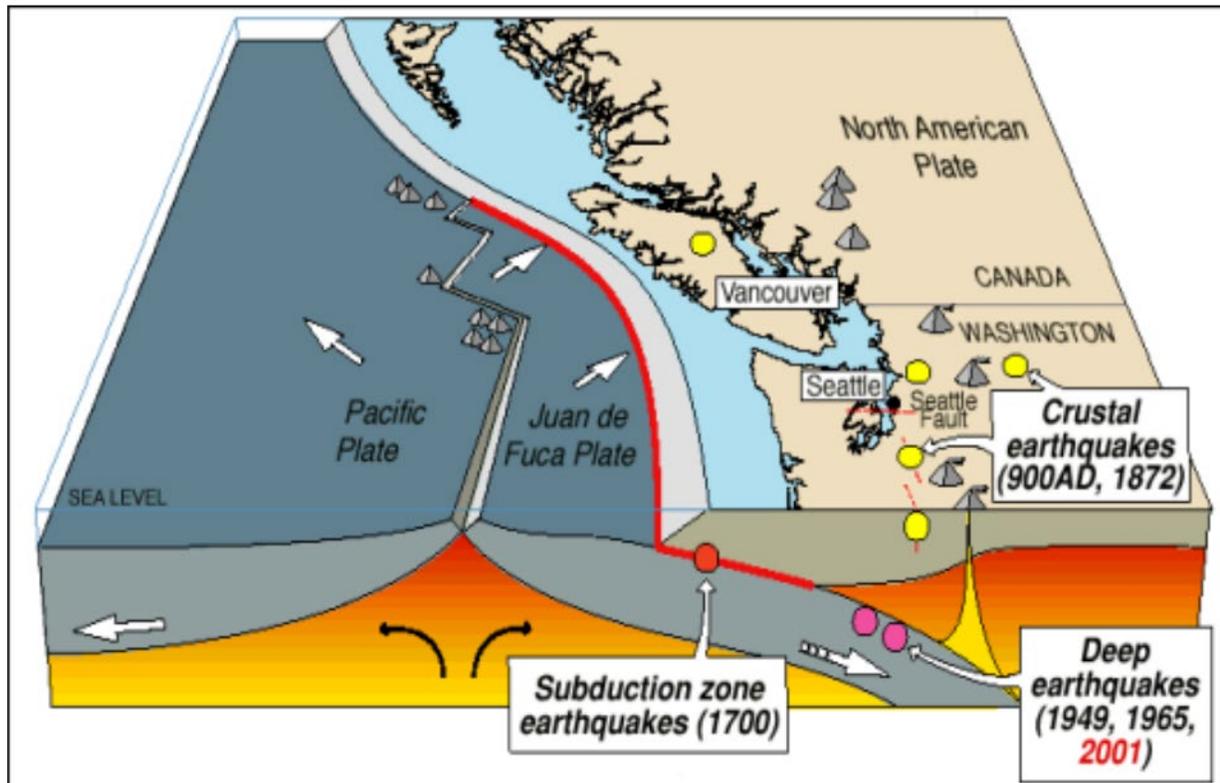
An earthquake is shaking of the ground caused by an abrupt shift of rock along a fracture in the earth or a contact zone between tectonic plates. An earthquake results from sudden stress changes in the earth due to the slip of a fault, or volcanic activity, and the resulting ground shaking and radiated seismic energy.²⁰ Earthquakes can last from a few seconds to over five minutes; they may also occur as a series of tremors over a period of several days.

The City of Arlington is at high risk for experiencing an earthquake. Residents should be prepared for the occurrence of an earthquake, which the area has experienced as recently as 2001 (6.8 on the Richter scale). Recent studies suggest that magnitude 8 earthquakes or greater have occurred in the region and that similar events are possible.²¹ Earthquakes in the Puget Sound region could result from crustal, shallow earthquakes, the Cascadia Subduction Zone, or deep earthquakes, as seen in Figure 6.

¹⁹ https://snohomishcountywa.gov/DocumentCenter/View/78297/SnoCo_HMP_Volume-2_09302020_Final?bidId=

²⁰ https://snohomishcountywa.gov/DocumentCenter/View/78298/SnoCo_HMP_Volume-1_09302020_Final?bidId=

²¹ https://snohomishcountywa.gov/DocumentCenter/View/78298/SnoCo_HMP_Volume-1_09302020_Final?bidId=

Figure 6 Earthquake Types in Western Washington State²²

Today's building code considers this risk in its requirements. There is currently no reliable way to predict the day or month that an earthquake will occur at any given location. Therefore, every household should practice an earthquake response plan.

