# LOCAL HAZARD MITIGATION PLAN

SAINT ALBANS
Vermont

# CITY OF ST. ALBANS, VERMONT

## 2025

**DRAFT**

FEMA Approval Pending Adoption Date
Municipal Adoption Date:
FEMA Formal Approval Date:

**This is a draft for public review and comment.**
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**Technical Assistance by SEAM Solutions LLC**

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# 1 INTRODUCTION

Hazard mitigation planning provides an opportunity for local government to lessen the impact of the next natural disaster. The impact of probable, but unpredictable natural events can be reduced through community planning and action. The goal of this plan is to advance and prioritize mitigation investments to reduce risks posed by natural hazards and to increase the City of St. Albans' resilience to damages from natural hazard impacts.

Hazard Mitigation is any sustained policy or action that reduces or eliminates long-term risk to people and property from the effects of natural hazards. FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that opportunities exist for communities to identify mitigation strategies and measures during all the other phases of Emergency Management: Preparedness, Response and Recovery. While the hazards can never be eliminated completely, it is possible to identify what the hazards are, where their impacts are most severe, and identify local actions and policies that can be implemented to reduce or eliminate the severity of the impacts.

# 2 PURPOSE

The purpose of this Plan is to assist the City in identifying all natural hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risks from those hazards. Once adopted, this Plan is not legally binding; instead, it outlines goals and actions to prevent future loss of life and property. The intent is to create both a short term 5- year pathway of actions while thinking of more long-term resilience actions to mitigate hazards within the community. The benefits of mitigation planning include:

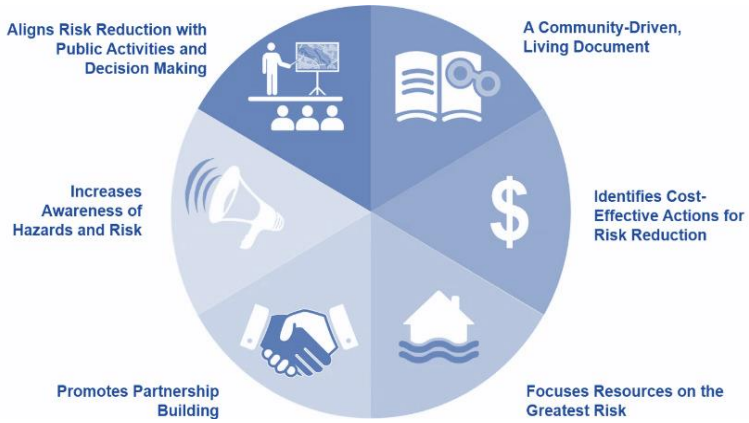



*Table 1 FEMA LHMP Skill Share Workshop 2021*

# 3 COMMUNITY PROFILE

## Land Use – Land Features - Development Patterns

St. Albans City is an urban center covering 2.03 square miles or 1,299 acres surrounded by the separate municipality of St. Albans Town. Residential uses are the most predominant in the City. Residential neighborhoods have developed concentrically outward from the urban core. A mix of uses is found in the City's historic downtown and along Lake Street. Uses in these areas include but are not limited to retailing, professional offices, banks and restaurants, general business and repair services, government services, and upper story apartments. Modern/commercial development has occurred outside of, but generally adjacent to, the downtown, and near the City's edge, on North and South Main Streets. Industrial development in the City is located mainly along railroad land west of Federal Street. Recent industrial/business expansion has been accommodated through the development of the City's industrial park, accessed from Lower Welden Street. Open space in the City comes in a variety of forms and patterns of ownership. There is a substantial amount of remaining open space in St. Albans: approximately 330 mapped acres, or 28% of the total area,

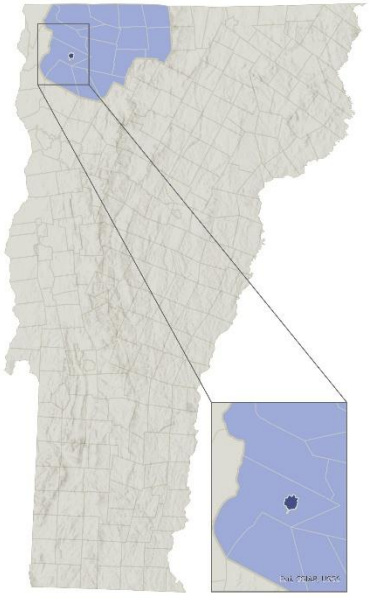


*Figure 1 State map locating St. Albans City*

not including front lawns, vacant lots, and setback areas. The most notable open areas are Taylor Park in the downtown core and Aldis Hill in the northeast corner. The City has zoning regulations in place, including Flood Hazard regulations.

St. Albans City is fortunate to have maintained its traditional urban form, which inherently reflects the principles of smart growth that many communities have lost and are trying to rebuild today. The City, now a State designated Growth Center, consists of a concentrated mixed-use downtown and central green walkable to surrounding residential neighborhoods.

## Demographics and Growth Potential

The current population of St. Albans City is 6,877, according to the 2020 U.S. Census. The City's population curve is typical of traditional centers in Vermont, experiencing substantial growth after its incorporation and then population decline since the mid-1900's, which began as a result of the deterioration of the railroad economy. Most recently, the City's 2020 Census shows a slowing in the population decline of 0.6% since 2010.

The 2020 Census counted 3,258 housing units in St. Albans City, an increase of 27 housing units since 2010. However, the City questions the accuracy of both these numbers, believing that local data does has noted more of an increase in population and housing, especially in light of the housing projects in the community over the course of the decade. Just under half of the housing stock in St. Albans consists of single-family homes, with the remainder consisting of two-family and multi-family homes. Most of the City's multifamily units are in homes with 3-4 units. The second highest number of units is in duplexes and other 2-unit homes.

## Water Features

Stevens Brook, Rugg Brook and Grice Brook are perennial streams that flow through the Town of St. Albans and the City of St. Albans. Stevens and Rugg Brooks discharge into St. Albans Bay on Lake Champlain. The drainage area of the brooks is approximately three (3) square miles. All three brooks are known to flood. Intermittent streams from Aldis Hill have been known to flood.

## Municipal Water Supply

The City operates a municipal water supply system servicing the entire City and parts of the Town of St. Albans. The City maintains 4,076 water accounts, as of the date of this plan; the majority being residential accounts (approximately 13% are commercial and less than 1% industrial). Just under 42% of the water accounts are located in the Town of St. Albans. New service connections are regulated by a water/sewer allocation ordinance.

The City water's system is drawn from two sources – a reservoir complex located in North Fairfax (conventional gravity fed) and Lake Champlain (via a pumping system). The City has owned a reservoir on Silver Lake as an emergency reserve supply but is currently pursuing plans to sell it. The reservoir complex in North Fairfax consists of the South Reservoir/Dam (constructed in 1873) and the North Dam (constructed in 1893). The Maquam Shore Water Treatment Facility was originally constructed in 1953 to supplement the City's water supply with treated water from Lake Champlain.

Distribution of water to the service area is made possible by several large water mains, pump stations, two tanks, each storing one million gallons, and miles of smaller distribution lines. The City's water supply system has sufficient capacity for anticipated growth within the existing service area. There are no plans to expand the service area.

In 2024, the City started an asset management planning project for the water system. This evaluation is informing the City on where to focus future water system improvements and mapping will improve the City's ability to monitor the condition of infrastructure. As needed improvements are identified, they are planned and budgeted in the City's Capital Improvement Program. The results of the asset management plan are expected in late 2025 or early 2026.

## Municipal Wastewater System

The City operates a municipal wastewater treatment system servicing the entire City and parts of St. Albans Town both north and south of the City. The wastewater treatment plant (installed in 1930) is located on Rewes Drive north of the City in the Town of St. Albans. Wastewater and some combined stormwater are transported to the treatment plant via a network of sewer pipes. Approximately 60% of the treated water is combined wastewater/stormwater. Disinfected effluent is discharged into Stevens Brook.

The City maintains close to 3,573 sewer accounts, as of the date of this plan; with the majority being residential accounts (approximately 14% are commercial and less than 1% are industrial). Just under 34% of sewer accounts are located in the Town of St. Albans. As noted in the Water Supply Section, new service connections are regulated by a water/sewer allocation ordinance.

The City recently completed upgrades to the wastewater treatment facility that addressed critical age-related components and added advanced treatment components to meet new more strict discharge permit requirements established by the State in 2016 (Completed in 2019 at a cost of approximately $15 million dollars). Financed through a combination of State Revolving Loan Funds and Federal grant dollars, debt service is paid via allocation fees and rate payer charges.

As a requirement of the discharge permit, the City is required to complete a 20-year engineering evaluation/inspection of the facility. The evaluation will be useful to the City in planning for future improvements. As needed improvements are identified, they will be planned and budgeted for in the City's capital budget and plan.

The St. Albans City wastewater treatment plant has a design capacity of 8 million gallons per day (MGD), but it is currently permitted by the State to receive 4 MGD. As of 2019 the 20-year average flow was 2.7 MGD. Most instances over 4 MGD are situations when combined stormwater is being received by the system. The plant provides primary, secondary and advanced tertiary treatment to wastewater before discharging it into a marshy area of Stevens Brook, and from there into St. Albans Bay. Any flow over 8 MGD during certain events will receive solely primary treatment

### Stormwater Utility

Stormwater refers to rainwater, snow melt, and other precipitation. In a natural setting, stormwater can be absorbed into the soil and or taken up by plants. In developed areas, however, pavement and other impervious surfaces such as rooftops prevent rainwater from infiltrating into the ground, instead "stormwater runoff" moves across these surfaces collecting sediment, nutrients, and other pollutants which quickly flow into waterbodies.

In 2008, the City completed a comprehensive mapping project of the City's stormwater and combined sewer systems. The study included GPS location and mapping of the storm sewer systems (drainage manholes, catch basins, outfalls, etc.) within the City's collection systems and provided a baseline understanding of drainage patterns stormwater management and infrastructure planning.

In 2018 the City created a stormwater utility, funded with an impervious-based fee assessed on all properties. The utility, combined with a new stormwater management ordinance, provides the funds and authority necessary to comply with the flow restoration and phosphorous treatment goals of the City's Municipal Separated Storm-Sewer System (MS4) permit issued by the State. The City has developed plans for stormwater treatment facilities, including at 74 Lower Welden Street, along Lemnah Drive and along the new street proposed as part of the Federal Street Multimodal Connector.

### Transportation

There are 10 miles of arterial streets (Class 1 highways) and 17 miles of collectors and local streets (Class 2 and 3 highways). At the center of the City is the intersection of US 7 (Main Street) and VT 36 (Lake Street/Fairfield Street). VT 38 (Lower Newton Street) and the limited access St. Albans State Highway South (SASH) also pass through the City.

The City of St. Albans exhibits a well-connected street network easily accessed from Interstate 89 via the St. Albans State Highway (SASH) to Main Street and Route 104/Fisher Pond Road to Fairfield Street. Connectivity provides for good traffic circulation, efficient travel between local destinations, and the economical provision of services and infrastructure maintenance. Despite the City's street network, circulation in the City is challenged by only one north-south arterial street (Main Street). The lack of alternate arterials creates traffic congestion on Main Street and is disruptive to neighborhoods as motorists use side streets as short cuts to avoid the congestion on Main Street.

Daily passenger rail service in the City of St. Albans is provided by Amtrak. Private taxi service is available. Fixed route bus service, as well as elderly and disabled transportation is provided by the Northwest Public Transit Network.

The City of St. Albans has sidewalks along most of its streets. The City has implemented a pedestrian crossing system on Main St. with posted signs stating that traffic must yield to pedestrians in crosswalks.

The City operates a fleet of pickup trucks, utility vehicles and equipment to carry out its street maintenance duties. Vehicles and equipment are replaced in cycles (based on accepted life spans) according to the City's capital plan and budget.

The City's culverts and bridges are managed in an inventory, which was last updated in 2008. The inventory
prioritizes culverts and bridges in terms of age, character of improvement, and function. Culverts and bridges prioritized for upgrade are replaced as funding is secured.

Winter road maintenance issues include the storage of salt and sand and space for cleared snow. There is no shelter for the storage of salt and sand at the Public Works Garage. Snow is hauled for storage at Hard'ack after large snow events. All new roads are required to comply with the Vermont State Design Standards. The St. Albans City Development Regulations include specific construction standards for street layout, curve radii, grade, and intersection. All public roads are required to be paved.

### Electric Utility Distribution

St. Albans City is served by power provided by the Green Mountain Power (GMP). The main source of this power used is from Hydro-Quebec in Canada. GMP has several programs that are aimed at energy conservation for both homes and businesses. GMP "Smart Power" is a solution that helps empower the customer to understand their energy usage and in turn make informed energy choices. Electricity costs have been escalating for years, and with the uncertainty of energy resources in the future, the City should do what it can to reduce energy use to reduce energy costs.

| Average Annual Outage Data(2020-2025) | |
|---|---|
| Average number of outages per customer per year | 0.36 times per year |
| Total outage duration per customer | 2.55 hours per year |
| Average length of each outage | 0.92 hours per year |

*Table 2 Table 2 Electric outage history for GMP*

Vermont Gas Systems Inc. (VGS), through an agreement with Western Gas Marketing out of Canada, provides northern Vermont with 15,000 MMBTU per day. According to the 2010 US Census, utility gas is the most popular home heating fuel and was used by 2,025 homes (66.6%). Fuel oil and kerosene are the second most popular home heating fuels with 637 homes (20.9%) and electricity is the third most popular home heating fuel with 214 units (7%) followed by bottled, tank or LP gas at 132 units (4.3%) and wood at 20 units (<1.0%).

### Telecommunications

Access to telecommunication services, including high-speed Internet and cellular phone service are important for economic development and quality of life for residents of the City. Cable, DSL, and wireless internet service are available across all of St. Albans City. Residents and businesses have a number of options in their choice of service providers and can determine what is optimal for their individual needs. Expanding access to fiber optic cable will attract more industry and business. There is a lack of free wireless internet in the City's Downtown, which is an economic and community development goal.

### Public Works

The Public Works Department manages municipal utilities and infrastructure, in addition to the maintenance of municipally owned lands and buildings. These include among other things snow removal, street and sidewalk repair, water and sewer line installation and repair, landscape maintenance, and general repair of public investments. The Public Works Department primarily operates out of the Public Works Garage on Aldis Street with the Public Works Director maintaining an office at City Hall.

### Public Safety

The City Police Department and Central Dispatch are located in a recently-renovated facility at 142 South Main Street. Central Dispatch is Franklin County's Public Safety Answering Point (P.S.A.P.) and communications dispatch center and acts as the central point of the County's public safety communications network, responding to 9-1-1 calls from all of the communities within the county and beyond, and dispatching the appropriate responding agency 24 hours per day.

The St. Albans City Fire Department provides 24-hour-per-day fire and rescue service to City residents. The Department's rescue services include responses to accidents and medical assistance calls. Fire calls are received by the central dispatch office through a combination of communication systems and building alarms systems. The City's water system and hydrants are checked routinely to insure adequate residual water pressure and proper functioning. There is ample water supply and pumping capacity in the event of a major fire. The Fire Department currently budgets for 1.5 full time firefighters and has a rostered call force of 20 volunteer firefighters. The full-time firefighters also provide building inspection services and code enforcement to ensure that structures are constructed in compliance with City ordinances, Vermont Health Regulations, and Vermont Fire and Building Safety Code.

The Fire Department is located at 33 Lower Welden Street, which previously also housed the Police Department and Central Dispatching. The facility is aging and located within a 500-year flood plain. The City has long-term plans to renovate the facility or relocate the Fire Department to a different location.

Ambulance services are provided to the City under contract by AmCare Ambulance Services, located at 256 South Main Street in the City. All emergency service providers in the area have cooperative backup agreements to ensure available coverage at any time.

### Emergency Management

St. Albans City has a NIMS compliant Emergency Operations Plan (EOP) to help organize the City in case of an emergency. The EOP contains emergency preparedness information for responding to local emergencies. The City's police, fire and ambulance providers participate in the Franklin County Mutual Aid Agreement. This is a formal agreement among the municipalities and emergency first responders within Franklin County to lend resource assistance across jurisdictional boundaries when required such as when emergency resource needs are exceeded locally. The Agreement helps the City achieve compliance with the National Incident Management System (NIMS) strategy.

### Critical Infrastructure

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the appropriate jurisdictions, or fulfills important public safety, emergency response, and/or disaster recovery functions. The current scope of this plan is to address these facilities and associated infrastructure. Once

this plan is accepted, there is the possibility to expand the plan to cover other facilities and structures within the community.

The critical facilities identified in this Local Hazard Mitigation Plan include the St. Albans City Elementary School, City Hall, Public Works Garage, Public Safety Building, electric and communication utilities, Public Works Garage, and government offices (including post office, INS, Court Houses). The community hazard mitigation map is included in Figure 2 below. The community map depicts hazard areas, critical facilities, and vulnerable sites based on the best available data derived from local, regional, state and federal sources.

| ADDRESS | FACILITY |
|---|---|
| 50 S MAIN ST | GOVERNMENT |
| 148 FAIRFIELD ST | OUTPATIENT CLINIC |
| 32 LOWER WELDEN ST | FIRE STATION |
| 75 LOWER WELDEN ST | US GOVERNMENT FACILITY |
| 36 LAKE ST | COURT HOUSE |
| 282 S MAIN ST | OIL / GAS FACILITY |
| 20 HOUGHTON ST | GOVERNMENT |
| 86 S MAIN ST | MORGUE |
| 137 N ELM ST | SUBSTATION |
| 45 KINGMAN ST | GOVERNMENT |
| 11 MAIDEN LN | LIBRARY |
| 246 N MAIN ST | OUTPATIENT CLINIC |
| 12 KINGMAN ST | STATE GOVERNMENT FACILITY |
| 4 ACADEMY DR | SCHOOL K / 12 |
| 67 ALDIS ST | GOVERNMENT |
| 30 LOWER WELDEN ST | LAW ENFORCEMENT |
| 55 HAMPTON LN | COMMUNICATION BOX |
| 26 HAMPTON LN | PUBLIC GATHERING |
| 196 S MAIN ST | COMMUNICATION TOWER |
| 169 S MAIN ST | SCHOOL K / 12 |
| 28 CATHERINE ST | GOVERNMENT |

| ADDRESS | FACILITY |
|---|---|
| 30 SUNSET MDWS | HEALTH CLINIC |
| 93 FEDERAL ST | OIL / GAS FACILITY |
| 29 BELLOWS ST | SCHOOL K / 12 |
| 38 LOWER WELDEN ST | OIL / GAS FACILITY |
| 7 FOREST HILL DR | HEALTH CLINIC |
| 7 BISHOP ST | PUBLIC GATHERING |
| 142 S MAIN ST | LAW ENFORCEMENT |
| 2 ACADEMY DR | SCHOOL K / 12 |
| 85 LAKE ST | COMMUNICATION BOX |
| 64 LOWER WELDEN ST | SUBSTATION |
| 256 S MAIN ST | AMBULANCE SERVICE |
| 100 N MAIN ST | CITY / TOWN HALL |
| 17 CHURCH ST | COURT HOUSE |
| 39 BARLOW ST | EDUCATIONAL |
| 74 LOWER WELDEN ST | UTILITY |
| 65 LOWER WELDEN ST | GOVERNMENT |
| 261 N MAIN ST | OUTPATIENT CLINIC |
| 133 FAIRFIELD ST | HEALTH CLINIC |
| 27 FEDERAL ST | STATE GOVERNMENT FACILITY |
| 80 FAIRFIELD ST | HEALTH CLINIC |
| 18 FAIRFIELD ST | US GOVERNMENT FACILITY |

| | |
|---|---|
| 27 LOWER NEWTON ST | HEALTH CLINIC |
| 71 S MAIN ST | SCHOOL K / 12 |
| 156 N MAIN ST | OUTPATIENT CLINIC |
| 12 N ELM ST | EDUCATIONAL |
| 87 S MAIN ST | MORGUE |

*Table 3 Critical Facility Locations*

*Figure 2 Critical Facility Location and SFHA*

## Dams

The St. Albans North Reservoir Dam, owned by the City of St. Albans, was originally constructed in the late 1890s to provide potable water storage for the City. There is also a dam at the south reservoir: the St. Albans South Reservoir Dam. The dams are located in the headwaters of the Mill River in the Town of Fairfax, Vermont, but have been included in this plan due to the City's ownership and legal responsibilities. The dams have been included in the Hazard Mitigation Plan for the Town of Fairfax and will be included in the update to the Hazard Mitigation Plan for the Town of Georgia. Both municipalities are downstream of the dams and would be directly affected by a dam failure.

Both dams have been assigned a High hazard potential classification by the VT DEC Dam Safety Section[1]. High hazard dam structures are defined where an impounding structure failure will cause probable loss of life or serious economic damage. "Probable loss of life" means that impacts will occur that are likely to cause a loss of human life, including but not limited to impacts to residences, businesses, other occupied structures, or major roadways. Economic damage may occur to, but not be limited to, building(s), commercial facilities, public utilities, state roadways, railroad, and personal property.

The dams consist of earthen embankments, a concrete principal spillway, and low level outlet (LLO)/water intake works. The embankment of the North Reservoir Dam is approximately 1,150 ft. long. The maximum height of the dam as measured from the downstream toe of slope to the top of the dam crest is approximately 32 ft. The upstream slope is armored with riprap. The principal spillway is located near the right side of the dam and consists of a fixed crest concrete weir and concrete training walls. The spillway discharges into a discharge channel with a concrete floor and walls. At the traditional "normal pool," equivalent to the lowest fixed spillway crest, the surface area of the impoundment is approximately 39 acres with a normal storage volume of approximately 503 ac.-ft. A water treatment plant owned by the City is located in the downstream area of the dam. In 2024 inspections, the north dam was given a condition rating of Poor, and the south dam was rated Fair. The City has currently contracted for an assessment of both dams, and results of that project are expected in late 2025 or early 2026.

The St. Albans North Reservoir Action Plan was created to "reduce the risk of human life loss and injury and minimize property damage during an unusual or emergency event." The plan covers several scenarios including non-emergency, slow developing breach to imminent dam failure. Different scenarios are also included in the plan including a "sunny day failure" scenario and a "stormy day failure."

