

Section 4

Plan Implementation and Maintenance

The plan maintenance section of this document details the formal process that will ensure that the City of Beaverton Natural Hazards Mitigation Plan remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an updated plan every five years. This chapter also describes how the City will integrate public participation throughout the plan maintenance process. Finally, this chapter includes an explanation of how the City intends to incorporate the mitigation strategies outlined in this Plan into existing planning mechanisms such as the City comprehensive land use plan, capital improvement plans, and building codes.

Implementing the Plan

The effectiveness of the non-regulatory City of Beaverton Natural Hazards Mitigation Plan will be contingent on the implementation of the plan and incorporation of the outlined action items into existing plans. After the revised plan is formally adopted, the identified activities and their prioritization will be validated by the Natural Hazards Mitigation Plan Steering Committee, and finally, the activities will be implemented, as resources permit, through existing plans, programs, and policies.

Once the plan has been adopted, the City Emergency Manager will be responsible for submitting it to the State Hazard Mitigation Officer at Oregon Emergency Management. Oregon Emergency Management will then submit the plan to the Federal Emergency Management Agency (FEMA) for review. This review will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201. Upon acceptance by FEMA, the City of Beaverton will maintain eligibility for Hazard Mitigation Grant Program funds.

Coordinating Body

The Natural Hazards Mitigation Plan Steering Committee will serve as the coordinating body for the plan and will be responsible both for coordinating the implementation of plan action items and for undertaking the formal review process. The Mayor's Office will ensure that appropriate representatives are assigned from the applicable City departments and programs, including, but not limited to, the current Hazard Mitigation Steering Committee members. The current members of the steering committee include representatives from:

- City of Beaverton Emergency Management Program
- City of Beaverton Community Development Department

- City of Beaverton Public Works
- City of Beaverton Finance/ISD/GIS Service
- Portland General Electric (PGE)
- Beaverton Community Emergency Response Team (CERT)
- Beaverton Committee for Citizen Involvement (BCCI)

The Natural Hazards Mitigation Plan Steering Committee will have no less than bi-annual meetings. These meetings will provide an opportunity to discuss the progress of the action items in the plan, and maintain the partnerships that are essential for the sustainability of the Mitigation Plan. Some plan coordination may occur through email in lieu of convening a meeting especially when there are limited items to discuss.

Convener

Although the City Council will provide ownership of the City of Beaverton Natural Hazards Mitigation Plan, the City's Emergency Manager will take responsibility for plan implementation. The Emergency Manager will facilitate the Natural Hazards Mitigation Plan Steering Committee meetings and will assign tasks such as updating and presenting the plan to the rest of the members of the committee. Plan implementation and evaluation will be a shared responsibility among all of the assigned Steering Committee Members.

Implementation through Existing Programs

The City of Beaverton currently addresses statewide planning goals and legislative requirements through its comprehensive land use plan, capital improvement plans, and City building codes. The Natural Hazards Mitigation Plan is non-regulatory in nature and provides a series of recommendations – many of which are closely related to the goals and objectives of these existing planning programs. To the extent possible, the City of Beaverton should incorporate the recommended mitigation action items into existing programs and procedures. These goals and action items will help the City of Beaverton address statewide land-use planning Goal 7 which was developed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards. Goal 7 requires that local governments base development plans on inventories of known areas of natural disasters and hazards and that the intensity of development should be limited by the degree to which the natural hazard occurs within the areas of proposed development. The City can use review of this plan as an avenue to update the Goal 7: Natural Hazards element of their comprehensive plan and to integrate mitigation into zoning and planning documents.

The City Building Division is responsible for administering the building codes in Beaverton. They work with the State Building Code Office to make sure that the City adopts, and is enforcing, the minimum standards established in the new State Building Code. In addition, the Natural Hazards Mitigation Plan Steering Committee will

promote safe building practices in an effort to have structures more resistant from the impacts of all hazards.

Capital improvement planning that occurs in the future will also contribute to the goals in the Natural Hazards Mitigation Plan. Various City departments develop Capital Improvement Programs (CIPs), and review them on an annual basis. The Natural Hazards Mitigation Plan Steering Committee will work with these departments to identify action items from Natural Hazard Mitigation into appropriate sections of the CIPs.

The meetings of the Natural Hazards Mitigation Plan Steering Committee will provide an opportunity for committee members to report back on the progress made on the integration of mitigation planning elements into City planning documents and procedures.

The City's continued participation in the Emergency Management Cooperative for Washington County and monthly Local Emergency Management meetings also provides additional venues for the discussion and coordination of mitigation activities with partner organizations and stakeholders.