Landslides

A landslide is the sliding movement of masses of loosened rock and soil down a hillside or slope. In general, landslide hazard areas are where the land has characteristics that contribute to the risk of the downhill movement of material, such as:

- Steep slopes (greater than 33 percent)
- A history of landslide activity
- Water activity that has caused erosion or cut into a bank that causes surrounding land to be unstable
- Presence of an alluvial fan
- Presence of impermeable soils, such as silt or clay, which are mixed with granular soils, like sand and gravel

Arlington is at high risk for mass earth movements, including landslides. The nearest landslide that caused a FEMA disaster declaration was the 2014 Oso landslide. This landslide is the only known landslide known to have caused fatalities in Snohomish County.

²² https://snohomishcountywa.gov/DocumentCenter/View/78298/SnoCo_HMP_Volume-1_09302020_Final?bidId=

Severe Weather

Snohomish County’s HMP defines severe weather as “dangerous meteorological or hydro-meteorological phenomena of varying duration with risk of causing major damage, serious social disruption, and loss of human life, and requiring measures for minimizing loss, mitigation, and avoidance.”²³ Severe weather can include severe thunderstorms, flash floods, damaging winds, extreme heat, large hail, and winter storms. Low-lying areas, like near rivers and streams, are more susceptible to flooding and wind events are most damaging to areas that are heavily wooded. Predicting the frequency of severe weather events in a constantly changing climate is a difficult task. Weather events are considered high risk in Arlington with wind, rain or snow all presenting physical destruction and flooding hazards depending on the magnitude of the event.

Volcanoes

Glacier Peak, at 10,541 feet, is a stratovolcano located roughly 45 air miles east of Arlington. Glacier Peak has produced larger and more explosive eruptions than any other volcano in Washington. It is thought to have erupted as recently as the eighteenth century.²⁴ Glacier Peak’s most eruptive periods were between 6,000 - 13,000 years ago, the debris caused by the eruptions flowed down the Stillaguamish channel to at least Arlington and I-5. Its biggest explosion was about 12,500 years ago, when it discharged debris four to five times as massive as the Mount St. Helens eruption in 1980. In fact, a debris dam created by the eruption caused the White Chuck and Suiattle rivers to change course from the Stillaguamish to the Sauk at Darrington.

Lahars are one of the greatest hazards associated with volcanoes such as Glacier Peak. A lahar is a type of mudflow and debris flow often corresponding with a volcanic eruption. They can travel great distances, placing people living in valleys draining the volcano at risk.²⁵ As seen in Figure 7, Arlington is within the lahar path for Glacier Peak.