There have been no occurrences of dam failure or dam flooding at either reservoir. Dam failure would cause inundation to the south and west of the current dam. Flood waters would drain to Lake Champlain. Depending on the extent of the failure, and the weather conditions during the failure, over 50 structures downstream of the dam could be inundated. Many other structures would be at risk. Transit corridors would be impacted such as Interstate 89, US Route 7, VT Route 104, New England Central Railroad and several municipal roads ( In Georgia: Oakland Station Road, Loomis Road, Conger Road, Polly Hubbard Road, Middle Road, Reynolds Road, Falls Road, US Route 7, Georgia Shore Road, Cline Road and New England Central Railroad. In Fairfax: Interstate 89, Nichols Road, Route 104/Main Street). Most of the area directly downstream of the dam is pasture and cropland. Similar conditions would occur if there was a failure of the South Reservoir Dam.

Dam failure would impact traffic affecting commercial sectors, commuter traffic, and school bus routes. There would be disruptions to power (power poles and lines) and the fiber optic network. 0 Estimated

[1] VT Dam Inventory at https://anrweb.vt.gov/DEC/DamsInventory

damages on 50 structures $11,625,000. This estimate is based on median home value for Fairfax, Vermont. Damage estimates to state and road bridge infrastructure are not included in the estimate.

The City also owns one dam and two dikes associated with Silver Lake. Both dikes have been assigned a Low hazard potential classification by the State, and the last inspections in 2023 rated them as Poor. The Silver Lake dam has a Significant hazard potential classification and was rated as Poor in a 2024 inspection. The ownership of dams has become an increasing burden, in light of regulatory requirements and insurance liability. Due to the obsolete nature of Silver Lake reserve in light of the water supply at Maquam Shore, the City is seeking to sell Silver Lake and the associated dikes.

# 4 PLANNING PROCESS

### Plan Developers

The City assembled a Hazard Mitigation Planning Team to participate in updating the Plan. Team members included: The Director of Planning, Public Works Director, Northwest Region Floodplain Manager, NRPC, Police Department, Fire Chief, Energy Committee, City Development Review Board, and Dairy Farms of America.

The City hired SEAM Solutions to assist with this Plan update. FEMA Building Resilient Infrastructure and Communities (BRIC) funds supported this process.

### Plan Development Process

The 2025 Local Hazard Mitigation Plan is an update to the 2017 single jurisdiction mitigation plan. A summary of the process taken to develop the 2025 update is provided in **Table 4.**

| |
|---|
| **January 10, 2025** – Kick off meeting. Discussed current plan status; planning process; update to plan sections; outreach strategy; critical facilities list. Committee meetings were held online and in person and available to the public. |
| **February 14, 2025** – Discussed outreach list, community survey and critical facilities. Reviewed the Introduction, Purpose and Community Profile sections of the plan. |
| **March 4, 2025** – Plan update and Community Survey announced at Town Meeting Day and made available online or via paper. Survey results are in Appendix D. |
| **March 9, 2025** – Plan update announcement sent to surrounding towns, VTrans District Office, ANR Floodplain Manager, DEC River Manager, Northwest Regional Planning Commission, community stakeholder such as; Agewell, Champlain Housing Trust, Visiting Nurses Association (see email in Appendix XX for a full listing) |
| **March 14, 2025** – Reviewed outreach and started to identify and rank hazards. |
| **April 4, 2025** – Ranking of the hazards completed. Reviewed the list of the past plan actions to update the status and discuss which actions should be in the new plan. |
| **May 9, 2025** – Discussed community capabilities and areas for improvement for administrative and technical, planning and regulatory, outreach and education. Identified mitigation action opportunities. Discussed plan integration, existing and future. |
| **June 13, 2025** – Identified hazard mitigation goals, strategies and programs. Continued to identify list of actions for current plan. |

| |
|---|
| **July 11, 2025** – Continued to identify mitigation actions and supporting elements (timeline, cost, responsibility, etc.). |
| **August 8, 2025** – Finalized mitigation actions and supporting elements (timeline, cost, responsibility, etc.). Prioritize mitigation actions and add any if there are gaps. |
| **September 12, 2025 –** Planning Committee meeting to discuss draft plan and revisions |
| **November 10, 2025** – Draft plan introduced at City Council meeting, and public comment period begins. |
| **TBD** – Draft plan presented at the Planning Commission meeting. Comments |
| **TBD** - *Presented draft plan to surrounding communities including XX. The plan was also distributed to the Town's LHMP committee members, EMD, Northwest Regional Planning Commission, ETC add stakeholders* |
| **TBD** – Sent revised draft plan the LHMP Planning Committee members for 14-day review period. |
| **TBD –** Presented draft to VEM/FEMA |

*Table 4 Plan Development Timeline and Process*

In addition to the local knowledge of Planning Team members and other relevant parties, several existing plans, studies, reports, and technical information were utilized in the preparation of this Plan. A summary of these is provided in **Table 5.**

| |
|---|
| **2017 City Plan** Referenced to develop the Community Profile, Capabilities, Integrating into Existing Plans and Procedures, Mitigation Strategy Updates – Changes Since 2019 Plan in Section 6. |
| **2024 City of St. Albans Development Regulations** Referenced to develop Community Capabilities, Integrating into Existing Plans and Procedures, Mitigation Strategy Updates – Changes Since 2017 Plan in Section 6, NFIP participation and regulation. |
| **2024 Local Emergency Management Plan** Primarily used to identify local organizations that support vulnerable populations to ensure these organizations are invited to participate in the plan update along with updating the Section 3. |
| **2020-2025 Green Mountain Power Outage** Data used to develop Table 2 in the Community Profile Section and identify potential vulnerabilities. |
| **2020 US Census Data** Used to develop the Demographics and Growth Potential information in Section 3. |
| **2021 American Community Survey Five-Year Estimate** Used to develop the Demographics and Growth Potential information in Section 3. |
| **2023 State of Vermont Hazard Mitigation Plan** Primarily referenced to develop the risk assessment and profiles in Section 5**.** |
| **2023 FEMA Local Mitigation Planning Handbook** Used to ensure plan meets the Federal mitigation planning requirements, including those for addressing climate change. |
| **2023 FEMA Hazard Mitigation Assistance Program Policy Guide** Used to ensure plan meets the Federal mitigation planning requirements, including those for addressing climate change. |
| **2021 Vermont Climate Assessment** Referenced to develop the flood risk profile in Section 5. |
| **FEMA NFIP Insurance Reports** Used to determine how many structures are insured and describe NFIP compliance in Section 6. NOTE: Due to FEMA Region I concerns related to personally identifiable information (PII), NFIP repetitive loss and severe repetitive loss information is unavailable for this plan update. |
| **2017 FEMA Region I Mitigation Ideas for Natural Hazards** Used to develop mitigation actions to address impacts from severe winter storms, high winds and floods. |
| **2016 Road Erosion Inventory** Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6. |

| |
|---|
| **VTCulverts** Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6 |
| **VTrans Transportation Resilience Planning Tool** Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6. |
| **Vermont Dam Inventory (VDI)** Referenced to develop the risk profile in Section 5 and mitigation actions to address floods in Section 6. |
| **National Oceanic and Atmospheric (NOAA) National Climatic Data Center's Storm Events Database** Referenced to develop the risk profile and hazard history in Section 5. |
| **FEMA Disaster Declarations for Vermont** Referenced to develop the risk profile and hazard history in Section 5. |
| **OpenFEMA Dataset** Public Assistance Funded Project Summaries for Vermont Referenced to develop the risk profile and hazard history in Section 5. |
| **Vermont Department of Health** Referenced to develop the risk profile in Section 5. |
| **Vermont Agency of Natural of Resources** Referenced to develop the risk profile in Section 5. |
| **Vermont Agency of Natural of Resources Watershed Projects** Referenced to identifying completed and develop mitigation actions to address floods in Section 6 |

*Table 5 Existing plans, studies, reports and technical information*

### Changes since the 2017 Plan

The 2017 local hazard mitigation planning effort analyzed both natural and man-made hazards and the risk they posed to the City of St. Albans. The risk assessment was done utilizing a module of Mitigation 20/20 software which included a hazard profile matrix similar to the current plans ranking. Flooding, severe winter storm (ice storm) followed by high winds and fluvial erosion were ranked as the community's Moderate and High risk hazards. Actions proposed in 2017 focused on mitigating risks from flooding, structural fires, and all hazards that focused on installing generators at critical facilities.

As the City has sought to implement the 2017 mitigation strategy, they have looked for opportunities to incorporate information and recommendations from the 2017 Plan into other plans, programs, and procedures. They were successful in doing so in recent City Plan and Zoning Ordinance updates.

St. Albans City Plan, adopted in 2017, serves as the City's framework and guide for reaching community goals, including those for how future growth and development should proceed.

It includes flood resilience and land use policies and actions to support the goal of mitigating risks to public safety, critical infrastructure, historic structures, and municipal investments posed by flooding.

The City Plan is the basis for local land use controls such as those in Development Regulations, amended in 2024. St. Alban's Development Regulations includes Flood Hazard Area Overlay Districts to ensure the selection, design, creation, and use of development in these hazard areas is reasonably safe and accomplished in a manner that is consistent with public wellbeing, does not impair flood plain services.

In addition, the City has made significant progress in completing other mitigation actions identified in the 2017 Plan – see **Appendix B**.

The primary mitigation goal in the 2025 Plan is to increase the City's resilience to natural hazards by advancing mitigation investment to reduce or avoid long-term risk to people, homes, neighborhoods, the local economy, cultural and historic resources, ecosystems, and Community Lifelines.

When evaluating mitigation actions, the City selected actions that support the mitigation goal and are acceptable and practical for the community to implement. Actions that directly benefit a vulnerable population were assigned a high prioritization score – see **Table 7**.

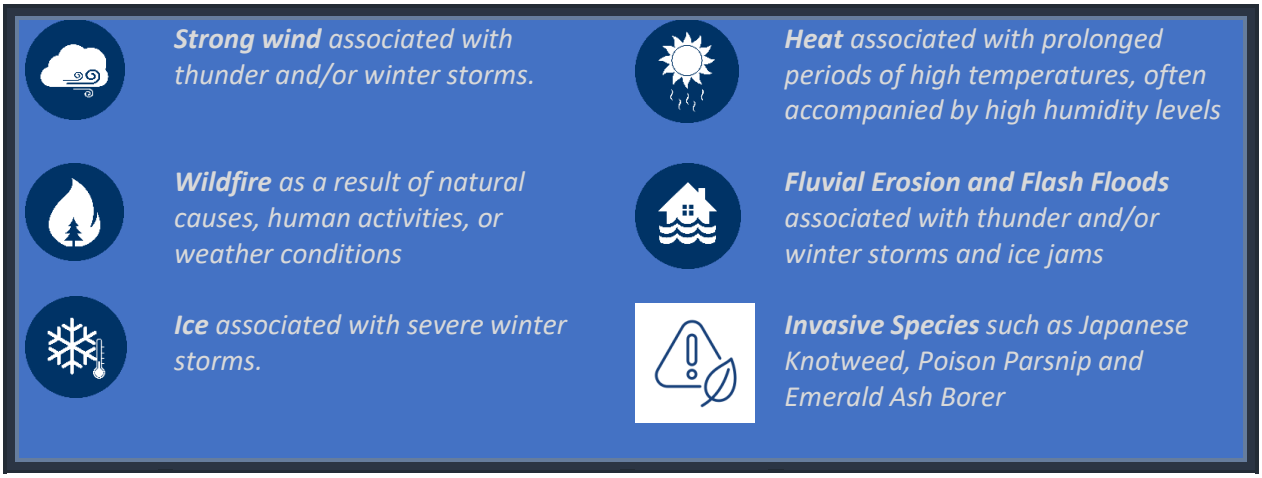
# 5 HAZARD IDENTIFICATION AND RISK ASSESSMENT

### Local Vulnerabilities and Risk Assessment

To be consistent with the approach to hazard assessment in the 2023 State Hazard Mitigation Plan, the Hazard Mitigation Planning Committee conducted an initial analysis of known natural hazard events to determine their probability of occurring in the future and their potential impacts on the people, infrastructure, the environment, and local economy.

This assessment considered the effects of future conditions, like climate change, on the type, location, and range of intensities of identified hazards.

The ranking results are presented (in bold and darker blue in **Table 7** and reflect the following **highest risk hazard impacts** that the City believes they are most vulnerable to:




Each of the **highest risk hazard impacts** are profiled in this section. Lower risk hazard impacts do not justify mitigation due to a low probability of occurrence and/or low impact and are not profiled in this Plan. See the State Hazard Mitigation Plan for information on the lower risk hazards.

Hail and Earthquakes were decided by the planning team to be outside of the realm of justification within our region for mitigation actions. Hail being that the historic record of damage being primarily minimal and to vehicles. Earthquakes even though experienced also are historically small in Vermont do occur but were deemed to be of minimal threat and with no building codes basically impossible for a City to develop effective mitigation strategies. See the State Hazard Mitigation Plan for information on these and other lower risk hazards.

| Federally Declared Disasters in Franklin County | | | | | |
|---|---|---|---|---|---|
| **Year** | **Date** | **Description** | **Dec. #** | **County Est.*** | **St. Albans City** |
| 1998 | 12/11-12/18/1998 | Severe Ice Storm | DR1816 | $1,337,879 statewide | unknown |

| | | | | | |
|---|---|---|---|---|---|
| 2002 | 6/5-6/13/2002 | Severe Storms and Flooding | DR1428 | $291,906.31 | $ 9,024.12 |
| 2004 | 8/12-9/12/2004 | Severe Storms and Flooding | DR1559 | $523,474.40 | $0.00 |
| 2008 | 6/14-6/17/2008 | Severe Storms and Flooding | DR1778 | $245,053.41 | $0.00 |
| 2010 | 12/1-12/5/2010 | Severe Storm | DR1951 | $137,511.92 | $0.00 |
| 2011 | 4/23-5/9/2011 | Severe Storms and Flooding | DR1995 | $290,862.31 | $0.00 |
| 2011 | 8/27-9/2/2011 | Tropical Storm Irene | DR4022 | $300,874.19 | $0.00 |
| 2011 | 4/23-5/9/2011 | Severe Storms and Flooding | DR4043 | $600,020.21 | $0.00 |
| 2014 | 12/20-12/26/2014 | Severe Ice Storm | DR4163 | $852,881.32 | $0.00 |
| 2014 | 4/15-4/18/2014 | Severe Storms and Flooding | DR4178 | $113,227.23 | $0.00 |
| 2017 | 10/29-10/30/2017 | Severe Storms | DR4356 | $149,230.33 | $0.00 |
| 2019 | 10/31 – 11/1/2019 | Severe Storm and Flooding | DR4474 | $3,872,814.21 | $0.00 |
| 2020 | 1/20-5/11/2020 | Covid-19 Pandemic | DR 4532 | $425,778.47 | $4,473.47 |
| 2022 | 12/22-12/24/2022 | Severe Storms and Flooding | DR4696 | $138,589.72 | $0.00 |
| 2023 | 7/7 – 7/17/2023 | Severe Storms, Flooding, Landslides, and Mudslides | DR 4720 | $28,308.46 obl | $0.00 |
| 2024 | 1/9 – 1/13/2024 | Severe Winter Storm | DR 4770 | $46,872.87 obl | $0.00 |

**Federal obligated amount, typically 75% of total amount.*

*Table 6 Federally declared disasters affecting Franklin County and St. Albans City*

| Hazard Impact | Probability | Potential Impact | | | | | Score | Rank |
|---|---|---|---|---|---|---|---|---|
| | | Infrastructure | Life | Economy | Environment | Average | | |
| **Wind** | **4** | **3** | **3** | **3** | **1** | **2.5** | **10** | **1** |
| **Heat** | **4** | **1.5** | **3** | **3** | **2.5** | **2.5** | **10** | **1** |
| **Wildfire** | **2.5** | **4** | **4** | **3** | **4** | **3.75** | **9.375** | **2** |
| **Fluvial Erosion** | **4** | **2** | **3** | **2** | **2** | **2.25** | **9** | **3** |
| **Ice** | **4** | **3** | **2** | **3** | **1** | **2.25** | **9** | **3** |
| **Invasive Species** | **4** | **2** | **2** | **2** | **3** | **2.25** | **9** | **3** |
| Drought | 4 | 2 | 2 | 2 | 2.5 | 2.125 | 8.5 | 4 |
| Cold | 4 | 2 | 3 | 2 | 1 | 2 | 8 | 5 |
| Infectious Disease | 3 | 1 | 4 | 4 | 1 | 2.5 | 7.5 | 6 |
| Inundation Flooding | 4 | 2 | 1.5 | 2 | 1.5 | 1.75 | 7 | 7 |
| Snow | 4 | 2 | 2 | 2 | 1 | 1.75 | 7 | 7 |
| Landslide/slope failure | 3 | 2 | 2 | 1 | 1.5 | 1.625 | 4.875 | 8 |
| Earthquake | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 9 |
| Hail | 3 | 1 | 1 | 1 | 1 | 1 | 3 | 10 |

*Table 7 Community Hazard Risk Assessment*

| | Frequency of Occurrence:<br>Probability of plausibly significant event | Potential Impact:<br>Severity and extent of damage and disruption to population, property, environment, and the economy |
|---|---|---|
| 1 | **Unlikely**: < 1% probability of occurrence per year | **Negligible:** Isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption |
| 2 | **Occasionally**: 1% to 10% probability of occurrence per year, or at least one chance in the next 100 years | **Minor:** Isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption |
| 3 | **Likely:** >10% but <75% probability per year, at least one chance in the next 10 years | **Moderate**: Severe property and environmental damage on a community scale, injuries or fatalities, short-term impact |
| 4 | **Highly Likely:** > 75% probability in a year | **Major:** Severe property and environmental damage on a community or regional scale, multiple injuries or fatalities, significant economic impact |

## Highest Risk Hazard Profiles

### Strong Wind

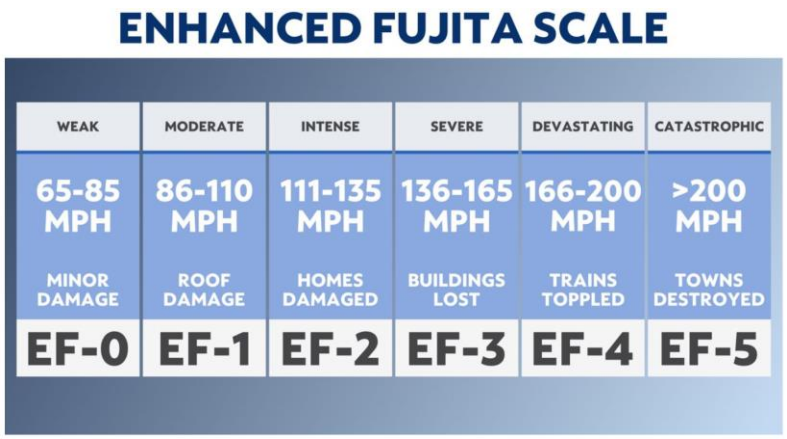
**Hazard Description:** The National Weather Service (NWS) issues a wind advisory when winds are sustained at 31 to 39 mph for at least one hour or any gusts 46 to 57 mph. Winds of 58 mph or higher cause the NWS to issue a High Wind Warning. In Vermont, high winds are most often seen accompanying severe thunderstorms. In fact, straight-line winds are often responsible for most of the wind damage associated with a thunderstorm. These winds are often confused with tornadoes because of similar damage and wind speeds.

**Hazard Extent:** Wind speeds can vary significantly, with gusts reaching 40-60 mph during severe thunderstorms and higher during hurricanes or tropical storms. Wind advisories and warnings are issued by the National Weather Service, often providing several hours to days of advance notice. Wind events can last from a few minutes to several days. High wind events occur several times a year, particularly during hurricane season (June to November) and winter months. Significant wind events in St. Albans City have been associated with hurricanes, tropical storms, and nor'easters. The Beaufort Wind Scale measures wind speeds and anticipated damage.

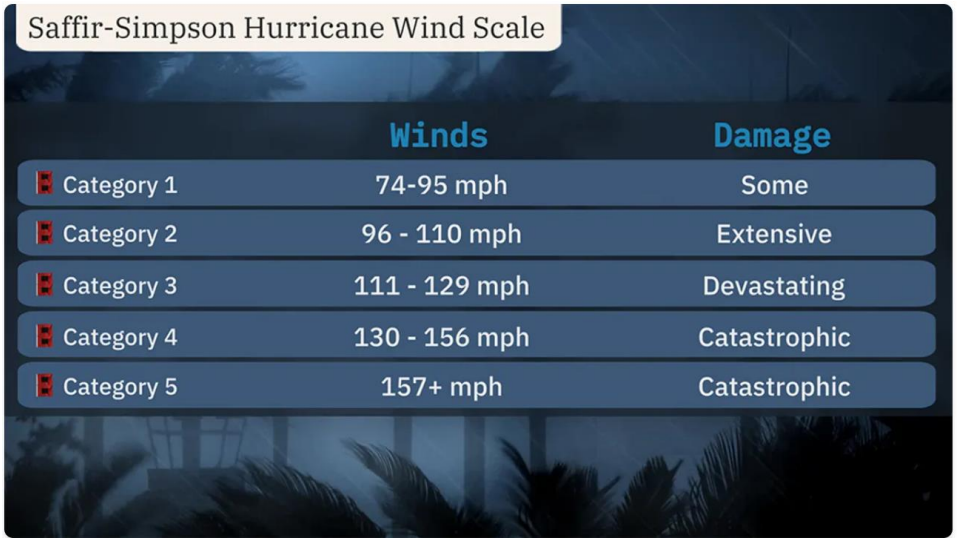
## Beaufort Scale

| Beaufort number | Wind Speed (mph) | Seaman's term | | Effects on Land |
|---|---|---|---|---|
| 0 | Under 1 | Calm | | Calm; smoke rises vertically. |
| 1 | 1-3 | Light Air | | Smoke drift indicates wind direction; vanes do not move. |
| 2 | 4-7 | Light Breeze | | Wind felt on face; leaves rustle; vanes begin to move. |
| 3 | 8-12 | Gentle Breeze | | Leaves, small twigs in constant motion; light flags extended. |
| 4 | 13-18 | Moderate Breeze | | Dust, leaves and loose paper raised up; small branches move. |
| 5 | 19-24 | Fresh Breeze | | Small trees begin to sway. |
| 6 | 25-31 | Strong Breeze | | Large branches of trees in motion; whistling heard in wires. |
| 7 | 32-38 | Moderate Gale | | Whole trees in motion; resistance felt in walking against the wind. |
| 8 | 39-46 | Fresh Gale | | Twigs and small branches broken off trees. |
| 9 | 47-54 | Strong Gale | | Slight structural damage occurs; slate blown from roofs. |
| 10 | 55-63 | Whole Gale | | Seldom experienced on land; trees broken; structural damage occurs. |
| 11 | 64-72 | Storm | | Very rarely experienced on land; usually with widespread damage. |
| 12 | 73 or higher | Hurricane Force | | Violence and destruction. |

The Enhanced Fujita Scale measures tornado wind speeds. While very unlikely, St. Albans City could experience a tornado falling anywhere on the Enhanced Fujita Scale.




