

Section 1 Introduction

The City of Beaverton (the City) developed this Natural Hazard Mitigation Action Plan in an effort to protect life, property and the environment from the impacts of natural disasters. It is impossible to predict exactly when these disasters will occur, or the extent to which they will affect the City. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural disasters.

A natural disaster occurs when a natural hazard impacts people or property and creates adverse conditions within a community. Natural hazards include: floods, earthquakes, coastal erosion, tsunami, volcanic eruption, severe winter storm, windstorm, drought, and wildfire, and each has the potential to harm people or property.ⁱ This plan focuses on the natural hazards which could affect the City of Beaverton, Oregon.

While the City of Beaverton's climate is generally mild and its terrain relatively gentle in its relief, natural hazards do pose a threat to the city's economy and its citizen's property and health. As noted throughout this plan, natural disasters have caused major problems in Beaverton in recent history. Heavy winter rainstorms and windstorms, along with occasional severe winter snow or ice storms, pose a threat to the City. Beaverton's location near a major geologic subduction zone places it in danger of experiencing significant earthquake damage as well as fallout from volcanic eruption. Planning for the occurrence of these hazards will help strengthen vital components of the city's infrastructure and minimize the risk and incidence of personal injuries, fatalities, and property damage. Wildfires and landslides have not significantly impacted Beaverton in the past, but these hazards may become more prominent as the City annexes lands to the northeast and southwest in the future.

What is Natural Hazard Mitigation?

Natural hazard mitigation is defined as permanently reducing or alleviating the losses of life, property, and injuries resulting from natural hazards through long and short-term strategies. Example strategies include planning, policy changes, programs, projects, and other activities. Mitigation is the responsibility of individuals, private businesses and industries, state and local governments, and the federal government.ⁱⁱ

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Engaging in mitigation activities provides jurisdictions with a number of benefits including reduced loss of life, property, essential services, critical facilities and economic hardship, reduced short-term and long-term recovery and reconstruction costs, increased cooperation and communication within the community through the planning process and increased potential for state and federal funding for recovery and reconstruction projects.

Why Develop a Mitigation Plan?

The dramatic increase of the costs associated with natural disasters over the past decades has fostered interest in identifying and implementing effective means of reducing vulnerability. This natural hazard mitigation plan is intended to assist the City of Beaverton in reducing its risk from natural hazards by identifying resources, information, and strategies for risk reduction. It will also help to guide and coordinate mitigation activities throughout the City.

The plan is non-regulatory in nature, meaning that it does not set forth any new policy. It does however, provide:

- (1) A foundation for coordination and collaboration among agencies and the public in the City of Beaverton;
- (2) Identification and prioritization of future mitigation activities; and
- (3) Assistance in meeting federal planning requirements and qualifying for assistance programs.

The mitigation plan works in conjunction with other City plans and programs including the Comprehensive Land Use Plan, Emergency Operations Plan, Economic Development Strategic Plan, Capital Improvement Plan; as well as the Washington County and Oregon Natural Hazard Mitigation Plans.

The plan provides a recommended set of actions to prepare for and reduce the risks posed by natural hazards through education and outreach programs, the development of partnerships, and implementation of preventative activities such as land use or watershed management programs. The actions described in the plan are intended to be implemented through existing plans and programs within the City.

This plan is not the first effort the City has undertaken in natural hazard mitigation. The City has undergone a seismic survey of city facilities, developed and routinely conducts public and employee preparedness training, upgraded portions of the Griffith Building,ⁱⁱⁱ and upgraded the Public Works Operations Facility.

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Why Revise the Plan?

Federal requirements (DMA 2000 and 44 CFR 201) for the maintenance of natural hazard mitigation plans, and for remaining eligible for mitigation grants, includes the need to review and update the plan at least every five years. This is to help ensure that the plan remains an active and relevant document. Local, state and federal approval of this plan ensures that the city remains eligible for pre- and post- disaster mitigation project grants.

Who Will the Plan Affect?

The plan affects the City of Beaverton, which includes the incorporated areas north of Highway 26 south to Scholls Ferry/Taylor's Ferry Roads and from the Multnomah/Washington County line west to 170th & 185th. While this plan does not establish mandates for the City, it does provide a viable framework for planning for natural hazards. The resources and background information in the plan are applicable citywide, and the goals and recommendations can lay groundwork for the development and implementation of local mitigation activities and partnerships. Recognizing that natural hazards do not start or stop a jurisdiction boundaries, mitigation action items identified in the Beaverton plan overlap with mutual benefit to many actions identified in the Washington County mitigation plan, which includes the cities of Tigard and Hillsboro, which share some boundaries with the City of Beaverton.