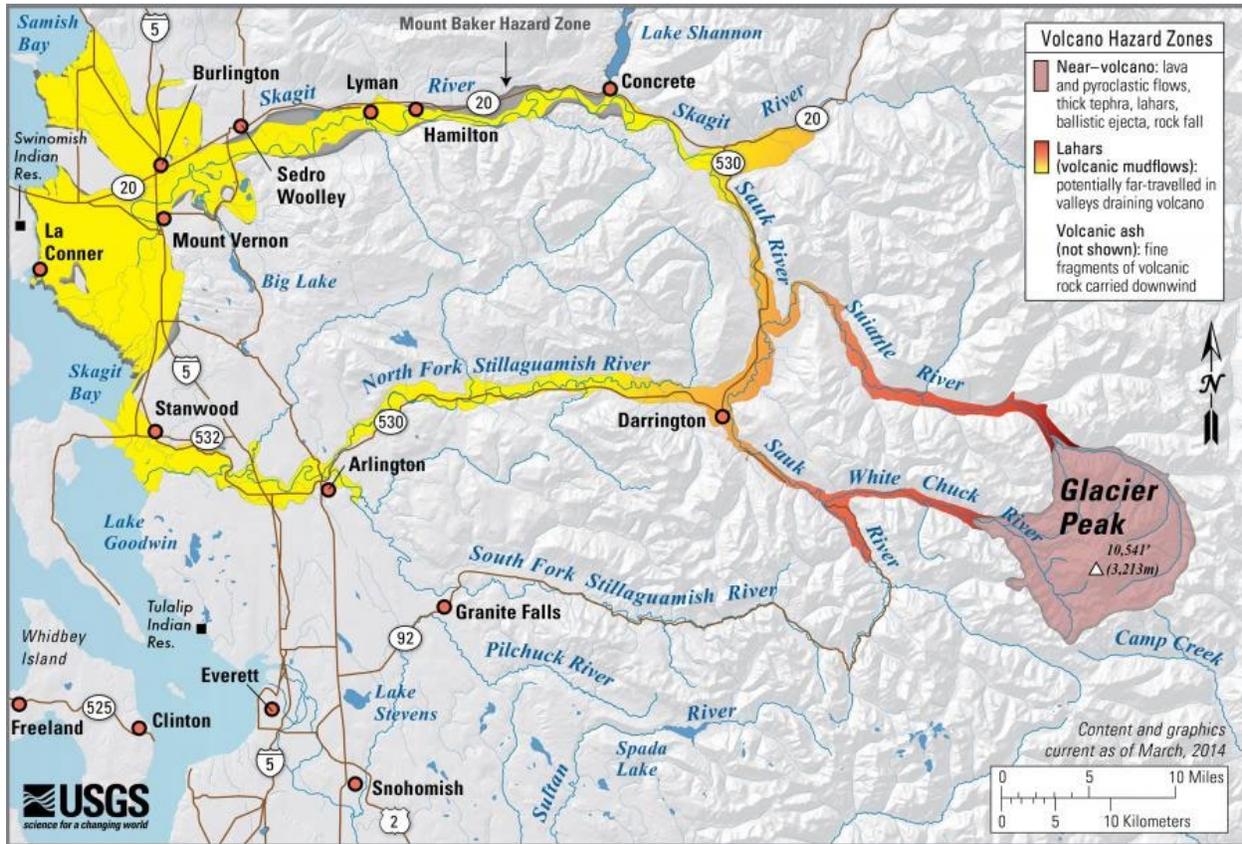
It is unlikely that Arlington would be at risk of ashfall from a Glacier Peak eruption due to prevailing winds blowing toward the east. However, if winds blow westward, heavy ashfall could be possible. That said, Arlington falls within the ashfall hazard zone for Mount St Helens. Therefore, another Mount St. Helens eruption could affect the City.

²³ https://snohomishcountywa.gov/DocumentCenter/View/78298/SnoCo_HMP_Voume-1_09302020_Final?bidId=

²⁴ https://snohomishcountywa.gov/DocumentCenter/View/78297/SnoCo_HMP_Volume-2_09302020_Final?bidId=

²⁵ https://www.dnr.wa.gov/publications/ger_washington_geology_2000_v28_no1-2.pdf

Figure 7 Simplified Hazard Map for Glacier Peak²⁶



Wildfire

A wildfire is any uncontrolled fire that involves vegetative fuels that occurs in the wildland or wildland-urban interface areas (WUI). WUI areas are areas where wildland vegetation meets urban and suburban development. Arlington falls within the WUI, the greatest potential danger zone (Figure 8). However, according to Snohomish County’s Wildfire Hazard Map, the City of Arlington is largely in the lowest wildfire risk zone (Figure 9).

A fire’s behavior is dependent on fuel, weather, and terrain. Fire season in Snohomish County typically begins in May and continues to September or October. However, this season can be extended depending on local conditions including drought, snowpack, and high winds. As a result of these conditions, there have been wildfires every month of the year and climate change is expected to contribute to more frequent and/or more severe fires.

Wildfires pose a considerable risk to wildlife habitats and result in the destruction of forests, brush, field crops, grasslands, and property. The most at risk of significant damage to property and life are WUI areas. Wildfires can also lead to other concerns such as landslides, flooding, contamination of reservoirs,

²⁶ <https://www.dnr.wa.gov/programs-and-services/geology/geologic-hazards/volcanoes-and-lahars#washington-volcanoes.2>

damaged fisheries, erosion, spread of invasive plants, disease and insect infestations of forests, destruction of habitat for endangered species, and soil sterilization.

Smoke and air pollution from fires can be a health hazard, particularly for children, the elderly, those with respiratory and cardiovascular diseases, and other sensitive populations.

Wildfires are typically caused by human activity, therefore it is not possible to predict when one may occur. Factors that contribute to naturally-caused fires include lightning, warm temperatures, low humidity, and stronger winds. These conditions can be tracked and warnings can be issued. Reliable National Weather Service lightning warnings are available on average 24 to 48 hours before a significant electrical storm and the National Weather Service can issue a red flag warning when conditions are ideal for wildfires.