Please refer to the State Hazard Mitigation Plan for additional information on the Beaufort Wind Scale, Saffir-Simpson Hurricane Wind Scale and the Enhanced Fujita Scale.




**Hazard Location:**
The City has experienced a long history of a variety of high winds from storm systems that develop along ridgelines. Wind events not only impact St. Albans City but can extend to the County of Franklin and beyond.

**Hazard History:**
According to the NOAA Storm Event Database and in choosing; blizzard, wind chill, high wind, hurricane, marine high wind, strong wind, thunderstorm wind, tornado, tropical depression, and tropical storm there have been 280 events in the region. Of those, the highest wind speed recorded in St. Albans City was 66 kts or 76 mph in 2019. There have been no tornados recorded in Franklin County.

The chart below shows the history of these events by year along with the wind speed when available:

| County | Date | Magnitude | Deaths | Injuries | Property Damage |
|---|---|---|---|---|---|
| WESTERN FRANKLIN (ZONE) | 1/27/1996 | | 0 | 1 | $ 50,000 |
| WESTERN FRANKLIN (ZONE) | 12/1/1996 | | 0 | 0 | $ 10,000 |
| FRANKLIN (ZONE) | 11/10/1998 | | 0 | 0 | $ 10,000 |
| FRANKLIN (ZONE) | 9/17/1999 | | 0 | 0 | $ 10,000 |
| FRANKLIN (ZONE) | 11/2/1999 | | 0 | 0 | $ 5,000 |
| FRANKLIN (ZONE) | 3/28/2000 | | 0 | 0 | $ 10,000 |
| FRANKLIN (ZONE) | 12/12/2000 | | 0 | 0 | $ 10,000 |
| FRANKLIN (ZONE) | 3/10/2002 | | 0 | 0 | $ 5,000 |
| FRANKLIN (ZONE) | 2/10/2001 | 64 | 0 | 0 | $ 1,000 |
| FRANKLIN (ZONE) | 3/10/2002 | 54 | 0 | 0 | $ - |
| WESTERN FRANKLIN (ZONE) | 10/30/2017 | 52 | 0 | 0 | $ 200,000 |
| WESTERN FRANKLIN (ZONE) | 8/28/2011 | 50 | 0 | 0 | $ 200,000 |
| WESTERN FRANKLIN (ZONE) | 2/1/2022 | 50 | 0 | 0 | $ 25,000 |
| WESTERN FRANKLIN (ZONE) | 12/23/2022 | 48 | 0 | 0 | $ 250,000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| WESTERN FRANKLIN (ZONE) | 9/19/2003 | 40 | 0 | 0 | $ | 10,000 |
| WESTERN FRANKLIN (ZONE) | 10/16/2005 | 40 | 0 | 0 | $ | 5,000 |
| WESTERN FRANKLIN (ZONE) | 11/13/2003 | 35 | 0 | 0 | $ | 5,000 |
| WESTERN FRANKLIN (ZONE) | 9/29/2005 | 35 | 0 | 0 | $ | 100,000 |
| WESTERN FRANKLIN (ZONE) | 2/17/2006 | 35 | 0 | 0 | $ | 75,000 |

*Table 8 History of Wind Events in Franklin County*

**City Vulnerability:**

**Built environment:** Wind events can cause damage to City and private property, including buildings' (windows and roofs), downed road signs, utility poles, power, communication and internet lines, and debris blocking roads. These impacts could cause disruption of the transportation system to and from the community and county.

**People:** Wind events can and have cause injuries or fatalities to people who do not shelter-in-place in time, or who do not have adequate shelter. Delayed sheltering-in-place can be caused by non-noticed events, or by individuals who do not heed the warning. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.

**Economy:** Wind events can cause major economic impacts on the City. Impacts include disruption or closure of impacted businesses, homelessness due to house damage, and recovery costs, including employee overtime, time and equipment spent on the repairs.

**Natural environment:** Wind events can cause damage to the environment with downed trees, and uprooted trees and plants.

**Potential Future Impacts:**

**Climate Change:** St. Albans City may experience wind event intensities anywhere on the Beaufort Wind Scale. The Saffir-Simpson Hurricane Wind Scale measures hurricane wind speeds and anticipated damage. It is reasonably anticipated that St. Albans City will not experience a greater than Category 2 Hurricane on the Saffir-Simpson Scale

**Change in Land Use/Development:** No changes to asset impacts due to wind events because of development or land use changes could be identified or anticipated.

**Change in Demographics:** St. Albans City's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Heat

**Hazard Description:** Heat hazards result from prolonged periods of high temperatures, often accompanied by high humidity levels. Heatwaves can pose significant risks to human health, infrastructure, agriculture, and ecosystems. Heatwaves are characterized by extended periods of unusually hot weather, with daytime temperatures exceeding normal seasonal averages and limited relief during the nighttime hours.

**Hazard Extent:** Heat advisories, watches, and warnings are issued by the National Weather Service and local authorities to alert residents to the risks of impending heatwaves. St. Albans City may experience a heat advisory, watch of warning, however given historical data, it's likely that St. Albans City would be issued with a heat advisory**.** 2018 saw record highs with temperatures ranging from upper 80s to upper 90s and dewpoints in the 60s and 70s, creating heat indices in the 95-to-110-degree range for six days.

**Hazard Location:** Heat events not only impact the City of St. Albans City but can extend to Franklin County and beyond.

**Hazard History:** Per the NOAA Storm Events Database, the following extreme heat events occurred:

| County | Date | Crop Damage |
|---|---|---|
| WESTERN FRANKLIN (ZONE) | 8/1/2006 | $ - |
| WESTERN FRANKLIN (ZONE) | 7/21/2011 | $ - |
| WESTERN FRANKLIN (ZONE) | 3/17/2012 | $500,000 |
| WESTERN FRANKLIN (ZONE) | 7/1/2018 | $ - |
| WESTERN FRANKLIN (ZONE) | 6/18/2020 | $ - |
| WESTERN FRANKLIN (ZONE) | 7/7/2020 | $ - |

*Table 9 History of Heat Events in Franklin County*

**City Vulnerability:**
**Built environment:** Heat events can cause a strain on the City's electrical system, leading to brown or blackout events. Extreme heat can also cause thermal expansion of concrete and steel and swelling on connection bridges.
**People:** Heat events can cause injuries or fatalities to people who do not head advisories. People, especially those with disabilities, access, and functional needs, may be more susceptible to heat related injuries, such as heat stroke. Droughts can cause issues to homeowner's wells, leading to compromised drinking water, which could result in health issues.
**Economy:** Heat events can cause economic impacts to the City. Impacts include disruption or closure of impacted businesses and the costs to operate a cooling shelter**.**
**Natural Environment:** Heat events can increase the occurrences of droughts and wildfires.

**Potential Future Impacts:**
**Climate Change:** Climate change has the potential to increase extreme heat occurrences.
**Change in Land Use/Development**: No changes to asset impacts due to extreme heat and drought events because of development or land use changes could be identified.
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Wildfire

**Hazard Description:** Wildfires are uncontrolled fires that spread rapidly through vegetation, forests, grasslands, and other flammable materials. Wildfire may be a result of natural causes (lightning, volcanic eruptions), human activities (arson, campfires, machinery sparks), and weather conditions (high temperatures, drought, strong winds).

**Hazard Extent:** Wildfires in Vermont can spread quickly through dense forests, particularly in dry conditions. Wildfires can last from several hours to several days depending on conditions and response efforts. There is a higher risk of wildfires during late spring, summer, and early fall when vegetation is driest. The National Weather Service (NWS) issues a "Red Flag Warning" when conditions are conducive for wildfires. A Red Flag Warning means warm temperatures, very low humidities, and stronger winds are expected to combine to produce an increased risk of fire danger. In recent years there have been 4 events with the 2021 and 2024 fire resulting in the largest recorded damage at approximately 1 acre.

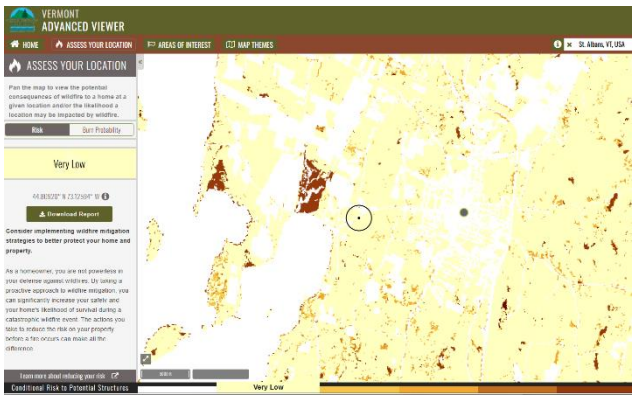



*Figure 3 Northeast - Midwest Wildfire Risk Explorer*

**Hazard Location:** St. Albans City is an urban area with one forested area called Aldis Hill that could be at risk during sustained dry periods.

**Hazard History:** Per the Vermont Hazard Mitigation Plan, there has not been a major wildfire in St. Albans City history, or in Vermont history in the past 50 years.

**City Vulnerability:**
**Built environment:** Wildfire events can cause damage to City and private property, including buildings (burn damage), blocked egress routes, blocked evacuation routes, ferry crossing to New York, loss of electrical power, and roads. These impacts could cause disruption of the transportation system to and from the community and county.
**People:** Wildfire events can cause injuries or fatalities to people who do not evacuate in time. Delayed evacuation can be caused by no-noticed events, or by individuals who do not heed the warning. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.
**Economy:** Wildfire events can cause economic impacts to the City. Impacts include disruption or closure of impacted businesses, and recovery costs, including employee overtime, time and equipment spent on the repairs.
**Natural Environment:** Wildfire events can cause damage to the environment with acres of forests and farmlands being burned.

**Potential Future Impacts:**
**Climate Change:** Climate change has the potential to increase the frequency and intensity of wildfires due to rising temperatures and changing precipitation patterns.
**Change in Land Use/Development:** No changes to asset impacts due to wildfires because of development or land use changes could be identified.
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Floods

**Hazard Description:** Fluvial erosion and inundation flooding are related processes where riverbanks and streambeds are eroded by flowing water, and areas are submerged due to overflow. Fluvial erosion leads to the loss of land and damage to structures, while inundation flooding results from water exceeding the river's capacity and flooding adjacent areas. These hazards are often interconnected. Erosion can weaken banks, making areas more susceptible to flooding. Eroded materials and debris are then deposited in lower lying areas. Inundation flooding can occur rapidly during heavy rainfall, snowmelt, or dam releases, or more slowly in cases of prolonged rainfall and due to beaver activity. Ice Jam related flooding occurs when water is blocked by ice accumulation. This can happen due to warming temperatures coupled with heavy rain.

**Hazard Extent:** Summer downpours and remnants of tropical storms can drop several inches of rain within a short period, having the effect of concentrating flood waters into small and narrow areas, particularly in steeper geographic regions. According to NCDC statistics, the Franklin County Region has experienced 14 flash flood events over the past 25 years. In June of 2002 a wave of low pressure tracking eastward along a strong stationary frontal boundary produced rainfall amounts ranging from 3”-5” in the area. St. Albans City was very fortunate having only approximately $10,000 in public assistance eligible damage.

**Hazard Location:** Stevens Brook, Rugg Brook and Grice Brook are perennial streams that flow through the City of St. Albans and the City of St. Albans. Stevens and Rugg Brooks discharge into St. Albans Bay on Lake Champlain. The drainage area of the brooks is approximately three (3) square miles. All three brooks are known to flood.

Except for short sections of Stevens Brook between Quintin Court and Barlow Street, the average flood depth in St. Albans City is less than 1.0 foot. Most areas are subject only to shallow flooding and are classified as Zone B.

Flooding along Main Street near Lower Welden Street occurs during 100 year flood discharges. Shallow flooding of less than 1.0 occurs in this area. Several residences along Lower Welden Street are affected. The City had installed a retaining wall in the ‘80s to protect several residences from flooding but the wall is in disrepair. Out of bank flooding also occurs along Quintin Court, Barlow Street, Lincoln Avenue and Main Street during heavy rainfall events.

There is no history of ice jam related flooding in the City.

The first stream gauge in the City was installed for Stevens Brook in 2005 on Lemnah Drive. Stream gauge data is very limited for the City. An additional stream gauge was installed just east of the City in St. Albans Town where Stevens Brook drains along Kellogg Road in 2005.

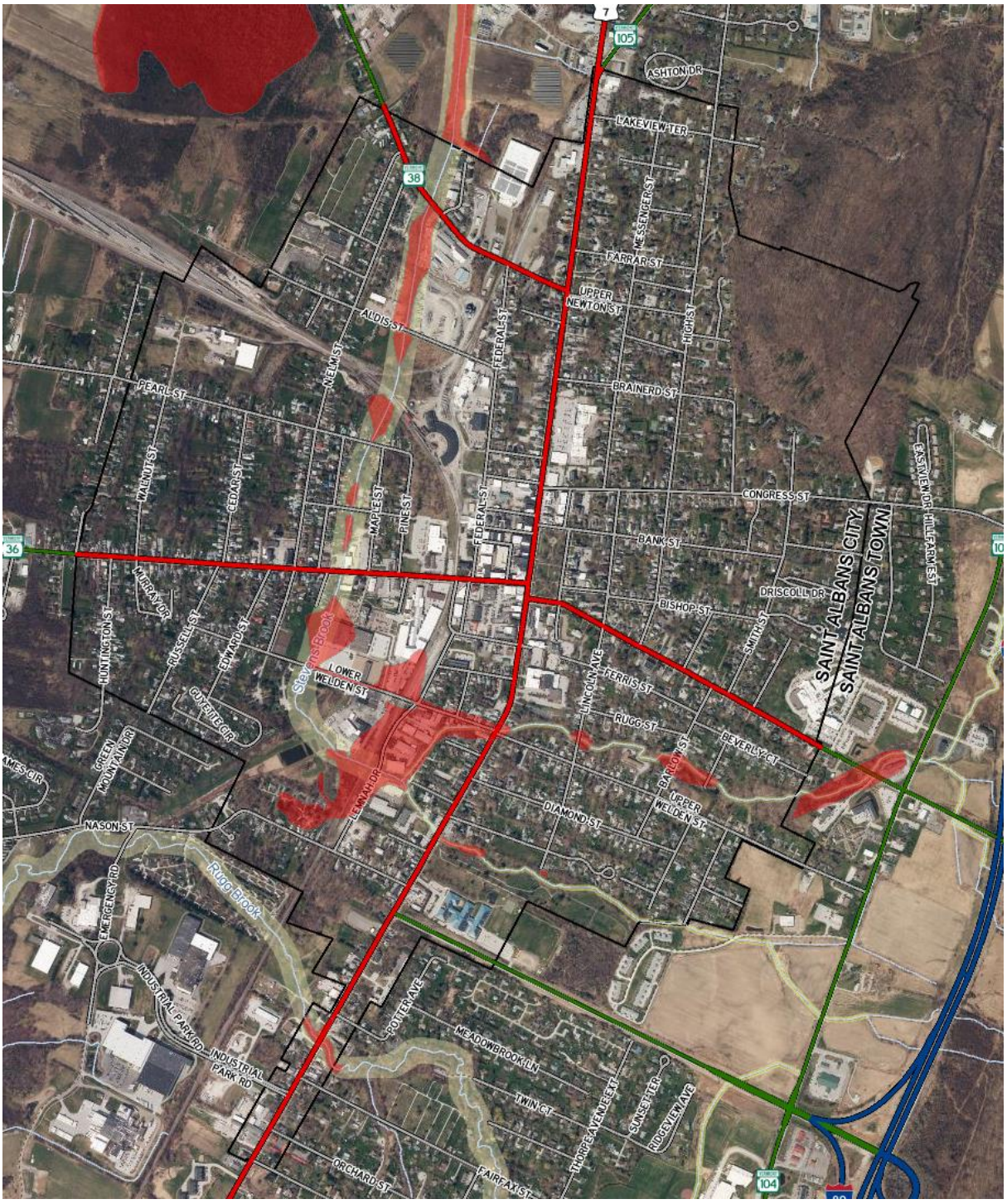



*Figure 4 SFHA and ANR River Corridors*

**Hazard History:** The City of St. Albans has been fortunate to have only been affected by one disaster in the last 25 years resulting in almost $291,000 in damage, which occurred in 2002. The NOAA Storm Events database has recorded 16 flash flood events in the last 30 years.

**Flash Flooding – Franklin County (14 Events)**

| Date | Deaths | Injuries | Property Damage | Cause | Event Narrative |
|---|---|---|---|---|---|
| 7/15/1997 | 0 | 0 | $8,000,000 | | A cold front stalled across northern Vermont during the morning hours of July 15, 1997 and focused heavy convective rain during the morning of July 15. This resulted in numerous road and bridge washouts, especially in eastern Franklin county. Extensive flooding of tributary rivers was followed by flooding of larger rivers. Flooding of the Trout River was especially severe and resulted in major road and bridge washouts in Montgomery Center. |
| 1/8/1998 | 0 | 0 | $10,000 | | |
| 3/28/1998 | 0 | 0 | $250,000 | | |
| 4/1/1998 | 0 | 0 | $10,000 | | |
| 6/30/1998 | 0 | 0 | $10,000 | | |
| 8/11/1998 | 0 | 0 | $1,000,000 | | |
| 1/24/1999 | 0 | 0 | $10,000 | | |
| 2/28/2000 | 0 | 0 | $20,000 | | |
| 6/5/2002 | 0 | 0 | $25,000 | | |
| 5/19/2006 | 0 | 0 | $75,000 | | |
| 6/29/2006 | 0 | 0 | $20,000 | | |
| 6/17/2008 | 0 | 0 | $100,000 | Heavy Rain | Very heavy rainfall caused a significant washout on Green Mountain and a few other roads in and around Montgomery. |
| 5/20/2011 | 0 | 0 | $50,000 | Dam / Levee Break | Slow moving thunderstorms produced excessive rainfall in a short amount of time, producing flash flooding. Roads affected were Swamp Road, Route 26, Taylor Road, and Boozan Hill Road. |
| 11/1/2019 | 0 | 0 | $750,000 | Heavy Rain | Numerous roads flooded with full and partial road washouts and swift water rescues in Montgomery, Enosburg Falls and Richford vicinity. Additional flooding later in te day as a result of river flooding from the Missisquoi river.\|\|Flash flooding transitioned to areal flooding in and outside of the initial flash flooding area |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | including the Missisquoi river and its tributaries. |

**Flood events in Franklin County (18 events)**

| Date | Deaths | Injuries | Property Damage | Crop Damage | Cause | Event Narrative |
|---|---|---|---|---|---|---|
| 3/10/1998 | 0 | 0 | $ - | $ - | | |
| 4/1/1998 | 0 | 0 | $ 10,000 | $ - | | |
| 4/12/2001 | 0 | 0 | $ 5,000 | $ - | | |
| 4/23/2001 | 0 | 0 | $ 5,000 | $ - | | |
| 5/1/2001 | 0 | 0 | $ 5,000 | $ - | | |
| 6/12/2002 | 0 | 0 | $25,000 | $ - | ASOS | |
| 5/19/2006 | 0 | 0 | $50,000 | $ - | | |
| 1/26/2010 | 0 | 0 | $ - | $ - | Ice Jam | Ice jams on the Missisquoi River closed portions of state highways on January 26. A jam near East Highgate was the most significant, closing down all of route 78. Another ice jam near the Enosburg/Berkshire town line closed one lane of Route 105. Another section of Route 105 to the west of the Route 236 intersection was closed to one lane of traffic by water spilling over an undersized culvert. |
| 8/4/2010 | 0 | 0 | $ - | $ - | Heavy Rain | Runoff from the previous nights rainfall caused Black Creek to flood local roads in Fairfield and Bakersfield. Portions of Ryan Road, and Elm Brook Road flooded, and water reached the edge of Route 36 between Fairfield village and East Fairfield. |
| 3/6/2011 | 0 | 0 | $ - | $ - | Ice Jam | An ice jam formed on the Trout River along Route 118 in Montgomery. The highway was closed during the day, and reopened in the evening when water cleared. Further downstream, an ice jam on the Missisquoi River formed along Route 105. |
| 4/11/2011 | 0 | 0 | $10,000 | $ - | Heavy Rain / Snow Melt | The Missisquoi River and its tributaries flooded from rainfall and snowmelt runoff. Boston Post Road was down to one lane in Enosburg at 16:20 EST on 4/11/2011, and the Missisquoi River at East Berkshire VT |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | went above its flood stage of 13.0 feet at 00:40 EST on 4/12/2011, and crested 13.34 feet at 09:30 EST on 4/12/2011. |
| 4/27/2011 | 0 | 0 | $ 500,000 | $ - | Heavy Rain / Snow Melt | Runoff from heavy rain and snowmelt caused flooding of the Missisquoi River and its tributaries. The Missisquoi River flooded portions of Route 105 between Sheldon and Berkshire. The Trout River, a tributary to the Missisquoi, flooded portions of Route 118 between Montgomery Center and East Berkshire, and a slope failure closed a portion of Route 118. Other local roads in Enosburg, Fairfax, Georgia, St. Albans, and Swanton were damaged by flood waters. The river gage on the Missisquoi River at East Berkshire exceeded its flood stage of 13 feet at 02:33 EST on April 27, and crested at 13.66 feet at 04:45 EST. |
| 8/28/2011 | 0 | 0 | $500,000,000 | $500,000 | Heavy Rain | Heavy rainfall from Tropical Storm Irene caused flooding across Franklin County VT. Along the Missisquoi River and its tributaries, floodwaters inundated and forced the closures of routes 105, 118, and 108. The Missisquoi River at East Berkshire crested at 14.13 feet at 1:00 am EST August 29. Flood stage is 13.0 feet. |
| 4/15/2014 | 0 | 0 | $250,000 | $ - | Heavy Rain / Snow Melt | Flooding from heavy rain and snowmelt caused damage to roadways across much of Franklin County. Montgomery was the hardest hit, with several washed out roads and culverts. Road and culvert damage also occurred in Bakersfield, Richford, and Sheldon. Flooding along the Missisquoi River forced the closure of Routes 118 and 105 in Berkshire, and portions of Route 105 were also flooded in Sheldon and Enosburg. Flood waters damaged a section of the Missisquoi Valley Rail Trail. The river gage on the Missisquoi River at East Berkshire went above its flood stage of 13 feet at 1 pm EST on |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | April 15, crested at 15.64 feet at 9:15 pm EST April 15, and fell below flood stage at 11:35 pm EST on April 16. |
| 6/10/2015 | 0 | 0 | $150,000 | $ - | Heavy Rain | Brousseau and Morey Roads in Highgate VT were damaged and closed due to washouts. |
| 2/25/2016 | 0 | 0 | $10,000 | $ - | Ice Jam | An ice jam on the Missisquoi River in Franklin county caused the river to spill its banks in several places from East Berkshire to Enosburg Falls. Route 105 was closed for an extended period of time. |
| 2/25/2017 | 0 | 0 | $5,000 | $ - | Ice Jam | River rises on the Missisquoi River due to rain and snow melt led to ice break up. Ice jams on the Missisquoi flooded Marvin Road near Richford, Route 78 near East Highgate, and Waugh Farm Road near Swanton. |
| 1/13/2018 | 0 | 0 | $ 150,000 | $ - | Ice Jam | A large ice jam formed on the Missisquoi River in the Village of Swanton, VT, extending from below the Route 78 bridge upstream for several miles. Numerous structures were impacted with dozens of homes evacuated. State Route 78 was closed for nearly 24 hours due to high water. Several of the impacted homes were heavily damaged. |

*Table 10 History of Flooding in Franklin County*

**Future Probability and Potential Impacts:** With the increased frequency of heavy rains experienced in the past 25 years, conditions for flash flooding would appear to be increasing as well. Climatologists agree that the predicted slow rise in temperatures worldwide can be expected to result in more heavy precipitation events associated with flash flooding.