What Federal Requirements Does This Plan Address?

The Disaster Mitigation Act of 2000, commonly known as DMA 2000. is the federal law that addresses mitigation planning. It reinforces the importance of mitigation planning and emphasizes planning for natural hazards before they occur. As such, this Act established the Pre-Disaster Mitigation (PDM) grant program and the post-disaster Hazard Mitigation Grant Program (HMGP). Section 322 of the Act specifically addresses mitigation planning at the state and local levels. State and local jurisdictions must have approved mitigation plans in place in order to qualify to receive PDM, HMGP, and Flood Mitigation Assistance (FMA) grant funds. Some grant funds can be used to fund hazard mitigation planning projects. Mitigation plans must demonstrate that State and local jurisdictions' proposed mitigation measures are based on a sound planning process that accounts for the risk to the individual and the capabilities of state and local jurisdictions.

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Pursuant of Chapter 44 CFR, the NHMP planning processes shall include public comments on the plan during review, and the updated NHMP shall include documentation of the public planning process used to develop the plan.² The NHMP update must also contain a risk assessment, mitigation strategy, and a plan maintenance process that has been formally adopted by the governing body of the jurisdiction.³ Lastly, the NHMP must be submitted to the Oregon Military Department – Office of Emergency Management (OEM) for initial plan review and then to the Federal Emergency Management Agency (FEMA).⁴ Additionally, a recent change in the way OEM administers the Emergency Management Performance Grant (EMPG), which helps fund local emergency management programs, also requires a FEMA- approved NHMP.

What is the Policy Framework for Natural Hazards Planning in Oregon?

Planning for natural hazards is an integral element of Oregon’s statewide land use planning program, which began in 1973. All Oregon cities and counties have comprehensive plans and implementing ordinances that are required to comply with the statewide planning goals. The challenge faced by state and local governments is to keep this network of local plans coordinated in response to the changing conditions and needs of Oregon communities.

Statewide land use planning Goal 7, Areas Subject to Natural Hazards, calls for local plans to include inventories, policies, and ordinances to guide development in hazard areas. Goal 7, along with other land use planning goals, has helped to reduce losses from natural hazards. Through risk identification and the recommendation of risk-reduction actions, this plan aligns with the goals of the comprehensive plans for the three jurisdictions and helps each jurisdiction meet the requirements of statewide land use planning Goal 7.

The primary responsibility for the development and implementation of risk reduction strategies and policies lies with local jurisdictions. However, resources exist at the state and federal levels. Some of the key agencies in this area include Oregon Emergency Management (OEM), Oregon Building Codes Division (BCD), Oregon Department of Forestry (ODF), Oregon Department of Geology and Mineral Industries (DOGAMI), and the Department of Land Conservation and Development (DLCD).

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How Was the Plan Developed and Updated?

The initial NHMP was developed in 2003 using a planning process created by the Oregon Natural Hazard Workgroup at the University of Oregon. The planning process was designed to:

- (1) Result in a plan that is DMA 2000 compliant,
- (2) Coordinate this plan with the Washington County Natural Hazard Mitigation Plan^{iv}, and;
- (3) Build a network of jurisdictions and organizations that can play an active role in plan implementation.

The initial NHMP plan was developed with funding assistance from the Flood Mitigation Assistance (FMA) Program, a Federal Emergency Management Agency (FEMA) grant program. The City of Beaverton provided the balance of the funds for the plan's development from its General Fund. Costs associated with the maintenance, revision and distribution of the plan are paid for out of the City's General Fund.

The City's Emergency Management Program, assisted by the Natural Hazards Mitigation Plan (NHMP) Steering Committee, is responsible for the review and update of the plan. The plan was originally adopted in 2003 and was reviewed and updated in 2011. The revised plan was subsequently adopted by the City Council and approved by FEMA. Due to competing priorities within the Emergency Management Program this update has been delayed but the information contained in the previous version was still relevant and used to guide the City's mitigation activities.

The review and update of this version of the plan was conducted through meetings of the NHMP Steering Committee and electronically through email and shared documents. Additional coordination was done electronically with staff and organizations who are not part of the Steering Committee.

An open public involvement process is essential to the development of an effective NHMP. In order to develop a comprehensive approach to reducing the effects of natural disasters, the planning process included opportunities for the public, neighboring communities, local and regional agencies, and private and non-profit entities to comment on the NHMP during review.^v

The previous version of the plan was maintained on the City's public website along with a link where comments on the plan could be provided to the Emergency Management Program. When the process to revise and update the plan was started, information on the update and solicitation for comment were posted on the Home Page of the City's website and published in the "Your City" newsletter. Information on how to submit comments and proposed changes were included in the information.