Figure 8 Wildland-Urban Interface Areas

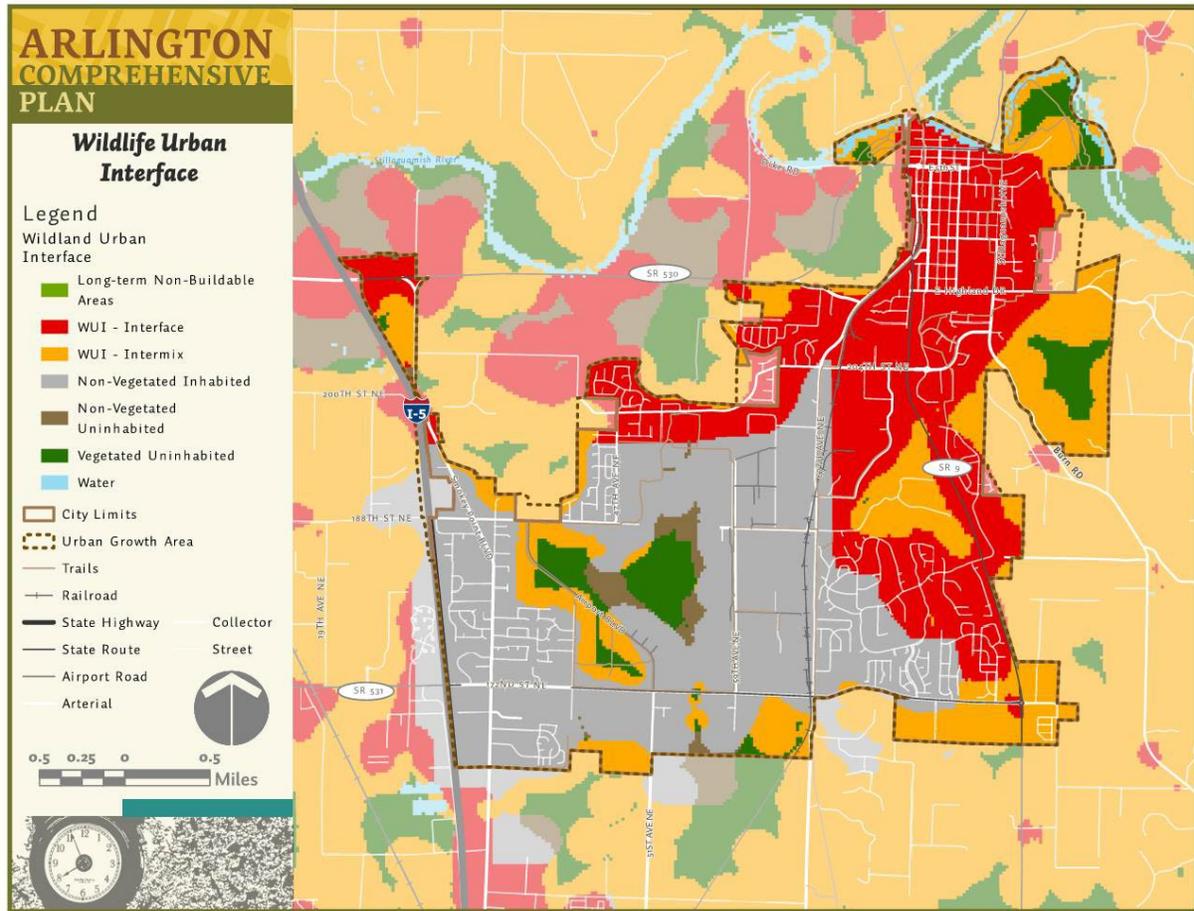