**Climate Change:** Climate change has profound effects on weather patterns, precipitation, and temperature, all of which significantly impact fluvial erosion and flooding. Increased river flows, earlier and rapid snowmelt, more severe storms, vegetation loss and soil saturation, as a result of climate change, may impact fluvial erosion and flooding event frequency and intensity.

**Change in Land Use/Development:** The city has adopted inundation hazard area regulations and participates in the national flood insurance program.

**Change in Demographics**: St. Albans City ’s population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

**City Vulnerability:**

**People:** Fluvial erosion and flooding events can cause injuries or fatalities to people who do not evacuate in time. Delayed evacuation can be caused by no-noticed events, or by individuals who are hesitant to

leave their houses. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.
**Built environment:** Fluvial erosion and flooding events can cause damage to city and private property, including roads, culverts, driveways, bridges, wells, sewage facilities/septic systems, and buildings.
**Natural environment:** Fluvial erosion and flooding events can cause damage to the environment and fragile ecosystems. Vulnerabilities and impacts include algae blooms (harmful to the environment, and toxic to animals/people), transportation of invasive species, soil and bank erosion, and pollution.
**Economy:** Fluvial erosion and flooding events can cause major economic impacts to the city. Impacts include disruption or closure of impacted businesses, homelessness due to house damage, and recovery costs, including employee overtime, time and equipment spent on the repairs.

**Ice**

**Hazard Description:** According to the 2023 VT State Hazard Mitigation Plan "Ice storms are characterized by ice accretion from freezing rain, which can weigh down trees and power lines, causing outages and potentially occurring in conjunction with flooding. Ice storms can occur alone or in conjunction with snowstorms, blizzards, for wind impacts, and extreme cold.

**Hazard Extent:** Ice events can occur several times each winter season, with major storms happening every few years. Significant ice storms have occurred in St. Albans City, with notable events causing widespread power outages and transportation disruptions. For example, the Ice Storm of 1998 heavily impacted the region.

Ice accumulation can range from a light glaze (less than 0.25 inches) to significant buildup (greater than 0.50 inches). Severe ice storms can lead to widespread damage. The Ice Storm of 1998 also caused widespread power outages and transportation disruptions with the largest recorded accumulation between 1 and 2 inches.

**Hazard Location:** Ice events not only impact the City of St. Albans but can extend to the County of Franklin and beyond.

**Hazard History:** The table below identifies a history of occurrences in Franklin County listed in the NOAA Storm Events Database. Anecdotally there have also been smaller events not listed that have caused minor disruptions in the City.

| County | Date | Property Damage |
|---|---|---|
| FRANKLIN (ZONE) | 1/6/1998 | $1,000,000 |
| WESTERN FRANKLIN (ZONE) | 12/20/2013 | $1,000,000 |

*Table 11 - History of Ice Storms in Franklin County*

**City Vulnerability:**
**Built environment:** Ice storms events can cause damage to city and private property, including buildings, blocked egress routes, blocked evacuation routes (caused by falling trees), downed powerlines, and roads. These impacts could cause disruption of the transportation system to and from the community and county.
**People:** Ice storms events can cause injuries or fatalities to people who do not shelter-in-place, or who do not have adequate shelter. Delayed sheltering-in-place can be caused by no-noticed events, or by individuals who do not heed the warning. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.

**Economy:** Ice storms events can cause economic impacts to the city. Impacts include disruption or closure of impacted businesses, and recovery costs, including employee overtime, time and equipment spent on the repairs.
**Natural environment:** Ice storms events can cause damage to the environment with downed trees.

**Potential Future Impacts:**
**Climate Change:** Climate change significantly affects weather patterns, including the frequency, intensity, and geographic distribution of ice storms. These changes can increase frequency and intensity of ice storms leading to more ice accumulation and reduce snowpack.
**Change in Land Use/Development:** No changes to asset impacts due to ice storms events because of development or land use changes could be identified or anticipated.
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Invasive Species

**Hazard Description:** The National Invasive Species Council defines an invasive species as one that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species can overwhelm native species and their habitats, forcing the native species out. They are considered to pose the second greatest threat to biodiversity globally. Invasive plants in Vermont, such as Japanese knotweed, common reed (Phragmites), purple loosestrife, and garlic mustard can change soil composition, change water tables, and disrupt insect cycles. They often lack food value upon which wildlife depends. Some invasive animals prey heavily upon native species while others, such as the alewife and zebra mussel, outcompete native species for food and nutrients with significant impacts reverberating up and down food chains.

Invasive pests such as Emerald Ash Borer (EAB), first found in Vermont in 2018, have serious financial implications for forest landowners and municipalities alike. EAB feeds on ash trees in Vermont, deeply damaging each tree and hindering its ability to move carbohydrates and water resources as necessary. Infected trees will die between three and five years after the introduction of EAB. Productive timber is destroyed by EAB and trees along roads become hazards as they die and disrupt powerlines. Preventative measures can slow the further spread of these insects and protect native ash populations. Additionally, invasive species can directly or indirectly cause harm to human health. Giant hogweed, wild parsnip and wild chervil are three invasive plant species in Vermont that have phytophototoxic properties, meaning direct contact of their sap with human skin can cause a chemical reaction that makes skin hypersensitive to ultraviolet light. Vermonters have received serious skin burns from the toxicity of the sap of these plants combined with exposure to sunlight. Another example is that of Japanese barberry, which has been proven to increase the incidence of Lyme disease by providing sheltered habitat that increases the abundance of small rodents, which act as hosts to the ticks that carry Lyme disease pathogens.

The risk are invasive species is higher in more disturbed soils and developed areas. But the extent is varied Emerald Ash Borer is more likely to be found in the heavily wooded upland slopes with Japanese knot weed along the river and stream banks. The City generally will follow the State of Vermont guidance from the Agency of Natural Resources on how to deal with invasives and work with partners to mitigate their damage.

**Hazard Extent:** The extent of impact can vary from localized infestations to widespread ecological disruption.

**Hazard Location:** All ecosystems in St. Albans City, including forests, wetlands, agricultural lands, and waterways, are susceptible to invasion by non-native species.

**Hazard History:** According to the Vermont Forest Invasive Pests Status Map, Emerald Ash Borer was found in St. Albans City in 2025.

**City Vulnerability:**
**Built Infrastructure:** Invasive species may cause overgrowth or damage to various built environments, such as power, communication, internet lines and impinging on culverts. The damage can range from minor to catastrophic.
**People:** People may be infected or made ill by invasive species events (e.g., swimming in an active milfoil bloom).
**Economy:** Invasive species could potentially have an impact on the tourism industry with the closure of local bodies of waters and outdoor recreation trails.
**Natural environment:** Invasive species can wipe out an entire local ecosystem, causing complete devastation to the local natural environment. Bodies of water may become uninhabitable, and forests can see complete devastation. Tree health is of particular concern in St. Albans City.

**Potential Future Impacts:**
**Climate Change:** Warmer temperatures and altered precipitation patterns can create more favorable conditions for invasive species to thrive and expand their range. Species that were previously limited by cold temperatures may be able to establish populations in new areas, including higher elevations and latitudes. Climate change can influence the distribution and abundance of vectors (e.g., mosquitoes, ticks) that transmit invasive -borne diseases. Warmer temperatures and changes in precipitation patterns can expand the geographic range of these vectors, increasing the risk of invasive species introductions and disease transmission. Invasive species themselves can contribute to climate change through various mechanisms, such as altering carbon cycling, disrupting ecosystem services, and promoting changes in land cover and vegetation dynamics. These feedback loops can further exacerbate the impacts of climate change on ecosystems.
**Change in Land Use/Development:** Increased recreational use or development in forest reserve districts can lead to habitat modification, fragmentation of natural habitats, altered disturbance regimes, changes in hydrology and drainage and loss of native biodiversity.
**Change in Demographics:** St. Albans City ’s population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Drought

**Hazard Description:** Drought is a prolonged period of abnormally dry weather characterized by a deficiency in precipitation, resulting in water scarcity and environmental stress. Droughts can have significant impacts on agriculture, water resources, ecosystems, and socio-economic systems. Droughts manifest gradually and can vary in duration, intensity, and spatial extent. They may be triggered by natural climate variability, such as atmospheric circulation patterns, or exacerbated by human activities, such as

land use changes and water management practices. Heat hazards result from prolonged periods of high temperatures, often accompanied by high humidity levels. Heatwaves can pose significant risks to human health, infrastructure, agriculture, and ecosystems. Heatwaves are characterized by extended periods of unusually hot weather, with daytime temperatures exceeding normal seasonal averages and limited relief during the nighttime hours.

**Hazard Extent:** Droughts can affect large geographic regions, including urban and rural areas, agricultural lands, forests, and waterways. Drought severity is often categorized based on indicators such as precipitation deficits, soil moisture levels, streamflow, and water storage reservoir levels. Severe droughts can lead to significant water shortages, ecological disturbances, and socio-economic impacts. Severe droughts can result in reduced water availability for drinking, irrigation, and industrial uses, leading to economic losses, environmental degradation, and social disruption. St. Albans City and the surrounding region have experienced heatwaves in the past, with notable events leading to heat-related illnesses, increased energy demand, and stress on infrastructure. Heat advisories, watches, and warnings are issued by the National Weather Service and local authorities to alert residents to the risks of impending heatwaves. St. Albans City may experience a heat advisory, watch warning, however given historical data, it's likely that St. Albans City would be issued with a heat advisory.

**Hazard Location:** All areas of St. Albans City and the surrounding region are susceptible to drought and extreme heat events.

**Hazard History:** Per the 2023 Vermont State Hazard Mitigation Plan: "The droughts in the mid-1960s were the most severe in Vermont. Every county in the state experienced Exceptional Drought (D4) conditions in May of 1965. Since the 1960s Vermont has experienced several less severe periods of drought.

There have been 9 instances of D2 (Severe Drought) level droughts in Franklin County VT since 2000. One longer event in 2021 and then one short event in 2017 and a short D3 in 2018.

The following chart was developed from the National Integrated Drought Information System for Franklin County:

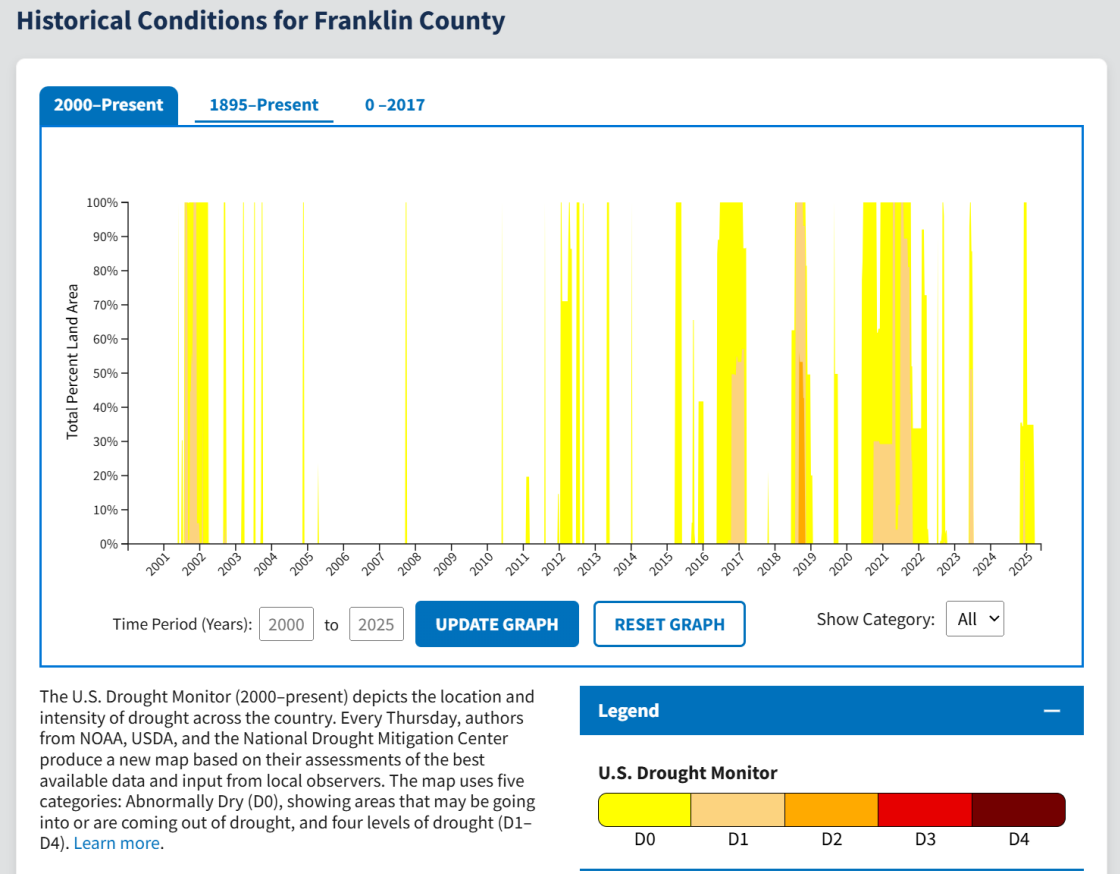



*Table 12 History of Drought in Franklin County*

**City Vulnerability:**

**Built environment:** Droughts can potentially result in loss of access to potable water when springs or drilled wells dry up.

**People:** Droughts can cause issues to homeowner's wells, leading to compromised drinking water, which could result in health issues.

**Economy:** Droughts can impact the tourism industry, with depleted streams or areas for water activity or during foliage season.

**Natural Environment:** Droughts can cause minor to catastrophic issues for the natural environment. Local wild plants and crops may be lost during a prolonged drought event. Additionally, a drought can lead to streams and groundwater being depleted, which impacts wild and domesticated animals including livestock.

**Potential Future Impacts:**

**Climate Change:** Climate change has the potential to increase extreme heat occurrences, therefore there is an increased likelihood of future drought events, both in frequency and magnitude.

**Change in Land Use/Development:** No changes to asset impacts due to extreme heat and drought events because of development or land use changes could be identified.

**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Cold

**Hazard Description:** What constitutes "extreme cold" can vary across different areas of the country based on what the population is accustomed to in their respective climates. Vermont is adapted to cold conditions; however very cold temperatures remain a threat despite their commonality during Vermont winters. Cold temperature hazards result from prolonged periods of frigid weather, often accompanied by snowfall, ice accumulation, and strong winds. Cold snaps and extreme cold events can pose significant risks to human health, infrastructure, agriculture, and ecosystems. Cold temperature hazards are characterized by below-freezing temperatures, with daytime highs and nighttime lows falling well below normal seasonal averages.

**Hazard Extent:** Cold temperature hazards can affect large geographic regions, with varying degrees of intensity and duration. Cold temperature hazards occur annually during the winter months, with varying frequency and severity depending on weather patterns and atmospheric conditions. Cold temperature hazards are characterized by below-freezing temperatures, often dropping below 0°F during extreme cold snaps. Wind chill factors can exacerbate the perceived coldness, increasing the risk of frostbite and hypothermia. St. Albans City and the surrounding region have experienced severe cold snaps, winter storms, and blizzards in the past, leading to impacts such as frostbite, hypothermia, power outages, and transportation disruptions. Cold weather advisories, watches, and warnings are issued by the National Weather Service and local authorities to alert residents to the risks of impending cold snaps and extreme cold events.

**Hazard Location:** St. Albans City and surrounding areas are susceptible to cold temperature hazards, with areas closer to Lake Champlain typically experiencing colder temperatures and more severe winter conditions.

**Hazard History:** The table below identifies a history of occurrences from NOAAs Storms Events Database:

| County | Date |
|---|---|
| WESTERN FRANKLIN | 1/25/2007 |
| WESTERN FRANKLIN | 3/6/2007 |
| WESTERN FRANKLIN | 3/9/2007 |
| WESTERN FRANKLIN | 1/14/2009 |
| WESTERN FRANKLIN | 1/7/2015 |

*Table 13 History of Cold Weather in Franklin County*

**City Vulnerability:**

**Built environment:** Cold weather events can cause damage to city and private property, including buildings (roof collapse), blocked egress routes, blocked evacuation routes, frozen pipes, and downed powerlines

**People:** Cold weather events can cause injuries or fatalities to people who do not shelter in-place, or who do not have adequate shelter. Delayed sheltering-in-place can be caused by no-noticed events, or by individuals who do not heed the warning. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.

**Economy:** Cold weather events can cause economic impacts to the city. Impacts include disruption or closure of impacted businesses, and recovery costs, including employee overtime, time and equipment spent on the repairs.

**Natural Environment:** Cold weather events can cause damage to the environment with downed trees.

**Potential Future Impacts:**
**Climate Change:** Climate change significantly affects weather patterns, including the frequency, intensity, and geographic distribution of extreme cold events. These changes can increase frequency and intensity of snow and ice storms, change snowfall patterns, lead to more ice accumulation, and reduce snowpack.
**Change in Land Use/Development:** No changes to asset impacts due to extreme cold events as a result of development or land use changes could be identified.
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Infectious Disease

**Hazard Description:** Infectious disease outbreaks refer to the occurrence of cases of disease more than is normally expected in a population or geographic area. These diseases are typically caused by bacteria, viruses, fungi, or parasites.

**Hazard Extent:** Outbreaks can last from days to years, influenced by factors such as the nature of the pathogen, public health response, and population immunity. Some diseases have seasonal patterns (e.g., influenza in winter, vector-borne diseases in warmer months).

**Hazard Location:** Infectious disease outbreaks can occur anywhere in St. Albans City . Recently, St. Albans City , as did the entire United States, saw direct impacts from the COVID-19 pandemic.

**Hazard History:** Per the 2023 Vermont State Hazard Mitigation Plan, the following disease outbreak events have occurred in Vermont:
• 1918, 1957, 1968 – Pandemic Influenza
• 2009 – H1N1 strain
• 2015 – Sika virus
• 2020 – COVID-19

**City Vulnerability:**
**Built environment:** A disease outbreak can cause a strain on local health care facilities. Additionally, facilities may need to be modified to respond to the crisis (e.g., school turned into a triage center).
**People:** People with disabilities, access and functional needs may be most vulnerable to disease outbreak events. An outbreak event can impact any person.
**Economy:** Infectious disease outbreak events can cause economic impacts to the city and to its residents. Impacts include disruption or closure of impacted businesses, and costs to operate immunization clinics.
**Natural Environment:** Infectious disease outbreak events can originate from local environments (e.g., farms, lakes, etc.) and mitigative measures may need to be taken to prevent future spread (e.g., treatment of a body of water).

**Potential Future Impacts:**
**Climate Change:** Climate change has the potential to increase the frequency and intensity of disease outbreak events through various mechanisms. Temperature changes may increase vector-borne disease and pathogen survival. Extreme weather events (e.g.,hurricanes) can disrupt infrastructure, leading to breakdowns in sanitation, clean water supply, and healthcare services. Climate-induced displacement and migration can lead to overcrowded living conditions, which can facilitate the spread of infectious diseases.
**Change in Land Use/Development:** No changes to asset impacts due to infectious disease outbreak events because of development or land use changes could be identified.