Economic Analysis of Mitigation Projects

FEMA's methods of identifying the costs and benefits associated with natural hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis. Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating natural hazards provides decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

The Natural Hazards Mitigation Plan Steering Committee will use FEMA-approved cost benefit methodology as a tool for identifying and prioritizing mitigation action items when applying for federal mitigation funding. For other projects and funding sources, the Natural Hazards Mitigation Plan Steering Committee will use other approaches to understand the costs and benefits of each action item and develop a prioritized list. For more information regarding economic analysis of mitigation action items, please see Appendix D of the Plan.

Methodology for Prioritizing Plan Action Items

To initially prioritize the plan's action items the City of Beaverton utilized a multi-tiered approach. First the plan goals were prioritized. Second, the natural hazards identified in the community were prioritized based on the hazard analysis used in the City of Beaverton's Emergency Operations Plan (EOP). Using the outcome of these two activities each action item was tallied according to a point system in a third step in order to determine its relative priority within the plan. The prioritized list of action

items serves simply as a starting point for the implementation of mitigation activities. (See Section 3 for additional details on prioritization of action items).

The Natural Hazards Mitigation Plan Steering Committee and the leadership of the City of Beaverton have the option to implement any of the action items at any time. This allows the committee to consider mitigation strategies as new opportunities arise, such as funding for action items that may not be of highest priority.

Evaluating and Updating the Plan

Formal Review Process

The City of Beaverton has implemented a process to ensure that a regular review and update of the Natural Hazards Mitigation Plan occurs. This process is based on a cycle that culminates with a revised plan being approved by Council and distributed at least every 5 years. All Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan and the Emergency Manager is responsible for contacting the Committee members and organizing a plan review meeting at least annually. Participation in the Steering Committee meeting may be expanded.

The committee will review each goal and objective to determine their relevance to changing situations in the City, as well as changes in state or federal policy, and to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The designated parties responsible for the various implementation actions will report on the status of their projects and will include which implementation process worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised.

Each section is also reviewed for changes in data, policy requirements, activities underway, and possible resources. These reviews occur during the Steering Committee meetings and by email, with internal and external partners/stakeholders.

Review process also includes the review of other documents and reports that may have an impact on the plan and activities. The documents reviewed included, but was not limited to:

- City of Beaverton Water Master Plan – Includes seismic resilience evaluations and capital improvement program
https://beaverton.granicus.com/MetaViewer.php?view_id=2&clip_id=2006&meta_id=107832
- City of Beaverton Comprehensive Plan
<https://www.beavertonoregon.gov/461/Comprehensive-Plan>
- Statewide Planning Goal 7 <https://www.oregon.gov/lcd/OP/Pages/Goal-7.aspx>
- Oregon Department of Land Conservation and Development. 2015. *Oregon Natural Hazards Mitigation Plan*
https://www.oregon.gov/LCD/NH/Documents/Approved_2015ORNHMP.pdf

- Washington County Community Wildfire Protection Plan
https://www.co.washington.or.us/EmergencyManagement/upload/WashCo_CWP_P_Final.pdf
- Washington County Natural Hazards Mitigation Plan
<https://www.co.washington.or.us/EmergencyManagement/upload/WashCo-NHMP-2017-Plan-Summary.pdf>
- Oregon Department of Geology and Mineral Studies. Earthquake Regional Impact Analysis for Clackamas, Multnomah, and Washington Counties, Oregon Report to the Regional Disaster Preparedness Organization Oregon. (Nov 30, 2017)
<https://rdpo.net/dogami-earthquake-impact-analysis>

Copies of the plan have been provided to partner organizations and are available electronically on-line for other partners, stakeholders, businesses, and academia to review and provide comment on.

The Emergency Management Program is responsible for incorporating the changes and updates to the plan before submitting the final document to the Natural Hazards Mitigation Plan Steering Committee members, and presenting it to the City Council for approval. The updated Plan will then be submitted to the State Hazard Mitigation Officer for review. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination.

Continued Public Involvement

Public participation was also maintained in the review and revision process for this update of the plan. 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. 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.

The final NHMP will be maintained on the City's website and will include a link for providing comment during the period of time between updates. Public involvement will also be maintained on the Steering Committee with volunteers from CERT and a representative from BCCI (Beaverton Committee for Community Involvement).

State of Oregon as a Partner

All mitigation is local and the primary responsibility for development and implementation of risk reduction strategies and policies lies with local jurisdictions. Local jurisdictions, however, are not alone. Partners and resources exist at the state and federal levels.