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Links to the on-line survey were also provided in the “Your City” article and on the City’s Home Page. See Appendix B for additional information on public involvement.

Public participation during the plan updates were significantly more through the website and survey than during hosted public open houses combined that were conducted for the plan’s initial development.

How is the Plan Organized?

There are two parts of the plan, the Basic Plan and the Appendices, which provide background information. Each section provides specific information and resources to assist readers in understanding the hazard-specific issues facing the city residents, businesses, and the environment. Combined, the sections work together to create a mitigation plan that furthers the community’s mission to reduce or eliminate long-term risk to people and their property from hazards and their effects. The plan’s structure also enables stakeholders to easily locate and use the section(s) of interest to them.

Basic Plan

Plan Summary

The Plan Summary provides an overview of the FEMA requirements, planning process and highlights the key elements of the risk assessment, mitigation strategy, and implementation and maintenance strategy.

Section 1 - Introduction

The Introduction briefly describes the citywide mitigation planning efforts and the methodology used to develop the Plan.

Section 2 - Risk Assessment

The Risk Assessment provides the factual basis for the mitigation strategies contained in Section 3. The Risk Assessment includes a brief description of community sensitivities and vulnerabilities, and characteristics that may be impacted by natural hazards.

A hazards summary is provided for each of the hazards addressed in the NHMP, which includes a hazard characteristic, history, probability assessment, and vulnerabilities.

The following hazards are profiled in the Risk Assessment:

- Severe Weather – High Winds
- Severe Weather – Winter Storms
- Earthquakes
- Flood
- Volcano (Ash Fall)
- Landslides and Debris Flows
- Drought

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Additionally, this section provides information on the city's participation in the National Flood Insurance Program (NFIP).

Section 3 - Mitigation Strategy

The Mitigation Strategy documents the Plan vision, mission, goals, and mitigation actions and describes the components that guide implementation of the identified actions.

Mitigation actions are based on community sensitivity and resilience factors and the Risk Assessment.

Section 4: Implementation and Maintenance

This section provides information on the implementation and maintenance of the NHMP. It describes the process for prioritizing projects and includes a suggested list of tasks for updating the NHMP to be completed at the semi-annual and five-year review meetings.

Appendices

The resource appendices are designed to provide the users of the City's NHMP with additional information to assist them in understanding the contents of the mitigation plan, and provide them with potential resources to assist with plan implementation.

Appendix A: Action Items

This appendix contains the detailed action items for the city.

Appendix B: Planning and Public Process

This appendix includes documentation of the city public processes utilized to develop the Plan.

Appendix C: Community Profile

The Community Profile describes the city from a number of perspectives in order to help define and understand the area's sensitivity and resilience to natural hazards. The information in this section represents a snapshot in time of the current sensitivity and resilience factors in the region during this NHMP update.

Appendix D: Economic Analysis of Natural Hazard Mitigation Projects

This appendix describes FEMA's requirements for benefit cost analysis in natural hazards mitigation, as well as various approaches for conducting an economic analysis of proposed mitigation activities.

Appendix E: Grant Programs and Resources

This appendix lists hazard-specific state and federal resources and programs.

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Appendix F: Community Survey (2018)

This appendix includes the survey instrument and results from the hazards public opinions survey administered by the City.

Appendix G: Hazard Analysis

This appendix contains the City's Hazard Analysis which is revised every two years for the City's Emergency Operations Plan.

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Section Endnotes

ⁱ Federal Emergency Management Agency. 2002. *How-To Guide #2: Understanding Your Community's Risks; Identifying Hazards; and Determining Risks*.

ⁱⁱ Massachusetts Department of Environmental Management. 1999. "Hazard Mitigation: Managing Risks, Lowering Costs.

<http://www.state.ma.us/dem/programs/mitigate/whatis.htm> Accessed 8/2/02

ⁱⁱⁱ Metro Regional Government. Survey of Natural Hazard Mitigation Practices of Cities and Counties in the Portland, Oregon Metropolitan Region. 1997. http://hazards.metro-region.org/mapoptix_hazards/adobe_docs/guide-app3.pdf Accessed 9/3/02

^{iv} To preserve the ties between the Washington County Plan and the City of Beaverton plan, some information and text found in this plan was taken directly from the Washington County Plan.

^v Code of Federal Regulations, Chapter 44. Section 201.6, subsection (b). 2015