**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Snow

**Hazard Description:** Snow hazards include heavy snowfall, blizzards, and snowdrifts. Snow events vary in intensity and duration, from light snowfalls to severe blizzards with high winds and significant accumulation.

**Hazard Extent:** Snow events occur several times each winter season, with major storms happening every few years. St. Albans City has experienced numerous significant snow events, with notable occurrences causing widespread disruptions and damage. For example, the Blizzard of 1978 and the Valentine's Day Blizzard of 2007. Snowfall accumulation can range from a few inches to several feet during severe storms. Blizzards can produce wind speeds exceeding 35 mph, causing whiteout conditions and significant snowdrifts. Ice and snowstorm warnings and advisories are issued by the National Weather Service, typically providing 24-48 hours of advance notice. Ice and snow events can last from a few hours to several days, with lingering effects due to ice accumulation and cold temperatures. St. Albans City averages around 81 inches of total snowfall.

**Hazard Location:** All areas of St. Albans City can be affected snow events, particularly higher elevations, and exposed locations are vulnerable to drifting snow.

**Hazard History:** The chart below identifies the number of occurrences per year from the NOAA Storm Events Database:

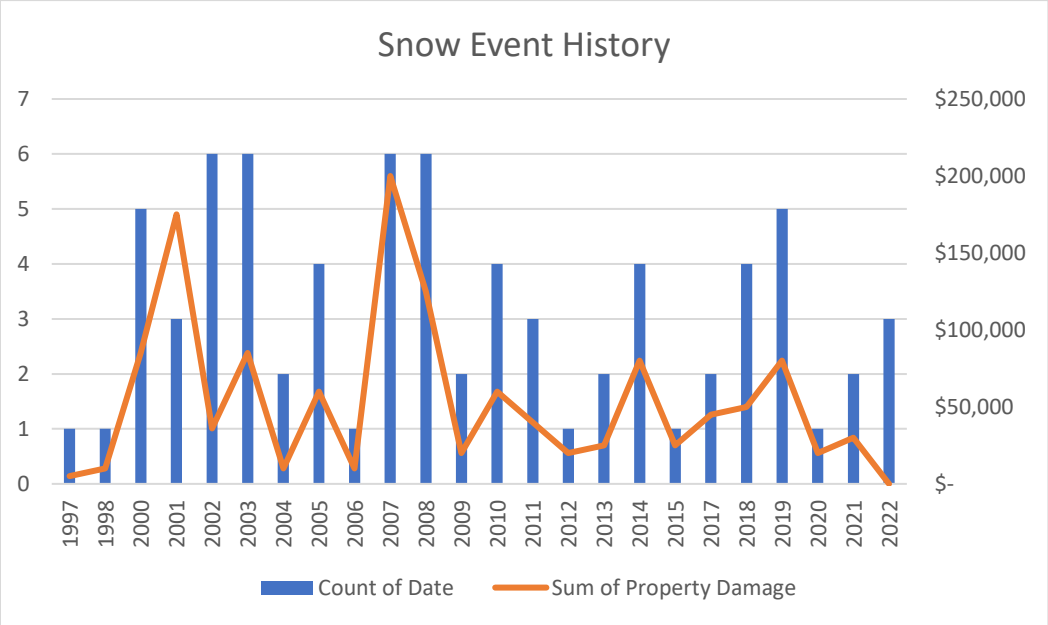



*Table 14 History of Snow Events and Damage Costs in Franklin County*

**City Vulnerability:**

**Built environment:** Snow events can cause damage to city and private property, including buildings (roof collapse), blocked egress routes, blocked evacuation routes, frozen pipes, and downed powerlines.

**People:** Snow events can cause injuries or fatalities to people who do not shelter in-place, or who do not have adequate shelter. Delayed sheltering-in-place can be caused by no-noticed events, or by individuals who do not heed the warning. The elderly, the homeless, residents with special needs and those without proper transportation may potentially be impacted more than other residents.
**Economy:** Snow events can cause economic impacts to the city. Impacts include disruption or closure of impacted businesses, and recovery costs, including employee overtime, time and equipment spent on the repairs.
**Natural Environment:** Snow events can cause damage to the environment with downed trees.

**Potential Future Impacts:**
**Climate Change:** Climate change significantly affects weather patterns, including the frequency, intensity, and geographic distribution of ice and snow events. These changes can increase frequency and intensity of snow and ice storms, change snowfall patterns, lead to more ice accumulation, and reduce snowpack.
**Change in Land Use/Development:** No changes to asset impacts due to ice and snow events as a result of development or land use changes could be identified.
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

## Landslide/Slope Failure

**Hazard Description:** Landslides are the movement of rock, soil, and debris down a slope, often triggered by factors such as heavy rainfall, rapid snowmelt, earthquakes, and human activities. Landslides can pose significant risks to infrastructure, property, ecosystems, and human lives. Landslides can occur suddenly or develop gradually, with varying types and mechanisms, including rockfalls, debris flows, and slope failures.

**Hazard Extent:** Landslides can affect localized areas or larger regions, depending on the size and scale of the landslide event. There have been no reported landslides in the City of St. Albans or any towns in Franklin County.

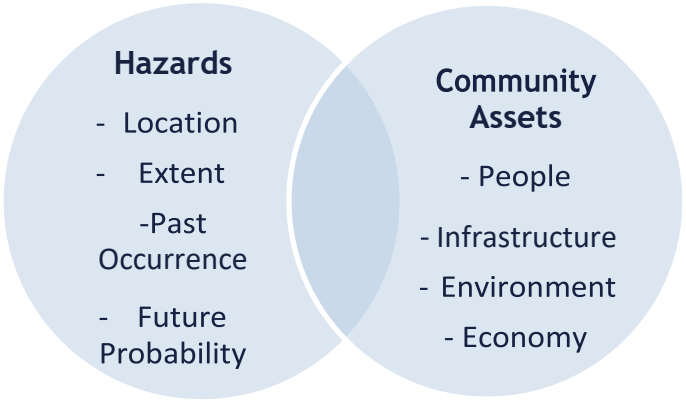
**Hazard Location:** Landslides can affect localized areas or larger regions, depending on the size and scale of the landslide event.

**Hazard History:** Per Vermont ANR landslide inventory, there have been no reported landslides in the City of St. Albans.

**City Vulnerability:**
**Built environment:** Transportation networks, utilities, buildings, and critical infrastructure located in landslide-prone areas may be exposed to damage or disruption during landslide events.
**People:** Residents living in or near steep slopes may face increased risks of property damage and loss of life. Landslides can impact hikers and other people engaged in outdoor recreation.
**Economy:** Landslides can damage or destroy buildings, roads, bridges, utilities, and other infrastructure in their path, leading to economic losses and disruption of services.
**Natural environment:** Landslides can have ecological impacts, including habitat destruction, soil erosion, sedimentation of waterways, and loss of biodiversity in affected areas.

**Potential Future Impacts:**
**Climate Change:** Climate change may lead to increased frequency and intensity of flooding events, fluvial erosion, rain/snow events and changes to material's strength through weathering, resulting in a higher probability of future landslides however not likely in St. Albans City .

**Change in Land Use/Development**: Increased recreational use or development in landslide or fluvial erosion prone areas may lead to increased impacts of landslides however not likely in St. Albans City .
**Change in Demographics:** St. Albans City 's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.




*NOAA 2022 Vermont Climate summary*

***The Hazard Identification and Risk Assessment is the foundation for the Mitigation Strategy to reduce future risk.***

# 6 HAZARD MITIGATION STRATEGY

The highest risk natural hazards and vulnerabilities identified in the previous section of this Plan directly inform the hazard mitigation strategy outlined below, which the community will strive to accomplish over the coming years. The mitigation strategy chosen by the City includes the most appropriate activities to reduce future risk from potential hazards.

## Mitigation Goals and Objectives

The Hazard Mitigation Planning Team identified the following as the community's primary mitigation goal:

Increase the City of St. Albans's resilience to natural hazards by advancing mitigation investment to reduce or avoid long-term risk to people, homes, neighborhoods, the local economy, cultural and historic resources, ecosystems, and Community Lifelines such as transportation, water, sewer, energy, and communications.

See the Community Survey Results in **Appendix D** for which assets survey respondents' thought were most important to protect against potential future severe weather impacts.

## Community Lifelines

Community Lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security. The goal of the lifeline concept is to focus response efforts on stabilizing or re-establishing these most fundamental services during and after a disaster. Mitigating lifelines should reduce cascading impacts across government and business functions and lessen system-wide damage.

1. Law Enforcement
2. Fire Service
3. Search & Rescue
4. Government Service
5. Community Safety

1. Highway/Road/Motor Vehicle
2. Mass Transit
3. Railway
4. Aviation
5. Maritime

1. Medical Care
2. Public Health
3. Patient Movement
4. Medical Supply Chain
5. Fatality Management

1. Infrastructure
2. Responder Communications
3. Alerts, Warnings, & Messages
4. Finance
5. 911 & Dispatch

1. Food
2. Water
3. Shelter
4. Agriculture

1. Power Grid
2. Fuel

1. Facilities HAZMAT, Pollutants, Contaminants

## Community Capabilities and Areas for Improvement

Each community has a unique set of capabilities, including authorities, programs, staff, funding, and other resources available to accomplish mitigation and reduce long-term vulnerability. Ferrisburgh's mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities are listed below.

### Administrative and Technical

This capability refers to the City's staff and their skills and tools that can be used for mitigation planning and to implement actions. In addition to the Emergency Management staff described in Section 3, municipal staff that can be used for mitigation planning and to implement specific mitigation actions include: City Manager, City Clerk & Treasurer, and Director of Planning & Development.

In addition to paid staff, there is a 7-member City Council, 8-member Planning Commission, 7-member Development Review Board, Climate & Energy Committee, City Health Officer, the Fire Chief is also the Chief Building inspector and fire marshal.

To augment local resources, the City has formal mutual aid agreements for emergency response – fire and public works. Technical support is available through the Northwest Regional Planning Commission in the areas of land use planning, emergency management, transportation, GIS mapping, and grant writing. Technical support is also available through the State ANR for floodplain bylaw administration and VTrans Districts for hydraulic analyses.

**Strengths** community with a family atmosphere committed small core of volunteers involved in several committees and groups strong interdepartmental communication and cooperation

**Areas for Improvement** potential candidates for volunteering is limited and small pool of volunteers creates burn out. Workforce issues in the area of police and public works.

**Planning and Regulatory**
These capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Examples of planning capabilities that can either enable or inhibit mitigation include land use plans, capital improvement programs, transportation plans, stormwater management plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes3 that regulate how and where land is developed, and structures are built.

**City Plan:** 2017-2025
**Description:** A framework and guide for how future growth and development should proceed.

**Relationship to Natural Hazard Mitigation Planning:** Includes goals and policies related to flood resilience and land use.

**Land Development Regulations:** March 1998 Most recent amendment June 30, 2025
**Description:** Provides for orderly community growth promoting the health, safety, and general welfare of the community.

**Relationship to Natural Hazard Mitigation Planning:** Establish site plan review requirements and zoning districts, including Flood Hazard and Stream Corridor Overlay Districts, with specific standards for proposed development. Requirements are designed to prevent overdevelopment; to mitigate negative impacts to the natural and human environment; minimize effects to the historical and aesthetic character of the community; and ensure design and construction of development in flood and other hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood loss or damage to life and property.

**Road and Bridge Standards:** adopted July 2019, updated annually
**Description:** Provide minimum codes and standards for construction, repair, maintenance of city roads and bridges.

**Relationship to Natural Hazard Mitigation Planning:** Standards include management practices and are designed to ensure travel safety, minimize damage to road infrastructure during flood events, and enhance water quality protections.

**Road Erosion Inventory Report:** 2019 updated 3/31/2025
**Description:** Prioritizes those infrastructure projects necessary to improve transportation network resiliency and water quality.

**Relationship to Natural Hazard Mitigation Planning:** Improvements are designed to minimize or eliminate flood impacts on hydrologically connected road segments.

**Stormwater Management Program – MS4 Permittee:** Implemented 2013 updated March 2024
**Description:** Plan with several strategies for flow restoration for Stevens Brook and Rugg Brook.

**Relationship to Natural Hazard Mitigation Planning:** Strategies are designed to control sediment, increase stormwater drainage system capacity, increase vegetated buffers in riparian areas, and regulate development through a stormwater ordinance.

**Local Emergency Management Plan:** May 2025
**Description:** Establishes lines of responsibility and procedures to be implemented during a disaster and identifies high risk populations, hazard sites, and available resources.

**Relationship to Natural Hazard Mitigation Planning:** Includes actions for tracking events and response actions including damage reports to facilitate funding requests during recovery. This type of information can be essential to preparing hazard mitigation project applications for FEMA funding.

**Fire Protection and Prevention, Title 7 in the St. Albans City Ordinances, last amended in December 2024**
**Description:** This section of the City ordinances describes the duties and authorities of the City Fire Department and Fire Marshall and enables the rental registry program. This section also includes the City's standards for adopting the Vermont Fire and Building Safety Code and the editions of the NFPA 1 Fire Prevention Code and NFPA 101 Life Safety Code currently adopted by the State of Vermont.

**Relationship to Natural Hazard Mitigation Planning:** In concert with Buildings and Construction, Title 3 of the St. Albans City Ordinances, Title 7 enables the City to ensure that apartments and other publics buildings are built to code and contain the necessary safety equipment and methods of egress to keep residents safe in the event of a disaster that necessitates evacuation and/or fire suppression.

**Relationship to Natural Hazard Mitigation Planning:**

**Stormwater management ordinance**
**Description:** Adopted in 2018, this ordinance defines the rules and regulations for the control of stormwater and operation of the stormwater utility. The ordinance allows the City to exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater discharges, both public and private.

**Relationship to Natural Hazard Mitigation Planning:** The City's primary method of regulating stormwater discharges that could cause or exacerbate fluvial and pluvial events.

**Buildings and Construction, Title 3 of the St. Albans City Ordinances, last amended in October of 2016**
**Description:** This section of the City ordinances enables the City's authority for regulating minimum housing standards, unsafe buildings and inspection of public buildings.

**Relationship to Natural Hazard Mitigation Planning:** In concert with Fire Protection and Prevention, Title 7 in the St. Albans City Ordinances, Title 3 enables the City to ensure that apartments and other public buildings are built to code and contain the necessary safety equipment and methods of egress to keep residents safe in the event of a disaster that necessitates evacuation and/or fire suppression.

**Add the results of the Water System Asset Management Project and the Reservoir Dam Assessment, if they are available prior to this plan's adoption.**

**Strengths** plans and regulations in place are being executed; keep plans and regulations up to date strong local partners in implementing plans ; ensure plans are integrated appropriately
**Areas for Improvement** The City is in a good place expand language; continue to review state statutes and policy.

**Financial**
These capabilities are the resources that a community has access to or is eligible to use to fund mitigation actions.

The City of St. Albans's 2023-2024 budget is $12,557,459, with $639,615 to fund the Public Works Department. Mainly supported by property tax revenues and other small fee services.

City collects water and wastewater fees from users in the City and Town, as well as stormwater utility fees from properties in the City.

Local option tax

**Strengths** well-funded budgets along with political for the City's budget general and enterprise

**Areas for Improvement** Consider impact fees for new development to help fund emergency management actions? Looking at capacity of wastewater plant 80% trigger could consider impact fee. Building reserves back up for water/wastewater projects and emergencies.

**Education and Outreach**
St. Albans City has several outreach and education opportunities that could be used to implement mitigation activities and communicate hazard-related information:

- City website, Front Porch Forum, and postings at the City Office
- Event in August of every year that involves PD FD restorative justice, community organizations
- City FaceBook

**Strengths** multiple programs/organizations are already in place in the community particularly strong online and social media presence. Community is small enough that the City knows who (community stakeholders) to contact when there are issues or need to communicate

**Areas for Improvement** better coordination needed to help implement future mitigation activities.

No mass alert system exists now, the City would like to implement a VTAlert type system

**National Flood Insurance Program**
The City joined the National Flood Insurance Program (NFIP) in June of 1978. The effective date of the current Flood Insurance Rate Map (FIRM) is June 15, 1978. The administration of the zoning bylaws and

the NFIP in St. Albans City is the responsibility of the City's Director of Planning & Development who reviews all applications and refers to the planning commission as appropriate.

According to FEMA's National Flood Insurance Program as of September 26, 2014, the City of St. Albans has three (3) active NFIP policies in force. There have been three (3) NFIP claims filed in St. Albans City since 1978 totaling $2,750 but no repetitive losses.

City of St. Albans's regulations outline detailed minimum standards for development in flood hazard areas defined as FEMA Special Flood Hazard Areas and Floodway Areas. The regulations also require administering Substantial Improvement and Substantial Damage (SI/SD) requirements in accordance with FEMA P-758 SI/SD Desk Reference, May 2010: in accordance with 24 V.S.A. § 1972 and 24 V.S.A. § 4461 and shall be used to determine the appropriate development standards for repair and rebuilding.

These mandatory provisions are contained in Section 4424 of Title 24, Chapter 117, V.S.A. and 44 CFR 60.3 and 60.6 as amended.

**State Incentives for Flood Mitigation**
Vermont's Emergency Relief Assistance Funding (ERAF) provides state funding to match FEMA Public Assistance after federally declared disasters. Eligible public costs are generally reimbursed by FEMA at 75% with a 7.5% State match. The State will increase its match to 12.5% or 17.5% if communities take steps to reduce flood risk as described below.
12.5% funding for communities that have adopted four (4) mitigation measures:
1) NFIP participation;
2) Town Road and Bridge Standards;
3) Local Emergency Plan; and
4) Local Hazard Mitigation Plan.

17.5% funding for communities that also participate in FEMA's Community Rating System OR adopt Fluvial Erosion Hazard or other river corridor protection bylaw that meets or exceeds the Vermont ANR model regulations.

***St. Albans City's current ERAF rate is 7.5%. Upon adoption of the 2025 Local Hazard Mitigation Plan along with updating the annual Local Emergency Management Plan, their ERAF rate will increase to 12.5% because the City has not adopted River Corridor Bylaws.***

## Hazard Mitigation Identification

The Hazard Mitigation Planning Committee discussed the mitigation strategy and identified possible new actions from the following categories for each of the highest risk natural hazards identified in Section 5.

**Local Plans & Regulations** These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.

**Structure & Infrastructure Projects** These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This applies to public or private structures as well as critical facilities.

**Natural Systems Protection** These actions minimize damage and losses and preserve or restore the functions of natural systems.

**Outreach & Education Programs** These actions inform and educate the public about hazards and potential ways to mitigate them. Although this type of action reduces risk less directly than structure projects or regulation, it is an important foundation. Greater awareness is more likely to lead to community support for direct actions.

### Local Plans & Regulations Examples

**Integrate Mitigation into Capital Improvement Programs:** Incorporate risk assessment and hazard mitigation principles into capital planning.

**Reduce Impacts to Roadways:** The leading cause of death and injury during winter storms is automobile accidents, so it is important to plan for and maintain adequate road and debris clearing capabilities.

**Develop a Road Right-of-Way Vegetation Management Plan:** Identify community priorities and plan of action for site-specific tree and roadside forest management to increase roadside resilience.

**Improve Flood Resilience with a Flood Study:** The aim of a flood study is to define existing flood behavior for a particular catchment, river, or creek. The study helps inform building, land use planning, community awareness and disaster management.

**Improve Stormwater Management Planning:** Rain and snowmelt can cause flooding and erosion in developed areas. A community-wide stormwater management plan can address stormwater runoff-related flooding.

**Manage Development in Erosion Hazard Areas:** The intent of River Corridor Bylaws is to allow for wise use of property within river corridors that minimizes potential damage to existing structures and development from flood-related erosion.

### Structure & Infrastructure Project Examples

**Protect Power Lines:** Protect power lines by 1) inspecting and maintaining hazardous trees in the road right-of-way and 2) burying power lines.

**Protect Critical Roadways:** Use snow fences or living snow fences (e.g., rows of trees) to limit blowing and drifting of snow.

**Retrofit Critical Facilities:** Critical facilities can be protected from the impacts of high winds and winter storms by 1) retrofitting them to strengthen structural frames to withstand wind and snow loads; 2) anchoring roof-mounted mechanical equipment; and 3) installing back-up generators or quick connect wiring for a portable generator.

**Remove Existing Structures from Flood Hazard Areas:** FEMA policy encourages the removal of structures from flood-prone areas to minimize future flood losses and preserve lands subject to repetitive flooding.

**Improve Stormwater Drainage Capacity:** Minimize flooding and fluvial erosion by 1) increasing drainage/absorption capacities with green stormwater management practices; 2) increasing dimensions of undersized drainage culverts in flood-prone areas; 3) stabilizing outfalls with riprap and other slope stabilization techniques; and 4) re-establishing roadside ditches.

**Conduct Regular Maintenance for Drainage Systems:** Help drainage systems and flood control structures function properly with 1) routine cleaning and repair; 2) cleaning debris from support bracing underneath low-lying bridges; and 3) inspecting bridges and identifying if any repairs are needed to maintain integrity or prevent scour.

**Protect Infrastructure and Critical Facilities:** Minimize infrastructure losses and protect critical facilities from flooding by 1) elevating roads above base flood elevation to maintain dry access; 2) armoring streambanks near roadways to prevent washouts; 3) rerouting a stream away from a vulnerable roadway; and 4) floodproofing facilities.

### Natural Systems Protection Examples

**Protect and Restore Natural Flood Mitigation Features:** Natural conditions can provide floodplain protection, riparian buffers, groundwater infiltration, and other ecosystem services that mitigate flooding. Preserving such functionality is important. Examples include 1) adding riparian buffers; 2) stabilizing stream banks; 3) removing berms; 4) minimizing impervious area development; 5) restore floodplain; and 6) restore incision areas.

### Outreach & Education Program Examples

**Educate Residents about Extreme Winter Weather:** Winter storms create a higher risk of car accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion. Educational outreach can help minimize these risks.

**Assist Vulnerable Populations:** Measures can be taken to protect vulnerable populations from natural hazards, such as 1) organizing outreach and 2) establishing and promoting accessible heating or cooling centers in the community.