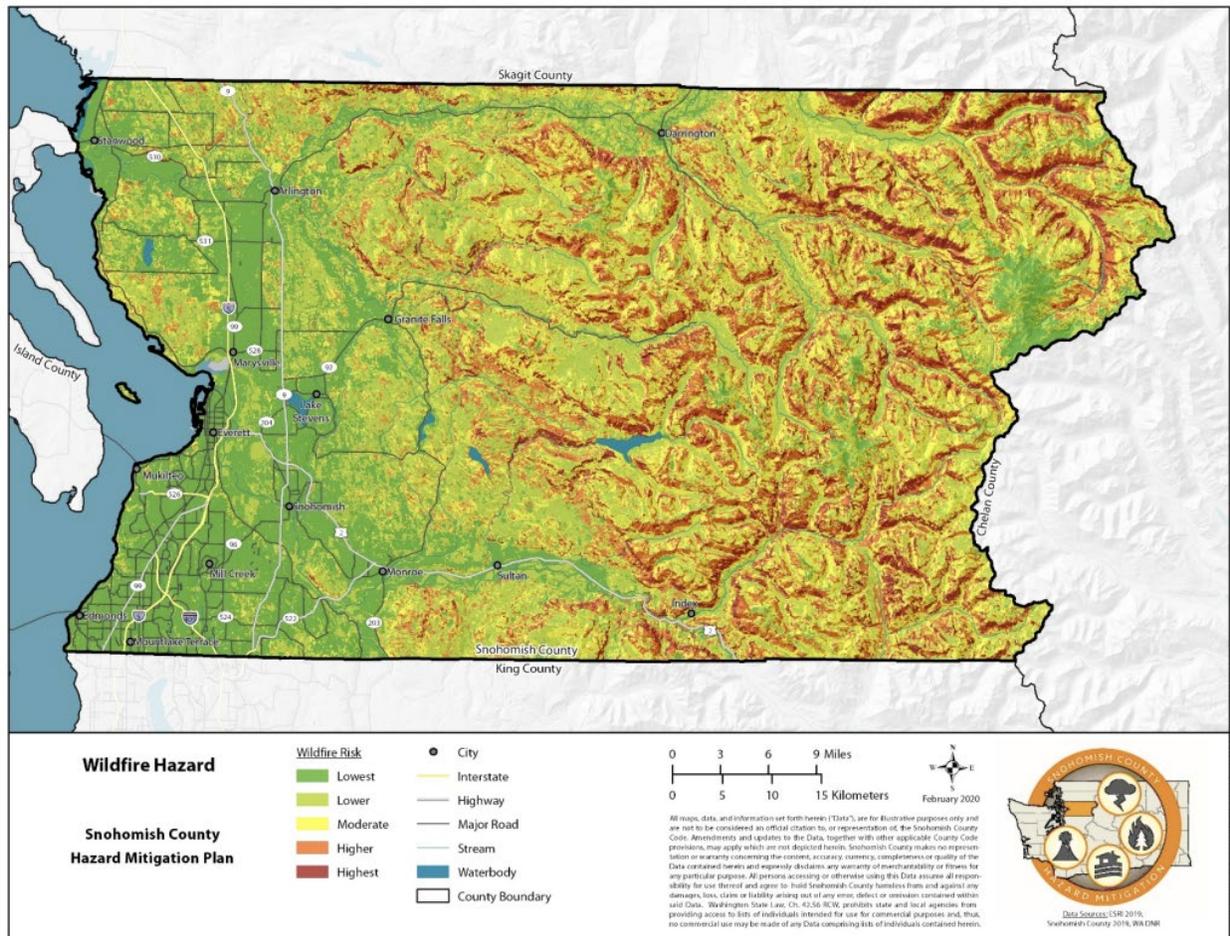


