

EXECUTIVE SUMMARY

The Municipality of Anchorage (MOA) is vulnerable to a wide range of natural, technological, and human/societal hazards including earthquakes, avalanches, and hazardous material accidents. These hazards can affect the safety of residents, damage or destroy public and private property, disrupt the local economy, and negatively impact the quality of life.

Typically, we cannot eliminate these hazards altogether but we can lessen their impact by undertaking hazard mitigation activities. Hazard mitigation activities are those that reduce or eliminate the long-term risk to property and human life from hazards. Examples of hazard mitigation activities include elevating a structure out of a floodplain, bolting a structure to its foundation and developing a hazard mitigation plan.

The Disaster Mitigation Act of 2000 (DMA 2000) requires that local governments have a local mitigation plan approved by the Federal Emergency Management Agency (FEMA) as a condition for receiving future FEMA mitigation funds. This hazard mitigation plan was developed to fulfill federal and state hazard mitigation planning requirements.

Development and implementation of this plan has been directed by the Anchorage Hazard Mitigation Planning Team consisting of representatives from a variety of municipal departments including the Office of Emergency Management, Project Management & Engineering, Maintenance & Operations, Anchorage School District, Anchorage Water & Wastewater Utility, Anchorage Police Department and Anchorage Fire Department.

Upon approval by FEMA, this plan will be formally adopted by the Municipality of Anchorage Assembly.

FEMA REQUIREMENTS

According to the FEMA regulations, a mitigation plan must identify the hazards that occur in Anchorage, contain a strategy to mitigate those hazards and a method of monitoring and updating the plan.

HAZARDS IN ANCHORAGE

The hazards that may occur in Anchorage include:

Natural	Technological	Human/Societal
<ul style="list-style-type: none"> • Avalanche • Earthquake • Flood • Landslide • Severe Wind Storm • Tsunami • Volcanic Ashfall • Wildfire • Winter Storm • Erosion 	<ul style="list-style-type: none"> • Air Pollution • Dam Failure • Energy Emergency: Fuel/Resource Shortage • Fire: Explosion/Structural • Hazardous Materials Accident • Hazardous Materials Release • Power Failure (Outage) • Radiation Release • Transportation Accident: <ul style="list-style-type: none"> - Aircraft - Marine - Motor Vehicle 	<ul style="list-style-type: none"> • Attack • Civil Disturbance • Terrorism, WMD: Biological, Chemical, Nuclear

To make the best use of existing resources, the plan focused on natural hazards as they occur most frequently in the MOA. Technological and human/societal hazards will be addressed in future updates of the plan.

For each natural hazard, there is a description of the hazard's characteristics, the location where the hazard can occur, previous occurrences of the hazard, and what is vulnerable to the hazard. Where possible, the location of the hazard area has been mapped.

MITIGATION STRATEGY

The mitigation strategy includes goals, objectives and action items that, when implemented, will make the MOA safer. The goals and objectives are:

Goal 1: Education/Coordination: Develop coordinated and proactive public policies, emergency plans and procedures, and educational programs that minimize the risk to the community from natural hazards and disasters.

Objective 1.1 Increase coordination among Municipal departments.

- Objective 1.2 Educate individuals and businesses about hazards, disaster preparedness and mitigation.*
- Objective 1.3 Increase coordination between hazard mitigation goals and existing and future plans, including the incorporation of effective hazard mitigation strategies into the Capital Improvement Program.*
- Objective 1.4 Coordinate with the Alaska Division of Insurance.*
- Objective 1.5 Educate public officials, developers, realtors, contractors, building owners and the general public about hazard risks and building requirements.*
- Objective 1.6 Partner with Municipal Departments and other agencies serving vulnerable populations to minimize harm in the event of an emergency.*

Goal 2: Land Use/Planning: Develop an urban place that develops in harmony with its natural setting and is mindful of its natural hazards.

- Objective 2.1 Continue to provide for floodplain management to protect residents and property from the hazards of development in floodplains.*
- Objective 2.2 Land use regulations shall include new design requirements that are responsive to Anchorage's climate and natural setting.*
- Objective 2.3 Use environmentally and conservation- friendly materials in mitigation projects whenever possible and economically feasible.*
- Objective 2.4 Adopt and enforce public policies to minimize impacts of development and enhance safe construction in high hazard areas.*
- Objective 2.5 Integrate new hazard and risk information into building codes and land use planning mechanisms.*

Goal 3: Emergency Management: Create and maintain a community where people and property are safe.

- Objective 3.1 Develop mechanisms in advance of a major emergency to cope with the subsequent rebuilding and recovery phases.*
- Objective 3.2 Consider the secondary effects of disasters, such as hazardous waste and hazardous materials spills when planning and developing mitigation projects.*

- Objective 3.3 Minimize increases in hazard vulnerability.*
- Objective 3.4 Ensure compliance with the Emergency Planning and Community Right-to-Know Act of 1986.*
- Objective 3.5 Improve road connectivity for evacuation purposes.*
- Objective 3.6 Promote disaster contingency planning and facility safety among institutions that provide essential services such as food, clothing, shelter and health care.*
- Objective 3.7 Improve disaster warning systems.*
- Objective 3.8 Promote appropriate hazard mitigation of all public and privately-owned property within the Municipality of Anchorage including, but not limited to, residential units, commercial structures, educational institutions, health care facilities, public gathering places, and infrastructure systems.*
- Objective 3.9 Promote mitigation of historic buildings.*
- Objective 3.10 Promote post-disaster mitigation as part of repair and recovery.*
- Goal 4: Protection of Public/Critical Facilities: Make MOA-owned facilities as disaster-resistant as feasible.
- Objective 4.1 Encourage a structural review of new facilities.*
- Objective 4.2 Consider known hazards when siting new facilities and systems.*
- Objective 4.3 Perform structural retrofitting of existing structures.*
- Objective 4.4 All public facilities should have a pollution prevention plan.*
- Objective 4.5 Incorporate non-structural mitigation into existing buildings.*
- Objective 4.6 Implement mitigation programs that protect critical municipal facilities and services and promote reliability of lifeline systems to minimize impacts from hazards, to maintain operations, and to expedite recovery in an emergency.*
- Objective 4.7 Create redundancies for critical networks such as water, sewer, digital data, power and communications.*
- Objective 4.8 Formalize best practices for protecting systems and networks.*

Goal 5: Support Wildfire Mitigation.