## Mitigation Action Evaluation and Plan for Implementation

For each mitigation action identified, the Planning Team evaluated its potential benefits and/or likelihood of successful implementation. Actions were evaluated against a range of criteria, including a planning level assessment of whether the costs are reasonable compared to the probable benefits. Results of this evaluation are presented in **Table 15**.

After careful evaluation, the Planning Team agreed on a list of actions that support the Mitigation Goals of this Plan and are acceptable and practical for the community to implement.

For the selected actions, the Planning Team then 1) assigned a responsible party to lead the completion of each action; 2) identified potential grant funding; 3) defined a timeframe for implementation; and ranked each action's priority (high, medium, low).

Natural hazards pose a unique threat to the City's vulnerable populations. Data has shown that underserved and marginalized populations tend to live in at-risk hazard-prone areas or in homes with substandard construction. The data also suggests that this segment of the community is less likely to fully recover after a disaster. When ranking an action's priority, those that directly benefit a vulnerable population were ranked high.

The following strategies will be incorporated into the City of St. Albans' long-term land use and development planning documents. In addition, the City will review and incorporate elements of this Local Hazard Mitigation Plan into updates for the municipal plan and flood hazard/river corridor bylaws. The

incorporation of the goals and strategies listed in the Local Hazard Mitigation Plan into the municipal plan and flood hazard/FEH bylaws will also be considered after declared or local disasters. The City shall also consider reviewing any future Northwest Reginal Planning Commission documents for ideas on future mitigation projects and hazard areas.

*Table 15 Mitigation actions evaluation and prioritization*

| Mitigation Actions | Life Safety | Prop Protect | Tech | Political | Admin | Other Obj | Benefit Score | C/B | Est Cost |
|---|---|---|---|---|---|---|---|---|---|
| **Local Plans & Regulations** | | | | | | | | | |
| **Recommended for Implementation** | | | | | | | | | |
| Update Floodplain and River Corridor Regulations to comply with state and federal model language (Act 121) or prompted by the updated FEMA flood maps | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| COOP Plan (Continuity of Operation Plan) | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Maintain enforcement of statewide building codes on public buildings | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Review and update procurement policy to become 2CFR 200 compliant | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Update Road Erosion Inventory, as required by MS4 and MRGP permit | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Complete culvert inventory and assessment | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 2 |
| Continue to develop Capital Management Plan from 2025 draft year | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Establish an urban tree management program to identify trees that present fall risks to structures and utilities | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 2 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Maintain Green Belt Tree Program and relate succession actions to ensure healthy tree canopy | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Create a residential tree management assistance program. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Implement daily work accomplishment system for public works and utilities (FEMA 214 Forms) | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Establish system for providing heating and cooling centers as needed and providing public outreach during instances of extreme heat or cold | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Consider working with power companies to discuss how networks work and develop redundant system or upgrade to main power coming into town | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Complete water system asset management plan. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 2 |
| Complete reservoir dam assessment. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 2 |

**Not Recommended for Implementation**

## Structure & Infrastructure Projects

**Recommended for Implementation**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Relocate Fire Department | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Acquire generators for St. Albans City School and Bellows Free Academy and assess current generator for St. Albans Town Educational Center. | | | | | | | | | |
| Pursue additional projects to eliminate the combined sewer overflow and comply with the state order | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |
| Stormwater projects to reduce fluvial erosion - implement the Rugg and Stevens Brook flow restoration plans | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |
| Refurbish original 1-million-gallon water storage tank at the top of Congress Street and extend useful life. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |
| Ongoing replacements of older water valves. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 2 |
| Improve Water Main Lines, Valves and Waste Water Service Lines. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |
| Sell Silver Lake reservoir and associated dam and dikes. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |

**Not Recommended for Implementation**

## Natural Systems Protection

**Recommended for Implementation**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Floodplain Restoration/Storage projects, such as Stevens Brook Floodplain Terrace and Hungerford Property project. | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Consider flood mitigation activities through property buyouts, elevation of structures, and other means. Example focus area is Lower Welden Street along Stevens Brook. | 1 | 1 | 1 | 0 | 1 | 1 | 5 | Yes | 3 |

**Not Recommended for Implementation**

## Outreach & Education Programs

**Recommended for Implementation**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Implement mass notification system - VTAlert | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |
| Outreach to property owners on best practices of tree trimming on private property and educate about spotting the Emerald Ash Borer | 1 | 1 | 1 | 1 | 1 | 1 | 6 | Yes | 1 |

**Not Recommended for Implementation**

**Table 15 Evaluation Criteria:**
**Life Safety** –Will the action be effective at protecting lives and preventing injuries?
**Property Protection** –Will the action be effective at eliminating or reducing damage to structures and infrastructure?
**Technical** – Is the action a long-term, technically feasible solution?
**Political** – Is there overall public support/political will for the action?
**Administrative** – Does the community have the administrative capacity to implement the action?
**Other Community Objectives** – Does the action advance other community objectives, such as capital improvements, economic development, benefit a vulnerable population, environmental quality, or open space preservation?
**Rank each of the above criteria in Table 5 with a -1, 0, or 1 using the following table:**
1 = Highly effective or feasible
0 = Neutral
-1 = Ineffective or not feasible
**Estimated Cost** – 1 = less than $50,000; 2 = $50,000 to $100,000; 3 = more than $100,000
**C/B** – Are the costs reasonable compared to the probable benefits? Yes or No

**Table 16: Mitigation Action Plan**

**Update Floodplain and River Corridor Regulations to comply with state and federal model language (Act 121) or prompted by the updated FEMA flood maps**.

**Addressed Hazards:** Flooding
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Along the Stevens Brook, Rugg Brook and Grice Brook
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** General City Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** High

**COOP Plan (Continuity of Operation Plan)**

**Addressed Hazards:** Wind; Heat; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Cold; Infectious Disease; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security
**Area of Impact:** Citywide
**Lead Party:** Director of Finance & Administration
**Grant Funding Source:** City General and Enterprise Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** Low

**Maintain enforcement of statewide building codes on public buildings**

**Addressed Hazards:** Wildfire
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security
**Area of Impact:** Citywide public buildings
**Lead Party:** Fire Chief
**Grant Funding Source:** General City Budget
**Partnerships:**
**Project Timeframe:** Ongoing
**Prioritization:** Medium

**Review and update procurement policy to become 2CFR 200 compliant**

**Addressed Hazards:** Wind; Heat; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Cold; Infectious Disease; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation; Health & Medical; Communications; Food, Water, Shelter;
**Area of Impact:** Citywide
**Lead Party:** Director of Finance & Administration

**Grant Funding Source:** City General and Enterprise Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** High

**Update Road Erosion Inventory, as required by MS4 and MRGP permit**

**Addressed Hazards:** Flooding
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Along hydrologically connected streets and roads
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** Stormwater Utility Budget
**Partnerships:**
**Project Timeframe:** 2029
**Prioritization:** High

**Complete culvert inventory and assessment**

**Addressed Hazards:** Flooding
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** South Main St(Stevens, Grice and Rugg Brooks)Lemnah Drive, Barlow St, etc
**Lead Party:** Director of Public Works
**Grant Funding Source:** General and Stormwater Utility Budgets
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** High

**Continue to develop Capital Management Plan from 2025 draft year**

**Addressed Hazards:** Fluvial Erosion; Inundation Flooding; Landslide/slope failure
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Citywide
**Lead Party:** Director of Finance & Administration
**Grant Funding Source:** General and Enterprise Budget
**Partnerships:**
**Project Timeframe:** Ongoing annually
**Prioritization:** High

**Establish an urban tree management program to identify trees that present fall risks to structures and utilities**

**Addressed Hazards:** Wind; Ice; Snow; Invasive Species; Drought; Wildfire
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation; Energy; Communications
**Area of Impact:** Urban tree canopy areas citywide
**Lead Party:** Director of Planning & Development

**Grant Funding Source:** Stormwater Utility Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** High

**Maintain Green Belt Tree Program and relate succession actions to ensure healthy tree canopy**

**Addressed Hazards:** Wind; Ice; Snow; Invasive Species; Drought; Wildfire
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation; Energy; Communications
**Area of Impact:** Urban tree canopy areas citywide
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** Stormwater Utility Budget
**Partnerships:**
**Project Timeframe:** Ongoing
**Prioritization:** Medium

**Create a residential tree management assistance program**

**Addressed Hazards:** Wind; Ice; Snow; Invasive Species; Drought; Wildfire
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation; Energy; Communications
**Area of Impact:** Urban tree canopy areas citywide
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** Stormwater Utility Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** Low

**Implement daily work accomplishment system for public works and utilities (FEMA 214 Forms)**

**Addressed Hazards:** Wind; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Citywide Public Works projects
**Lead Party:** Director of Public Works
**Grant Funding Source:** General & Enterprise Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** Low

**Establish system for providing heating and cooling centers as needed and providing public outreach during instances of extreme heat or cold**

**Addressed Hazards:** Heat; Cold; Snow
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Food, Water, Shelter
**Area of Impact:** Citywide vulnerable populations

**Lead Party:** Chief of Police
**Grant Funding Source:** General City Budget
**Partnerships:**
**Project Timeframe:** 2027
**Prioritization:** Low

**Consider working with power companies to discuss how networks work and develop redundant system or upgrade to main power coming into town**

**Addressed Hazards:** Wind; Wildfire; Fluvial Erosion; Ice; Invasive Species; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Energy; Communication; Food, Water, Shelter
**Area of Impact:** Citywide vulnerable populations
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** General City Budget
**Partnerships:**
**Project Timeframe:** 2029
**Prioritization:** Low

**Complete water system asset management plan**

**Addressed Hazards:** Wildfire;
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation; Food, Water, Shelter
**Area of Impact:** Citywide response capabilities
**Lead Party:** Director of Public Works
**Grant Funding Source:** Water Utility Budget; Grants; Loans
**Partnerships:**
**Project Timeframe:** 2026
**Prioritization:** High

**Complete reservoir dam assessment**

**Addressed Hazards:** Flooding;
**Type of project:** Local Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation;
**Area of Impact:** Downstream properties
**Lead Party:** Director of Public Works
**Grant Funding Source:** Water Utility Budget; Grants; Loans
**Partnerships:**
**Project Timeframe:** 2026
**Prioritization:** High

**Relocate Fire Department**

**Addressed Hazards:** Wind; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Structure & Infrastructure Projects

**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Citywide response capabilities
**Lead Party:** City Manager
**Grant Funding Source:** Local Bond/Grant Funding
**Partnerships:** VEM
**Project Timeframe:** 2030
**Prioritization:** High

**Acquire generators for St. Albans City School and Bellows Free Academy and assess current generator for St. Albans Town Educational Center**

**Addressed Hazards:** Wind; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Food, Water, Shelter; Communications; Energy
**Area of Impact:** Citywide vulnerable populations
**Lead Party:** MRUSD
**Grant Funding Source:** School Budgets; Grants
**Partnerships:** VEM
**Project Timeframe:** 2030
**Prioritization:** Medium

**Pursue additional projects to eliminate the combined sewer overflow and comply with the state order**

**Addressed Hazards:** Flooding
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation;
**Area of Impact:** South Elm and Lower Welden
**Lead Party:** Director of Public Works
**Grant Funding Source:** Wastewater Utility Budget; Grants; Loans
**Partnerships:** VT DEC
**Project Timeframe:** 2030
**Prioritization:** High

**Stormwater projects to reduce fluvial erosion - implement the Rugg and Stevens Brook flow restoration plans - see below (study flood driven erosion) Flow Restoration Plan**

**Addressed Hazards:** Landslide/Rockslide; Fluvial Erosion
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Along the Rugg and Stevens Brook
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** Stormwater Utility Budget; Grants
**Partnerships:** VT DEC
**Project Timeframe:** 2025- 2032
**Prioritization:** High

**Refurbish original 1-million-gallon water storage tank at the top of Congress St and extend useful life**

**Addressed Hazards:** Wildfire
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation; Energy; Communications
**Area of Impact:** Citywide infrastructure
**Lead Party:** Director of Public Works
**Grant Funding Source:** Water Utility Budget; Grants; Loans
**Partnerships:**
**Project Timeframe:** 2027
**Prioritization:** High

**Ongoing replacements of older water valves.**

**Addressed Hazards:** Wildfire
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation; Energy; Communications
**Area of Impact:** Citywide infrastructure
**Lead Party:** Director of Public Works
**Grant Funding Source:** Water Utility Budget; Grants; Loans
**Partnerships:**
**Project Timeframe:** Annual
**Prioritization:** High

**Improve Water Main Lines, Valves and Waste Water Service Lines**

**Addressed Hazards:** Wildfire
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Citywide infrastructure
**Lead Party:** Director of Public Works
**Grant Funding Source:** Water/Wastewater Utilities Budget; Grants; Loans
**Partnerships:** VT DEC
**Project Timeframe:** Ongoing
**Prioritization:** High

**Sell Silver Lake reservoir and associated dam and dikes**

**Addressed Hazards:** Flooding/Inundation
**Type of project:** Structure & Infrastructure Projects
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Downstream properties
**Lead Party:** City Manager
**Grant Funding Source:** Water/Wastewater Utilities Budget; Grants; Loans
**Partnerships:**
**Project Timeframe:** 2027
**Prioritization:** High

**Floodplain Restoration/Storage (flood and water quality) scoping projects, such as Stevens Brook Floodplain Terrace and Hungerford Property project (alternatives and feasibility study) – partner and apply for grant(s), with the Town of St. Albans**

**Break this out in to implementation and scoping/feasibility study****

**Addressed Hazards:** Flooding
**Type of project:** Natural Systems Protection; Plans & Regulations
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Areas near the Stevens Brook and Hungerford Property
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** FEMA 406/404/Flood Resiliency (FRCF)Climate (CRDM), Clean Water, WISPR fund
**Partnerships:** ANR; VEM
**Project Timeframe:** 2032
**Prioritization:** High

**Consider flood mitigation activities through property buyouts, elevation of structures, and other means. Example focus area is Lower Welden Street along Stevens Brook.**

**Addressed Hazards:** Flooding
**Type of project:** Natural Systems Protection
**Community Lifelines Targeted:** Safety & Security; Transportation
**Area of Impact:** Areas near the Stevens Brook and Lower Welden Street
**Lead Party:** City Manager
**Grant Funding Source:** FEMA 406/404/Flood Resiliency (FRCF)Climate (CRDM), Clean Water, WISPR fund
**Partnerships:** ANR; VEM
**Project Timeframe:** 2030
**Prioritization:** High

**Implement mass notification system - VTAlert**

**Addressed Hazards:** Wind; Wildfire; Fluvial Erosion; Ice; Invasive Species; Drought; Inundation Flooding; Snow; Landslide/slope failure
**Type of project:** Outreach & Education Programs
**Community Lifelines Targeted:** Safety & Security; Transportation; Health and Medical; Communications; Food, Water, Shelter; Energy; Hazardous Materials
**Area of Impact:** Citywide
**Lead Party:** Director of Planning & Development
**Grant Funding Source:** General and Enterprise Budget
**Partnerships:** VEM
**Project Timeframe:** 2028
**Prioritization:** Medium

**Outreach to property owners on best practices of tree trimming on private property and educate about spotting the Emerald Ash Borer**

**Addressed Hazards:** Wind; Ice; Snow; Invasive Species; Drought; Wildfire
**Type of project:** Outreach & Education Programs
**Community Lifelines Targeted:** Safety & Security; Transportation; Communications; Energy
**Area of Impact:** Citywide property owners

**Lead Party:** Director of Planning & Development
**Grant Funding Source:** Stormwater Utility Budget
**Partnerships:**
**Project Timeframe:** 2028
**Prioritization:** Medium

# 7 PLAN MAINTENANCE

This Plan is dynamic. To ensure it remains current and relevant, it should be annually evaluated and monitored and updated every five years, in accordance with FEMA guidelines in effect at the time.

## Annual Evaluation and Monitoring

Within 12 months of FEMA Final Approval, the Plan will be annually evaluated and monitored as follows:

1. The City Council will task the Planning & Development Dept. to evaluate the effectiveness of the Plan in meeting the stated goals. Things to consider during this evaluation:

- What disasters has the City (or region) experienced?
- Should the list of highest risk natural hazard impacts be modified?
- Are new data sources, maps, plans, or reports available? If so, what have they revealed, and should the information be incorporated into this plan?
- Has development in the region occurred and could it create or reduce risk?
- Has the City adopted new policies or regulations that could be incorporated into this plan?
- Have elements of this plan been incorporated into new plans, reports, policies, or regulations?
- Are there different or additional community capabilities available for mitigation implementation?

2. Next, the Planning & Development Dept. will monitor mitigation action progress. Things to consider:

- Is the mitigation strategy being implemented as anticipated?
- Were the cost and timeline estimates accurate?
- Should new mitigation actions be added?
- Should proposed actions be revised or removed?
- Are there new funding sources to consider?

The status (e.g., in progress, complete) of each action should be recorded in **Table 9**. If the status is "in progress" note whether the action is on schedule. If not, describe any problems, delays, or adverse conditions that will impair the ability to complete the action.

3. The City Council will seek public comment from the whole community on plan implementation. Things to consider:

- Are there any new stakeholders to include?
- What public outreach activities have occurred?
- How can public involvement be improved?

4. Based on input received, the mitigation strategy and/or actions will be modified, if needed.

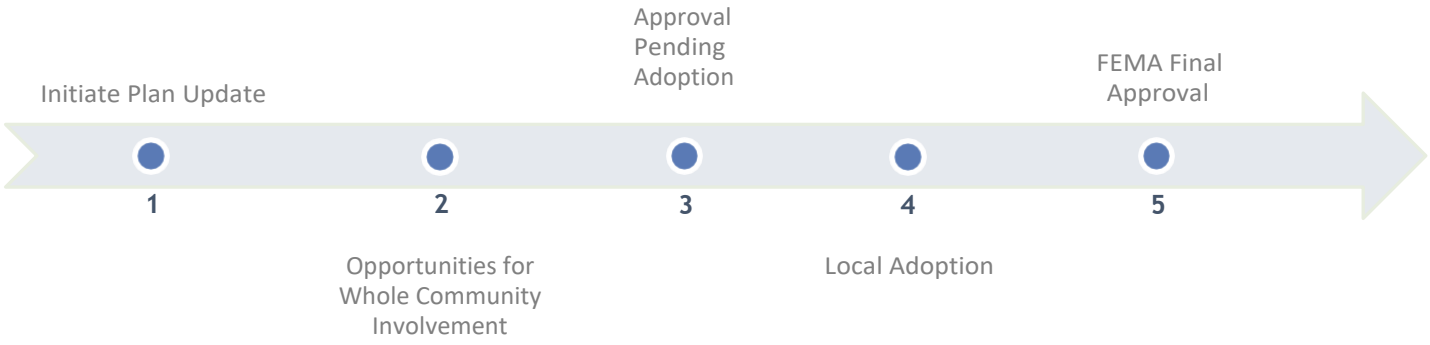
5. A report (or record in the form of meeting minutes) of the annual evaluation and monitoring will be made available to the public.

## Table 9: Mitigation Action Status

| Mitigation Action | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|
| **Local Plans & Regulations** | | | | | |
| | | | | | |
| | | | | | |
| **Structure & Infrastructure Projects** | | | | | |
| | | | | | |
| | | | | | |
| **Natural Systems Protection** | | | | | |
| | | | | | |
| | | | | | |
| **Outreach & Education Programs** | | | | | |
| | | | | | |
| | | | | | |

### 5-Year Updates

This Plan will be updated at a minimum every five (5) years as follows:



1. Currently, funding to assist municipalities in paying for planning services to update the Local Hazard Mitigation Plan through FEMA is unknown. The City of St. Albans should contact Vermont Emergency Management (VEM) to apply for any available funding grants in 2028 – approximately 2 years before the Plan expires.

   Once funding is secured and the grant agreement between the City and State is in place, the EMD can issue a request for proposals (RFP) to procure planning services in accordance with the grant agreement. The RFP should be issued approximately 14 months before the Plan expires.

   Once a consultant is procured, the Plan update can begin with a kick-off meeting including the consultant and local hazard mitigation planning team. The kick-off meeting should be scheduled approximately 12 months before the Plan expires. The City should allot approximately 8 months for the Plan update process.

2. Opportunities for Whole Community involvement throughout the Plan update process need to be factored into the schedule. These opportunities may include a community survey, planning workshop, and public meetings at critical milestones agreed to at the project kick-off meeting.

3. Once the local hazard mitigation planning team has prepared a final draft, they can seek authorization from the City Council to submit the Plan for VEM/FEMA approval. Plan approval is accomplished in two steps – the first is Approval Pending Adoption. The City should submit for Approval Pending Adoption approximately 4 months before the Plan expires to allow for time to respond to any review comments received from VEM/FEMA.

4. Once the City receives Approval Pending Adoption, the City Council should adopt the Plan as soon as their next regular meeting.

5. Once adopted, the City can submit the Plan for VEM/FEMA Final Approval. The City should submit for Final Approval approximately 1 month before the Plan expires to ensure there is no gap in coverage between updates. The plan will expire 5 years from the FEMA Final Approval.