Numerous Oregon state agencies have a role in natural hazards and natural hazard mitigation. Some of the key agencies include:

- Oregon Military Department, Office of Emergency Management (OEM) is responsible for disaster mitigation, preparedness, response, recovery, and the administration of federal funds after a major disaster declaration;
- Oregon Building Codes Division (BCD), is responsible for construction and for some hazards that are building-specific in their occurrence (such as earthquakes); also included are provisions for expansive soils and damage assessment of buildings after an earthquake;
- Oregon Department of Forestry (ODF) is responsible for all aspects of wildland fire protection on private and state lands. Additionally, in Western Oregon, ODF is responsible for Bureau of Land Management forestlands and administers forest practices regulations, including landslide mitigation, on non-federal lands;
- Oregon Department of Geology and Mineral Industries (DOGAMI) is responsible for geologic hazard characterization, public education, the development of partnerships aimed at reducing risk, and exceptions (based on science-based refinement of tsunami inundation zone delineation) to state mandated tsunami zone restrictions; and
- Department of Land Conservation and Development (DLCD) is responsible for planning-based hazard management including implementation of land use planning and Goal 7 (natural hazards), with attention given to hazard assessments and hazard mitigation. In addition, DLCD manages the state Floodplain Management and FEMA Risk MAP programs. Statewide land use planning Goal 7: Planning for 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. The City can use review of this NHMP as an avenue to update the Goal 7: Natural Hazards element of its comprehensive plan and to integrate mitigation into zoning and planning documents.

Other Partners

Further, mitigation actions can be implemented through the ongoing efforts of city partners. The City will actively seek out opportunities for such partnerships to further NHMP objectives. For example:

- Utilities and Special Districts: As a water resources management utility with nearly 500,000 customers, Clean Water Services is already invested in protecting the health of county residents as well as the quality of natural resources in Washington County. Many of their programs can already be said to be effective mitigation action. For example, they encourage residents to do natural landscaping which incorporates better water management. This can reduce neighborhood flood issues. In response to drought conditions in 2015, Clean Water Services contracted with Tualatin Valley Irrigation District to tap

into its Henry Hagg Lake water right. The purpose of the water purchase was to maintain adequate stream flows in the Tualatin River. Clean Water Services can continue to be a partner in outreach and mitigation actions.

- Portland General Electric is the electrical utility providers that covers the City of Beaverton. They provide an essential resource that city services, private industry, and citizens depend on. Continued collaboration to reduce vulnerabilities and increase the resilience of the power grid is a primary focus of this partnership.
- City Departments: Capital improvement planning that occurs in the future will also contribute to the goals in the NHMP. Many City departments develop Capital Improvement Plans (CIPs) and review them on an annual basis. At the time of annual review, the Natural Hazards Mitigation Steering Committee may work with the departments to integrate the City's NHMP into appropriate sections of the CIPs.
- Washington County Emergency Management Cooperative: The Emergency Management Cooperative for Washington County is committed to the development and maintenance of a countywide, integrated system to prepare for, respond to, recover from, and mitigate against disasters. The EMC is comprised of Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard, Clean Water Services and Tualatin Valley Fire and Rescue. In addition to local governments and special service districts, the EMC provides assistance to local businesses, schools, social service agencies, church groups, neighborhood groups, civic organizations, and youth groups. The EMC takes a proactive approach to enhancing government preparedness and educating the public. Since government's ability to respond may be limited during disasters, citizens need to be prepared to manage on their own for a minimum of three days.
- Citizens: There are numerous ways in which citizens and residents of Beaverton may become involved in mitigation actions. For example, groups such as CERT (Community Emergency Response Team), NACs (Neighborhood Association Committees), Homeowners Owners Associations, and BCCI (Beaverton Committee for Community Involvement).
- Public Health and Social Service Providers: As organizations that interface with the public on a daily basis, public health and social service providers can be a conduit to get information directly to city residents. They can also provide emergency managers with critical information about vulnerabilities that exist in the population. These organizations are natural partners in hazard mitigation.

Connections with the activities of other partners are part of the City's strategy for ongoing public involvement. It allows the City to present mitigation actions and ideas more holistically, within the context of existing groups.

Five-Year Review of Plan

This plan will be updated every five years in accordance with the update schedule outlined in the Disaster Mitigation Act of 2000. **The City of Beaverton NHMP is due to be reapproved FEMA by 2025.** The convener will be responsible for organizing the Steering Committee to address plan update needs. The Steering Committee will be responsible for updating any deficiencies found in the plan and for ultimately meeting the Disaster Mitigation Act of 2000's plan update requirements.