Figure 9 Snohomish County Wildfire Hazard Map



Humanmade Hazards

As seen in Figure 7, humanmade hazards include aircraft accidents, dam failure, and epidemics. The greatest humanmade hazards facing Arlington are epidemics.

Epidemic

According to the Snohomish County HMP, an epidemic is “an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area”.²⁷ An epidemic that has spread to several countries or continents and affects many people is known as a pandemic, such as COVID-19. Outbreaks can occur periodically (e.g. influenza), rarely but have a severe impact (e.g. meningococcal meningitis), occur after a disaster (e.g. cholera), or due to an intentional release (e.g. bioterrorism). Outbreaks can be caused by viruses, bacteria, parasites, fungi, or toxins. Outbreaks can be spread by people, contaminated food or water, medical procedures, animals, insects, or the environment itself. Epidemics are becoming more frequent and are spreading faster and further. Anti-vaccination movements are increasing the community’s vulnerability to new and reemerging diseases.²⁸

Technological Hazards

As seen in Figure 7, technological hazards include cybersecurity incidents and hazardous material accidents. Hazardous material accidents are the biggest technological hazard threat to Arlington.

Hazardous materials

Hazardous materials are substances or materials that pose an unreasonable risk to health, safety, and property, and include hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and other substances. These products are shipped daily on highways, railroads, waterways, and pipelines. Major transportation routes in Arlington that have the potential for a spill include I-5, SR-9, SR-530, and SR-531. There is also a natural gas pipe that runs along the eastern boundary of Arlington City limits and a refined petroleum pipeline that runs through the City, along the western edge of the airport.²⁹

A hazardous material may cause damage to people, property, or the environment when released to soil, water, or air. Environmental damage from such releases depends on the material and the extent of contamination. Hazardous materials can seep through the soil and into groundwater, making it unsafe to drink. Vapors can create a fire, an explosion, and toxic inhalation hazards. Public health impacts of a release can vary from temporary skin irritation to death.

Emergency Management Approach

Arlington Community Wide Emergency Management provides emergency management program leadership, continuity, and direction to enable the City of Arlington, Arlington School District, Cascade

²⁷ Snohomish County. (2020). *Snohomish County Hazard Mitigation Plan, Volume 1*. P. 78.

²⁸ Snohomish County. (2020). *Snohomish County Hazard Mitigation Plan, Volume 1*. P. 78.

²⁹ <https://snohomishcountywa.gov/DocumentCenter/View/8274/Reference-Map-with-Natural-Gas-and-Petroleum-Pipleines-58x36?bidId=>

Hospital, and their partners to respond to, recover from, and mitigate the impacts of disasters. The City addresses emergency management in the phases outlined below.

Mitigation

Mitigation activities are those which eliminate or reduce the probability of disaster. Snohomish County’s Hazard Mitigation Plan (HMP) is informed by the Hazard Identification and Risk Assessment which identifies the hazards, their potential, and their estimated consequences in the County. The HMP details a coordinated plan with action items and mitigation strategies. This plan is reviewed annually to assess the action items.³⁰

Preparedness

Preparedness activities are those which governments, organizations, and individuals develop to save lives and minimize damage. According to the County’s CEMP, the County “seeks to increase preparedness through a variety of programs and avenues including outreach and education, increasing response readiness, training, exercises, and planning”.³¹ These efforts include various entities including the public, other government agencies, the private sector, and the non-profit sector.

Public emergency alert and warning systems allow officials to warn the public about potential or current threats and emergencies. Snohomish County and Snohomish County 911 can send alerts using Emergency Telephone Notification (ETN) and FEMA’s Integrated Public Alert and Warning System (IPAWS). The DEM can provide information through social media, including Nextdoor, Twitter, and Facebook. Additionally, sirens, message and reader boards, NOAA weather radios, loud speakers/door-to-door notifications, captioned EAS messages on television, and TTY on reverse telephonic notification systems can be used to disseminate alerts and warnings throughout Snohomish County. The National Weather Service, other state entities, and other federal entities are also able to send mass communication alerts.

Response

Response activities are those which minimize loss of life and property damage and provide emergency assistance. According to the County’s CEMP, the following organizations maintain disaster response capabilities and regularly train, exercise, and evaluate those capabilities:³²

- Fire departments and emergency medical services
- Law enforcement
- Mass care and sheltering organizations
- Snohomish County Health District
- Local and County Public Works departments
- Snohomish County Department of Emergency Management

³⁰ Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*.

³¹ P. 7 of CEMP

³² Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*.

If the situation arises, for example a long-term or catastrophic incident, additional resources may be necessary and requested. There are existing mutual aid agreements and statewide mobilization plans that may be relied on. Interstate resources may be requested under the Emergency Management Assistance Compact, facilitated through the Washington Emergency Management Division. Federal and other external assistance may also aid in response efforts.

Recovery

According to the County's CEMP "recovery activities are actions taken to begin the process of returning to pre-disaster conditions or new conditions dictated by the disaster."³³ The transition from response to recovery is a gradual process. The circumstances will dictate the pace and timing of recovery efforts. Initial recovery efforts will be activated by the County's Emergency Coordination Center, working through the Snohomish County Recovery Framework. The framework outlines guidelines for recovery efforts including processes and key stakeholders.³⁴ A long-term or catastrophic incident may require external or federal assistance. Disaster Assistance may be available through the Stafford Act if a disaster meets the criteria.

³³ Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*. Page 9.

³⁴ Snohomish County. (December 2019). *Snohomish County Comprehensive Emergency Management Plan (CEMP)*.