# APPENDIX A – Community Outreach

## APPENDIX B – Past Mitigation Actions Updates

| 2017 Mitigation Action List | Status since 2017 |
|---|---|
| Upgrade Water/Waste Water Service Lines | Ongoing. Line replacements and improvements include Fairfield Street, Lake Street, Kingman Street, and Stebbins Street. |
| Buyout Properties Prone to Stevens Brook Flooding on Lower Welden Street | No progress. |
| Stevens Brook Floodplain Terrace Project (300 feet) on Lower Welden | No progress. |
| Relocate City Public Safety Building | Police Dept. and Central Dispatch moved to 142 South Main Street. Fire Dept. remains at current location. |
| Procure and install generator at Community Shelters. (BFA High School, Saint Albans City Elementary) | No progress. |
| Procure and install generator at municipal water system (Maquam) | Accomplished. |
| Procure and install generator at municipal water system (midway station) | Accomplished. |

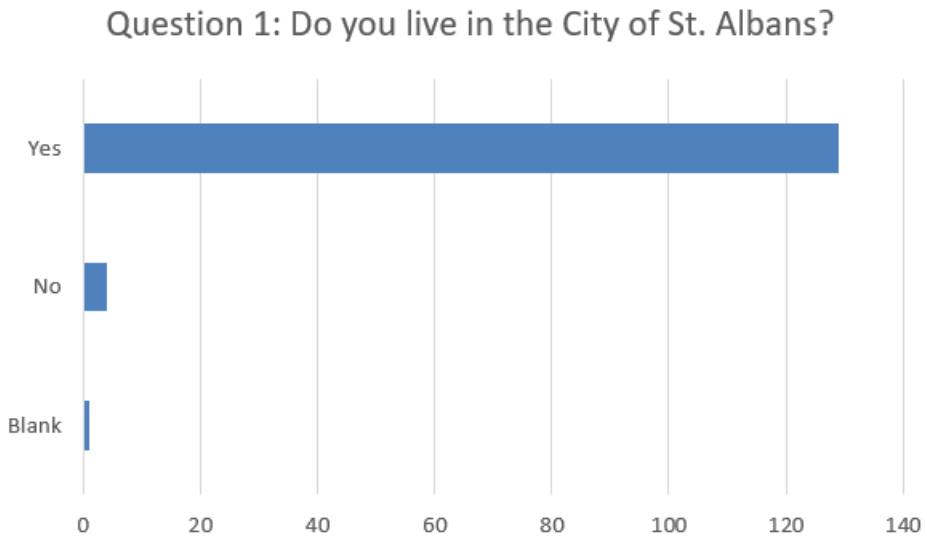
# APPENDIX C – Meetings Agendas and Notes

## APPENDIX D – Community Survey Responses

In March and April of 2025, the City fielded survey for residents to inform the Local Hazard Mitigation Plan. The survey was available online and via a paper-based method. This survey was distributed in the lobby of City Hall while the polls were open for Town Meeting Day 2025. The survey opportunity was posted to the City website, social media, and Front Porch Forum. Survey forms were also distributed to Tim's House shelter, Martha's Kitchen, the CVOEO food shelf, and the Franklin County Senior Center.

**Question 1: Do you live in the City of St. Albans?**

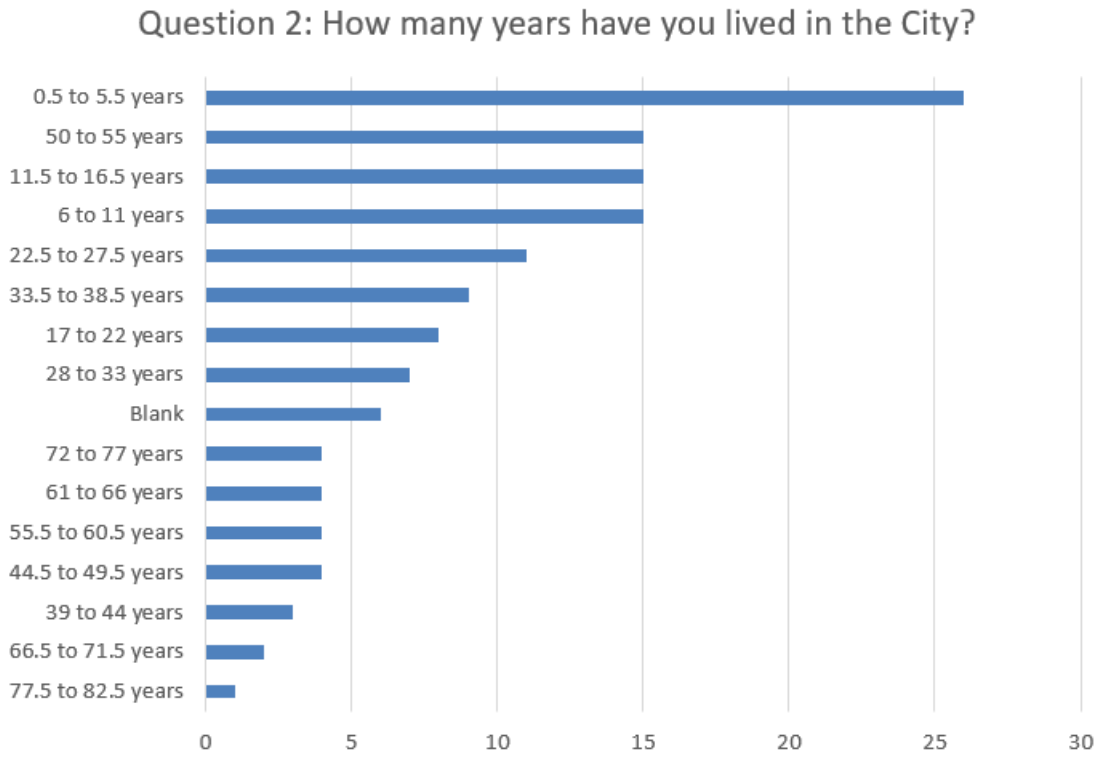
| Answer | Number of Responses | Percentage |
|---|---|---|
| Yes | 129 | 96.3% |
| No | 4 | 3% |
| Unanswered | 1 | 0.75% |




**Question 2: How many years have you lived in the City? Open-ended.**

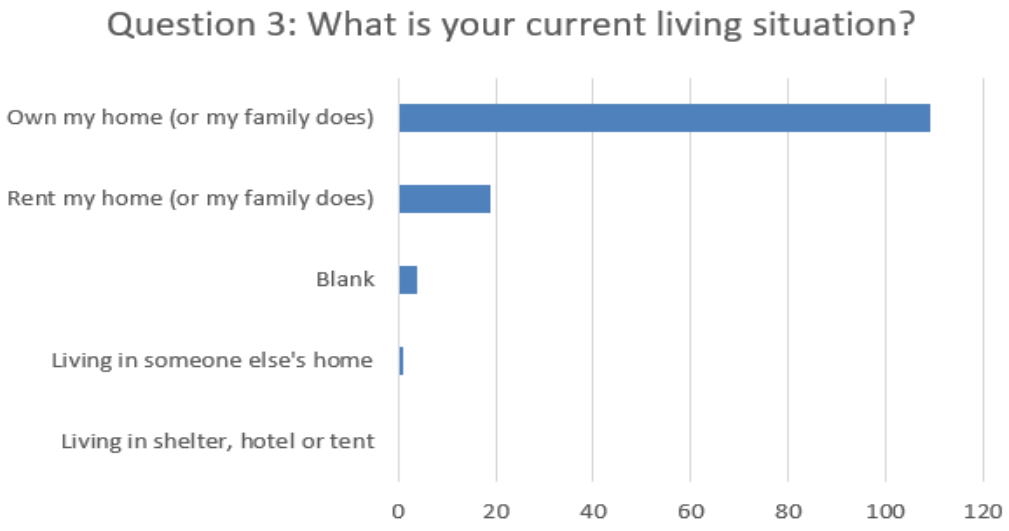
| Answer Range | Number of Responses |
|---|---|
| Blank | 6 |
| 0.5 to 5.5 years | 26 |
| 6 to 11 years | 15 |
| 11.5 to 16.5 years | 15 |
| 17 to 22 years | 8 |
| 22.5 to 27.5 years | 11 |
| 28 to 33 years | 7 |
| 33.5 to 38.5 years | 9 |
| 39 to 44 years | 3 |
| 44.5 to 49.5 years | 4 |
| 50 to 55 years | 15 |
| 55.5 to 60.5 years | 4 |

| | |
|---|---|
| 61 to 66 years | 4 |
| 66.5 to 71.5 years | 2 |
| 72 to 77 years | 4 |
| 77.5 to 82.5 years | 1 |



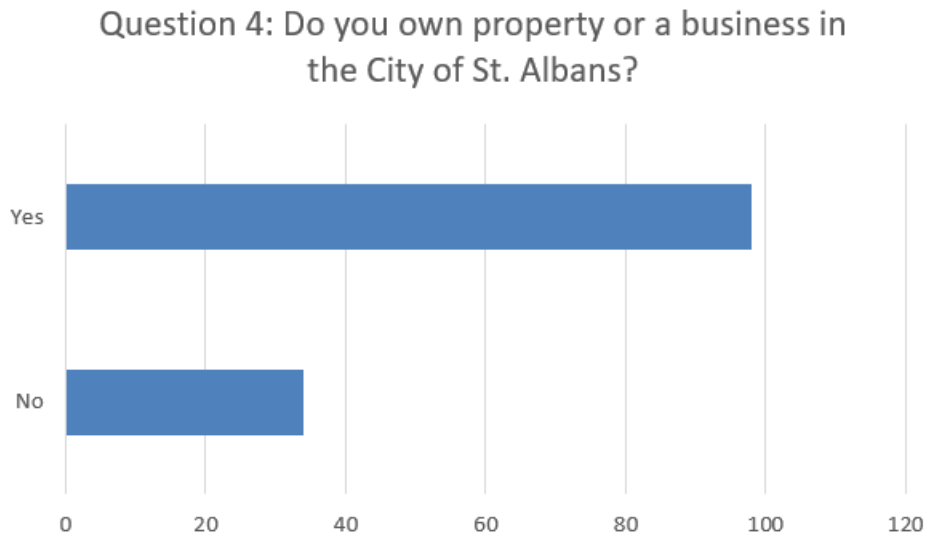

**Question 3: What is your current living situation?**

| Answer | Number of Responses | Percentage |
|---|---|---|
| Blank | 4 | 3% |
| Living in shelter, hotel or tent | 0 | 0% |
| Living in someone else's home | 1 | 0.75% |
| Rent my home (or my family does) | 19 | 14.2% |
| Own my home (or my family does) | 109 | 81.4% |



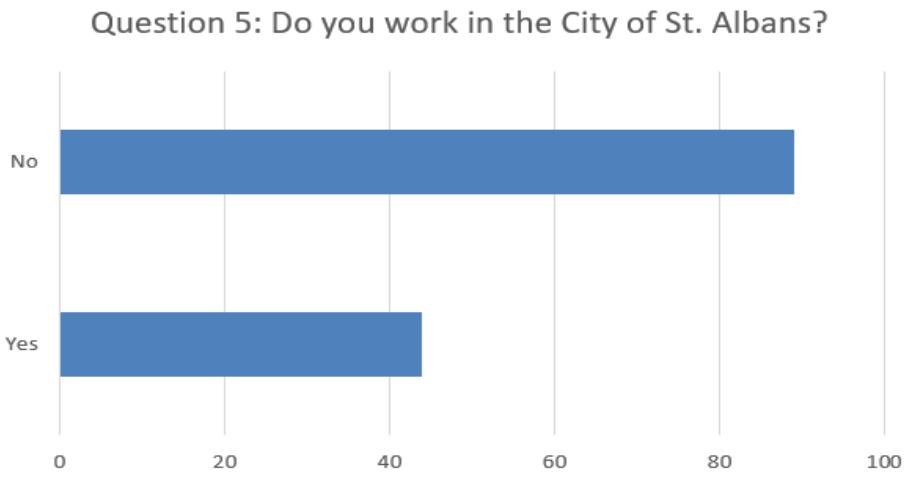

**Question 4: Do you own property or a business in the City of St. Albans?**

| Answer | Number of Responses | Percentage |
|---|---|---|
| Yes | 98 | 74.2% |
| No | 34 | 25.8% |



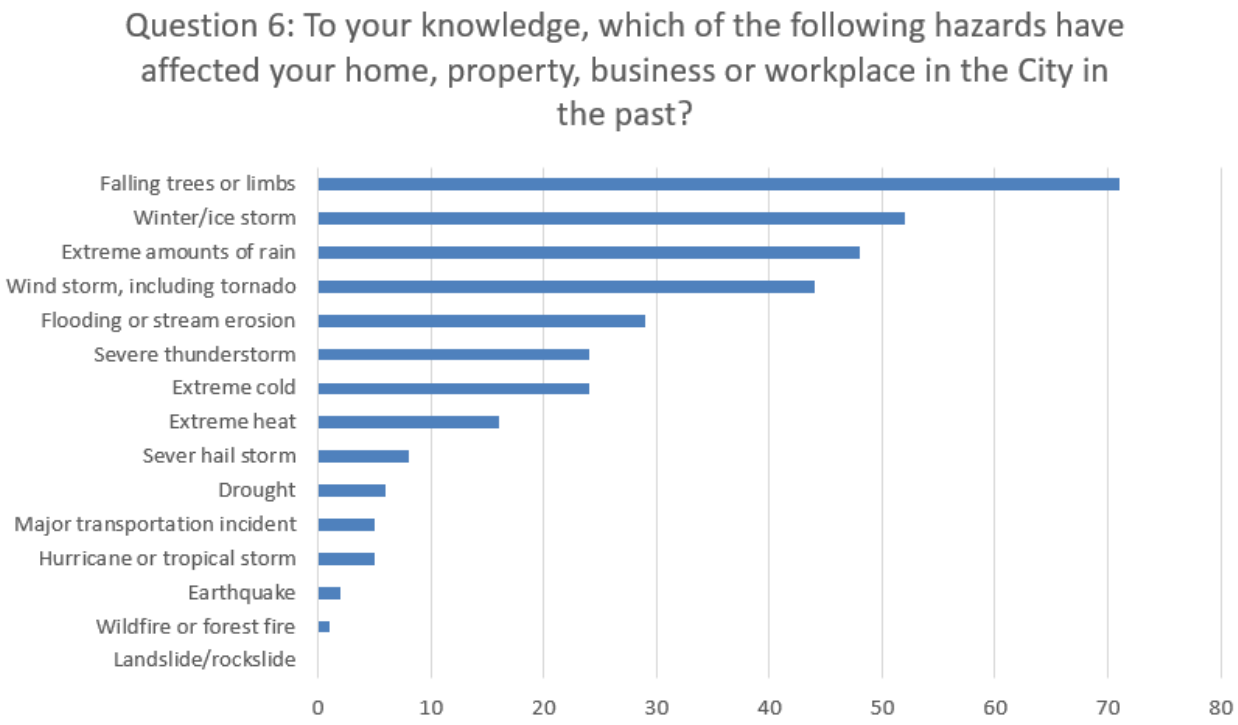

**Question 5: Do you work in the City of St. Albans?**

| Answer | Number of Responses | Percentage |
|---|---|---|
| Yes | 89 | 66.9% |
| No | 44 | 33.1% |



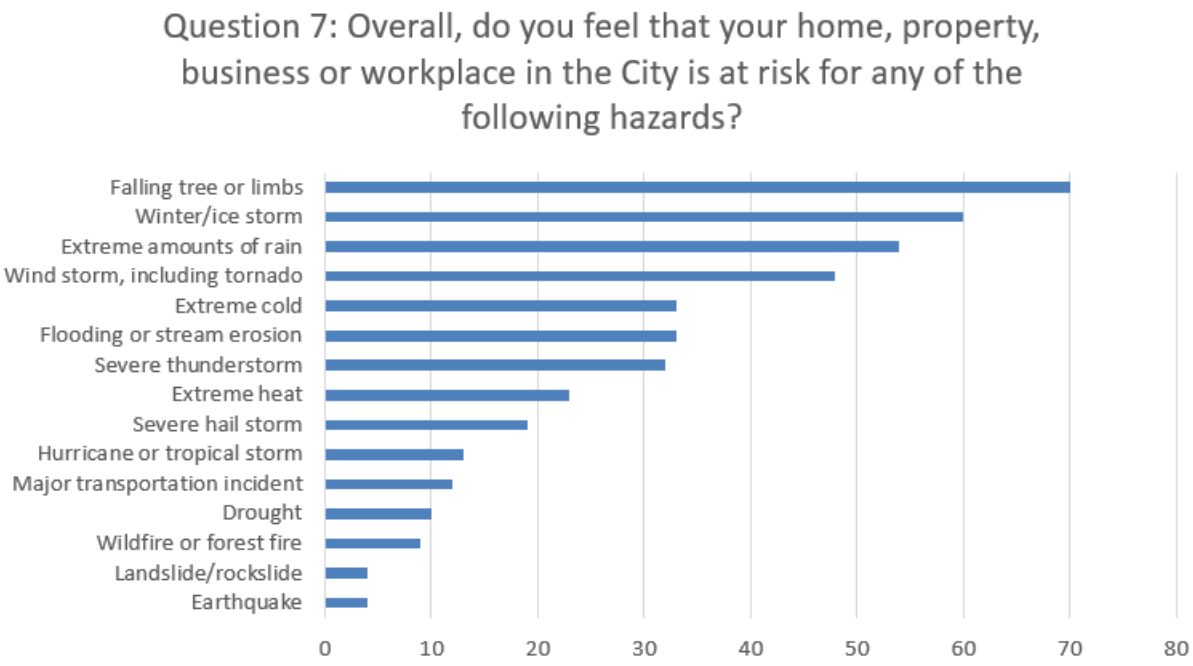

**Question 6: To your knowledge, which of the following hazards have affected your home, property, business or workplace in the City in the past? Choose all that apply.**

| Answer | Number of Responses |
|---|---|
| Drought | 6 |
| Extreme heat | 16 |
| Earthquake | 2 |
| Flooding or stream erosion | 29 |
| Landslide/rockslide | 0 |
| Severe thunderstorm | 24 |
| Extreme amounts of rain | 48 |
| Severe hail storm | 8 |
| Winter/ice storm | 52 |
| Extreme cold | 24 |
| Wind storm, including tornado | 44 |
| Hurricane or tropical storm | 5 |
| Wildfire or forest fire | 1 |
| Falling tree or limbs | 71 |
| Major transportation incident | 5 |



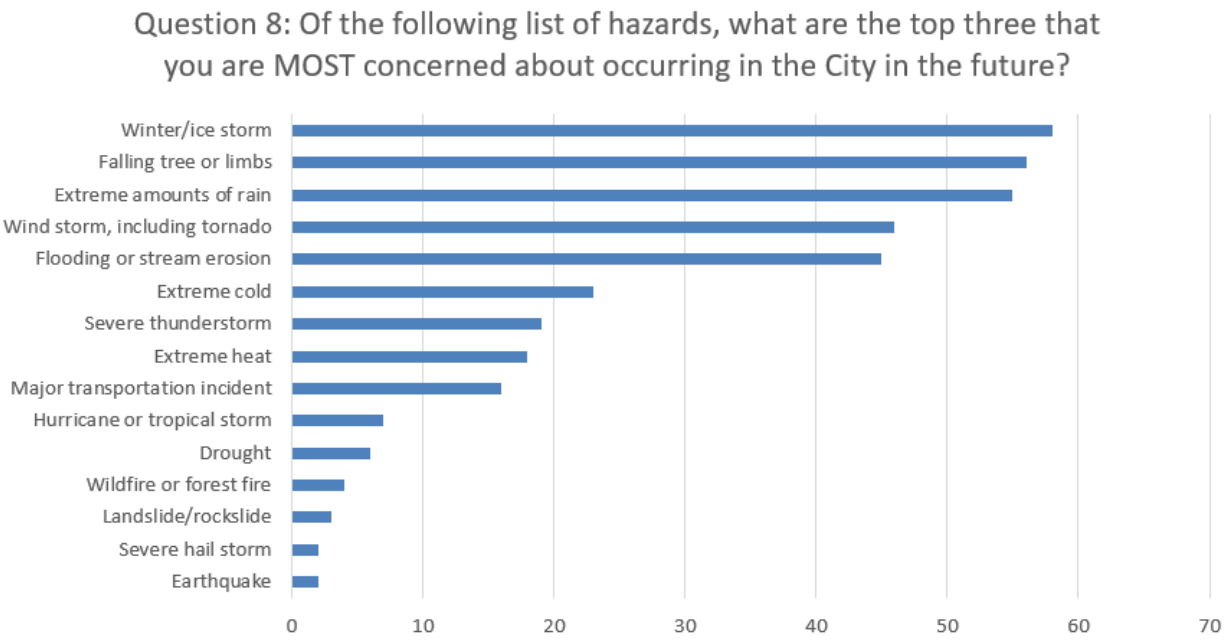

**Question 7: Overall, do you feel that your home, property, business or workplace in the City is at risk for any of the following hazards? Choose all that apply.**

| Answer | Number of Responses |
|---|---|
| Drought | 10 |
| Extreme heat | 23 |
| Earthquake | 4 |
| Flooding or stream erosion | 33 |
| Landslide/rockslide | 4 |
| Severe thunderstorm | 32 |
| Extreme amounts of rain | 54 |
| Severe hail storm | 19 |
| Winter/ice storm | 60 |
| Extreme cold | 33 |
| Wind storm, including tornado | 48 |
| Hurricane or tropical storm | 13 |
| Wildfire or forest fire | 9 |
| Falling tree or limbs | 70 |
| Major transportation incident | 12 |