Objective 5.1 Support the AFD Wildfire Strategic Plan.

Objective 5.2 Promote FireWise building design, siting and construction material.

Objective 5.3 Continue and maintain vegetation management.

Objective 5.4 Maintain the wildfire risk model.

Objective 5.5 Develop additional water resources to reduce the ISO rating.

Goal 6: Information: Ensure information is easy to access and up-to-date.

Objective 6.1 Convert all hazard maps to a GIS format.

Objective 6.2 Identify hazards not already mapped.

Objective 6.3 Map all currently unmapped regulated flood-prone areas.

Objective 6.4 Record information about MOA-declared disaster events including location, extent, and damage caused on a standardized template.

Objective 6.5 Update drainage studies.

Goal 7. Economy/Business: Maintain Anchorage's (and the State's) economic vitality.

Objective 7.1 Partner with private sector, including small businesses, to promote structural and non-structural hazard mitigation as part of standard business practice.

Objective 7.2 Educate businesses about contingency planning citywide, targeting small businesses and those located in high risk areas.

Objective 7.3 Partner with private sector to promote employee education about disaster preparedness while on the job and at home.

Objective 7.4 Minimize economic loss

ACTION ITEMS

Action 1: Hold semi-annual meetings of the hazard mitigation committee.

Action 2: The MOA shall develop a program to educate the community on the various methods of making structures and their contents more disaster-resistant, which would include workshops, literature and public safety announcements.

- Action 3: Continue the A.W.A.R.E. Program.
- Action 4: Develop a recovery plan.
- Action 5: The MOA shall continue to apply floodplain management regulations for development in the flood plain and floodway.
- Action 6: The MOA shall continue to utilize the FEMA Flood Insurance Rate Map to define the special flood hazard area, the floodway and the floodplain.
- Action 7: Develop a list of possible sites to purchase for floodplain mitigation.
- Action 8: Implement the four essential strategies to implement policy #41 of Anchorage 2020. The four strategies are: Design standards, land clearing standards, land use regulation amendment (Central Business zones), and landscape ordinance.
- Action 9: Evaluate existing development guidelines to identify which ones, if any, should be revised to incorporate hazard mitigation activities.
- Action 10: Create a dam inundation overlay zone in the MOA GIS System of known dam inundation areas.
- Action 11: Conduct vulnerability analyses of shelters and traditional housing serving vulnerable populations.
- Action 12: Identify alternate connections between Eagle River and the Anchorage Bowl.
- Action 13: Review existing zoning to determine if additional wildfire mitigation measures could be incorporated.
- Action 14: Create a prioritized list of FIRMs that need to be updated.
- Action 15: Digitize the ground failure maps from the Snow Avalanche & Mass-Wasting Hazard Analysis Glacier/Winner Creek Area, Alaska report.
- Action 16: Continue to require new MOA buildings to go through the FM Global review.
- Action 17: Develop siting requirements for facilities built with MOA funds.
- Action 18: The MOA shall pursue funding to seismically retrofit City-owned facilities.
- Action 19: Install gas shut-off valves in all MOA-owned public facilities.
- Action 20: Install gas shut-off valves in all ASD public schools.
- Action 21: Ensure school windows are shatter-resistant by installing a coating on the window or replacing the window.

- Action 22: Repair/replace the Lower Fire Lake Dam.
- Action 23: Retrofit the Lake of the Hills Dam.
- Action 24: Port of Anchorage - seismic retrofit Terminal I piles
- Action 25: Port of Anchorage - seismic retrofit Terminal I wells
- Action 26: Port of Anchorage - seismic retrofit Terminal II crane tie-downs.
- Action 27: Identify municipal fire stations, police stations and emergency facilities that need to be seismically retrofit or rebuild to current seismic standards.
- Action 28: Identify all MOA facilities that need a pollution prevention plan.
- Action 29: Establish a template that documents the information FEMA wants on each hazard event.
- Action 30: Increase the use of HAZUS software.
- Action 31: Investigate the culvert near Arctic Boulevard and the Valley of the Moon Park as it is a source of localized flooding.
- Action 32: Maintain the wildfire risk model.
- Action 33: Continue and maintain vegetation management.
- Action 34: Develop additional water resources.
- Action 35: Develop a list of drainage studies needing updating.
- Action 36: Continue to comply with Right to Know Act.
- Action 37 Identify necessary warning system improvements.

Plan Maintenance

This plan will be maintained through a series of annual evaluations, evaluations after major hazard events, and a formal re-adoption every five years. On an annual basis, the plan will be evaluated to:

- monitor progress made on plan recommendations during the previous 12 months.
- identify mitigation accomplishments in projects, programs and policies.
- update the status of mitigation projects included on the city's Capital Improvement Program list, and elsewhere.
- ensure new mitigation needs are identified.
- identify new mitigation projects.
- review project prioritization to ensure it reflects current conditions.
- modify or remove existing initiatives, and the justification for doing so.
- incorporate changes in membership to the Committee.