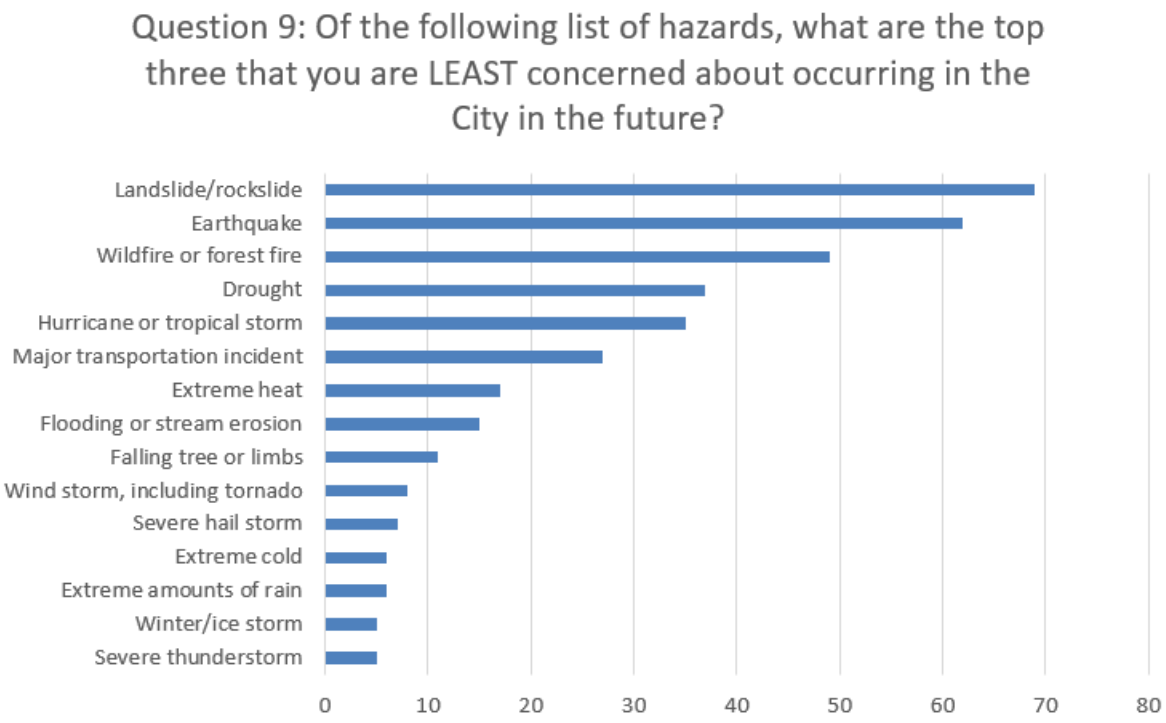

**Question 8: Of the following list of hazards, what are the top three that you are MOST concerned about occurring in the City in the future?**

| Answer | Number of Responses |
|---|---|
| Drought | 6 |
| Extreme heat | 18 |
| Earthquake | 2 |
| Flooding or stream erosion | 45 |
| Landslide/rockslide | 3 |
| Severe thunderstorm | 19 |
| Extreme amounts of rain | 55 |
| Severe hail storm | 2 |
| Winter/ice storm | 58 |
| Extreme cold | 23 |
| Wind storm, including tornado | 46 |
| Hurricane or tropical storm | 7 |
| Wildfire or forest fire | 4 |
| Falling tree or limbs | 56 |
| Major transportation incident | 16 |




**Question 9: Of the following list of hazards, what are the top three that you are LEAST concerned about occurring in the City in the future?**

| Answer | Number of Responses |
|---|---|
| Drought | 37 |
| Extreme heat | 17 |
| Earthquake | 62 |
| Flooding or stream erosion | 15 |
| Landslide/rockslide | 69 |
| Severe thunderstorm | 5 |
| Extreme amounts of rain | 6 |
| Severe hail storm | 7 |
| Winter/ice storm | 5 |
| Extreme cold | 6 |
| Wind storm, including tornado | 8 |
| Hurricane or tropical storm | 35 |
| Wildfire or forest fire | 49 |
| Falling tree or limbs | 11 |
| Major transportation incident | 27 |



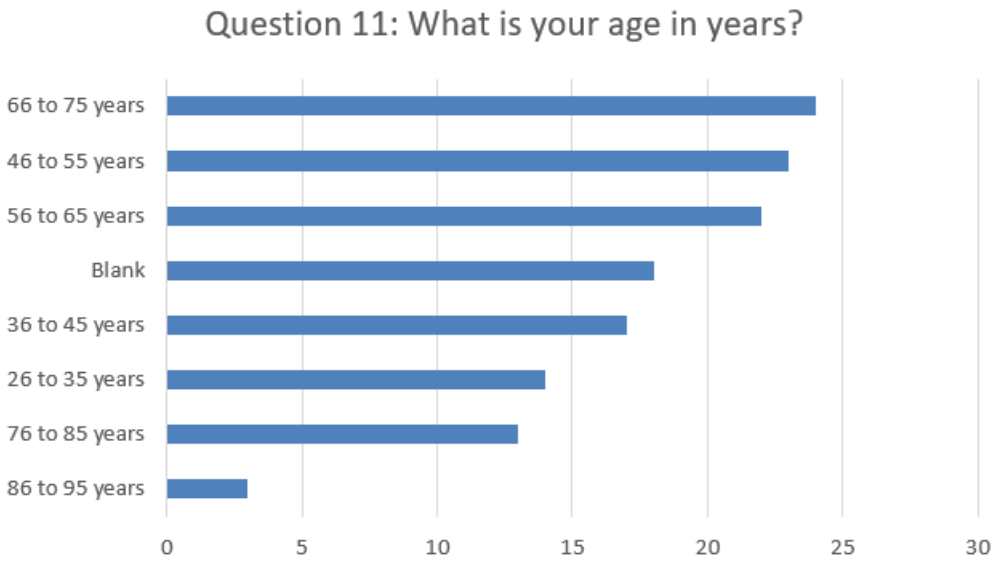

**Question 10: What actions, if any, have you taken to reduce risk for your home, property, business or workplace for potential hazards?**

| Answer | Number of Responses |
|---|---|
| Developed a family plan | 23 |
| Stocked a 3-day supply kit | 32 |
| Became first aid or CPR certified | 15 |
| Installed smoke or carbon monoxide detectors | 98 |
| Installed a generator | 12 |
| Purchased homeowner's or renter's insurance | 100 |
| Purchased flood insurance | 7 |
| Flood-proofed the structure | 9 |
| Purchased fire extinguishers | 75 |
| Other* | 9 |

*These responses were largely to do with basement and property drainage as well as tree removal.

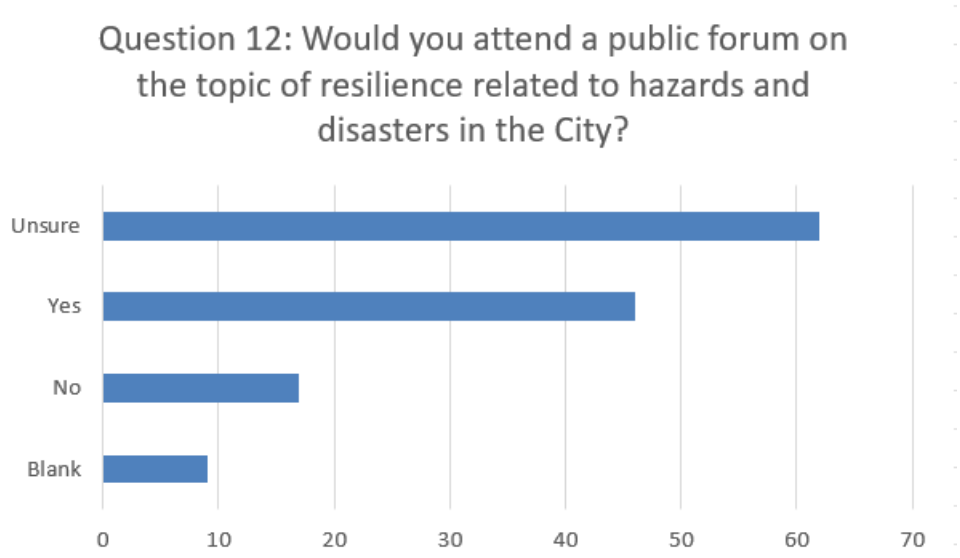
**Question 11: What is your age in years? Open-ended.**

| Answer Range | Number of Responses |
|---|---|
| Blank | 18 |
| 26 to 35 years | 14 |
| 36 to 45 years | 17 |
| 46 to 55 years | 23 |
| 56 to 65 years | 22 |
| 66 to 75 years | 24 |
| 76 to 85 years | 13 |
| 86 to 95 years | 3 |



**Question 12: Would you attend a public forum on the topic of resilience to hazards and disasters in the City?**

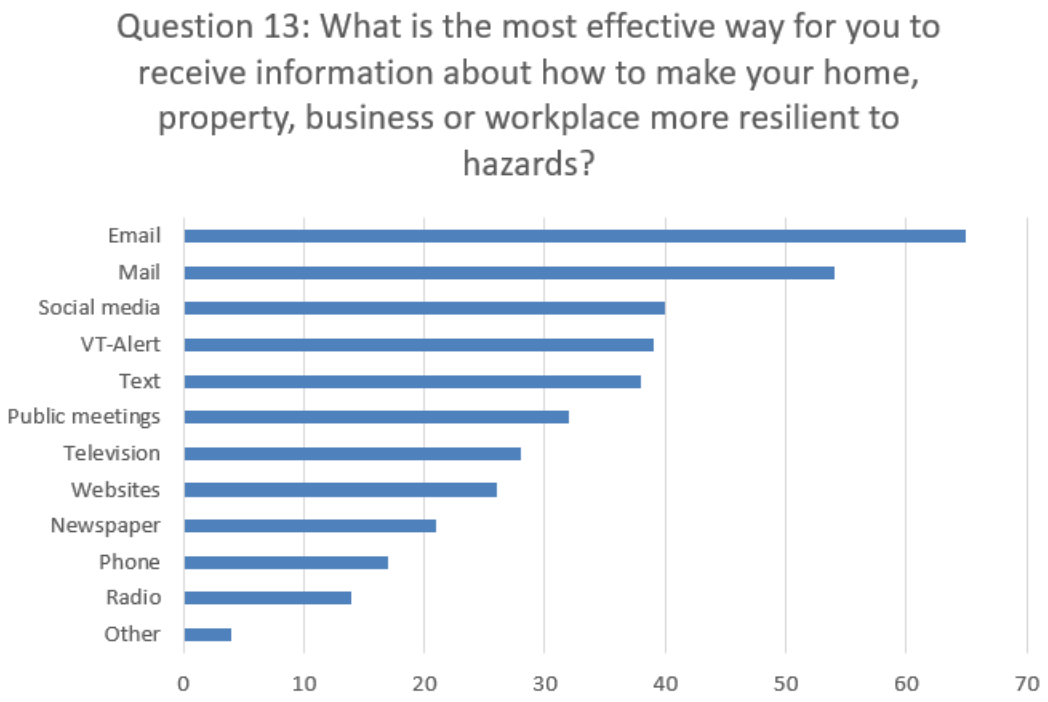
| Answer | Number of Responses | Percentage |
|---|---|---|
| Blank | 9 | 6.7% |
| Unsure | 62 | 46.3% |
| No | 17 | 12.7% |
| Yes | 46 | 34.3% |




**Question 13: What is the most effective way for you to receive information about how to make your home, property, business or workplace more resilient to hazards? Choose all that apply.**

| Answer | Number of Responses |
|---|---|
| VT-Alert | 39 |
| Phone | 17 |
| Text | 38 |
| Mail | 54 |
| Email | 65 |
| Public meetings | 32 |
| Newspaper | 21 |
| Television | 28 |
| Radio | 14 |
| Social media | 40 |
| Websites | 26 |
| Other* | 4 |

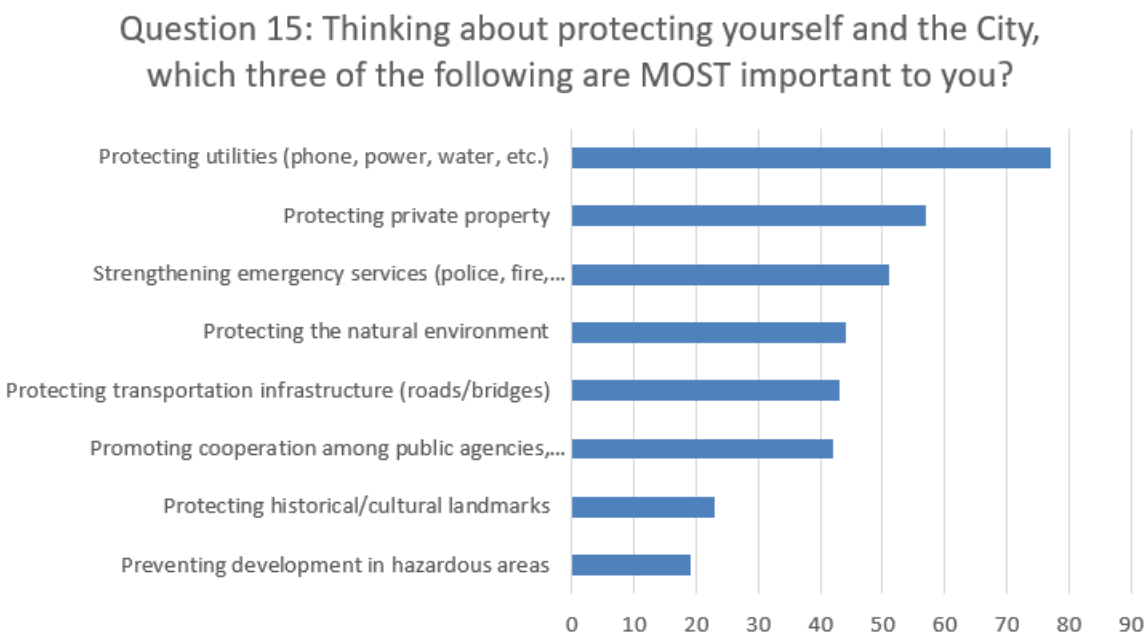
*All respondents specified Front Porch Forum when selecting Other.




**Question 14: Please list newspapers, TV and radio stations, social media, and other sources that you use for receiving information in general. Analysis forthcoming.**

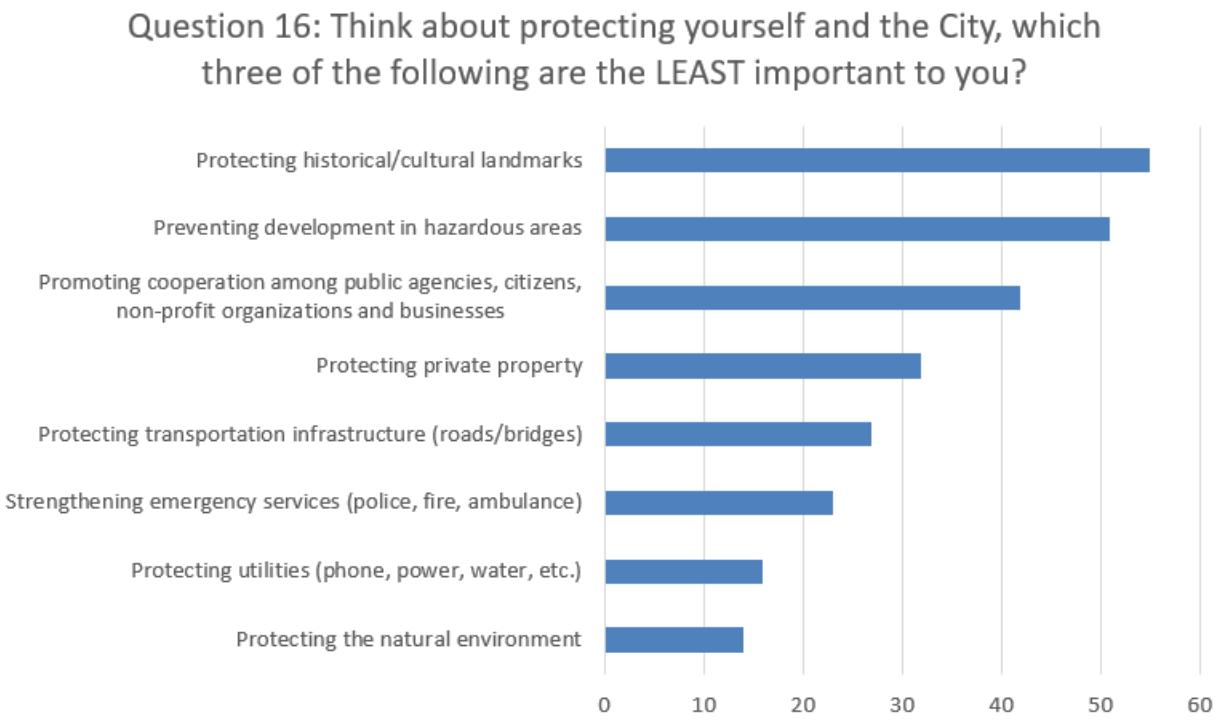
**Question 15: Thinking about protecting yourself and the City, which three of the following are MOST important to you?**

| Answer | Number of Responses |
|---|---|
| Protecting private property | 57 |
| Protecting utilities (phone, power, water, etc.) | 77 |
| Protecting transportation infrastructure (roads/bridges) | 43 |
| Preventing development in hazardous areas | 19 |
| Protecting the natural environment | 44 |
| Protecting historical/cultural landmarks | 23 |
| Strengthening emergency services (police, fire, ambulance) | 51 |
| Promoting cooperation among public agencies, citizens, non-profit organizations and businesses | 42 |



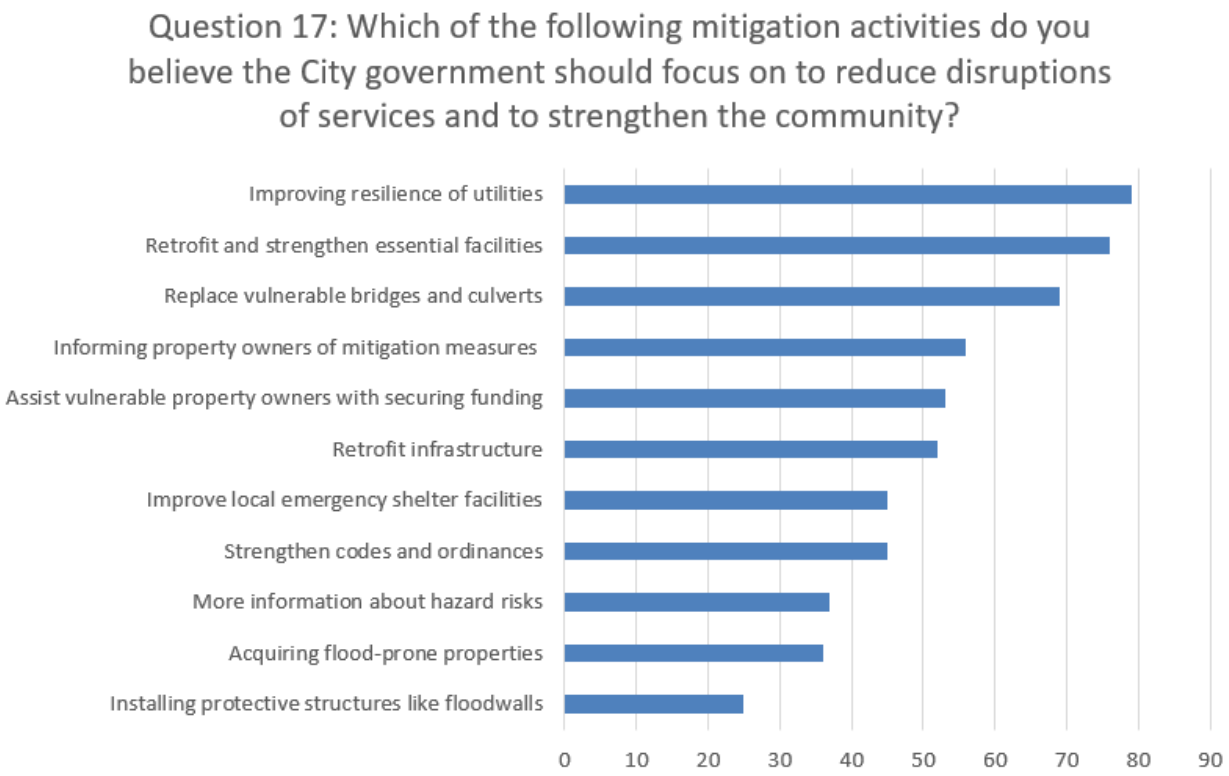

**Question 16: Think about protecting yourself and the City, which three of the following are the LEAST important to you?**

| Answer | Number of Responses |
|---|---|
| Protecting private property | 32 |
| Protecting utilities (phone, power, water, etc.) | 16 |
| Protecting transportation infrastructure (roads/bridges) | 27 |
| Preventing development in hazardous areas | 51 |
| Protecting the natural environment | 14 |
| Protecting historical/cultural landmarks | 55 |
| Strengthening emergency services (police, fire, ambulance) | 23 |
| Promoting cooperation among public agencies, citizens, non-profit organizations and businesses | 42 |




**Question 17: Which of the following mitigation activities do you believe the City government should focus on to reduce disruptions of services and to strengthen the community? Choose all that apply.**

| Answer | Number of Responses |
|---|---|
| Retrofit and strengthen essential facilities | 76 |
| Replace vulnerable bridges and culverts | 69 |
| Retrofit infrastructure | 52 |
| Improving resilience of utilities | 79 |
| Installing protective structures like floodwalls | 25 |
| Acquiring flood-prone properties | 36 |
| Strengthen codes and ordinances | 45 |
| More information about hazard risks | 37 |
| Informing property owners of mitigation measures | 56 |
| Assist vulnerable property owners with securing funding | 53 |
| Improve local emergency shelter facilities | 45 |




**Question 18: Any further comments:** **Analysis forthcoming.**

## APPENDIX E – Certificate of Adoption

**CERTIFICATE OF ADOPTION**
**City Council of St. Albans,**
**Vermont**
**A Resolution Adopting the LOCAL HAZARD MITIGATION PLAN CITY OF ST. ALBANS, VERMONT 2026**

WHEREAS the St. Albans City Council recognizes the threat that natural hazards pose to people and property within the City of St. Albans; and

WHEREAS the St. Albans City Council has prepared a natural hazard mitigation plan, hereby known as the LOCAL HAZARD MITIGATION PLAN CITY OF ST. ALBANS, VERMONT 2026 in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the LOCAL HAZARD MITIGATION PLAN CITY OF ST. ALBANS, VERMONT 2026 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of St. Albans from the impacts of future hazards and disasters; and

WHEREAS adoption by the St. Albans City Council demonstrates its commitment to hazard mitigation and achieving the goals outlined in the LOCAL HAZARD MITIGATION PLAN CITY OF ST. ALBANS, VERMONT 2026.

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF CITY OF ST. ALBANS, VERMONT, THAT:

Section 1. In accordance with 24 VSA §872, the ST. ALBANS CITY COUNCIL adopts the LOCAL HAZARD MITIGATION PLAN CITY OF ST. ALBANS, VERMONT 2026. While content related to the City of St. Albans may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of St. Albans to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of_____ in favor and_____ against, and_____ abstaining, this day of_____, 2026.

By:_____(print name) City Major

ATTEST: By:_____ (print name)