

Appendix A: Action Items

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APPENDIX A-I: PRIORITY ACTION ITEMS

Table A-1 lists priority actions for the 2017 Salem Natural Hazard Mitigation Plan.

The action item forms that follow Table A-1 present specific information for each action item. Additional action items and forms are located within [Appendix A-2: Action Item Pool](#).

Table A-I High Priority NHMP Actions

Action Item ID	Mitigation Action Item
Priority Actions	
Multi-Hazard	
MH #1	Identify and Designate Priority Transportation Routes.
Earthquake	
EQ #1	Develop an inventory of un-reinforced masonry structures and develop appropriate mitigation action items to reduce the impacts of seismic events.
EQ #2	Identify, inventory, and mitigate (as prioritization and resources allow) critical facilities and utilities that require seismic retrofit (consider structural and non-structural retrofit options).
EQ #3	Create a bridge prioritization inventory based on major lifeline routes including state highways, routes, and major road arteries.
EQ #4	Collaborate with SEDCOR to develop relevant public-private partnerships with businesses that can contribute to mitigation, response, and recovery.

Source: Salem NHMP Steering Committee (2017)

Priority Action Item Forms

Action Item: Multi-Hazard #1		Alignment with Plan Goals:	
Identify and Designate Priority Transportation Routes		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Transportation System Plan (2016)			
Rationale for Proposed Action Item:			
<p>In order to focus limited analysis, assessment and mitigation project resources, the city can designate priority transportation routes. This will ensure that when investments are made, they are prioritized to those routes that will be most important to post event response and recovery efforts. The Salem TSP lists arterials as critical routes.</p>			
Ideas for Implementation:			
<p>Develop a “hub and spoke” approach to priority route planning focused on post-event resource collection and distribution.</p>			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Emergency Management		ODOT	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		TBD	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input checked="" type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

Action Item: Earthquake #1		Alignment with Plan Goals:	
Develop an inventory of un-reinforced masonry structures and develop appropriate mitigation action items to reduce the impacts of seismic events.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Salem has numerous un-reinforced masonry structures in their downtown. Un-reinforced masonry structures are particularly susceptible to earthquakes, and if damaged, can disrupt businesses located in historic downtown buildings. Inventorying un-reinforced masonry structures and developing action items to address these buildings will help reduce the vulnerability to seismic events. The Salem Natural Hazards Mitigation Committee identified seismic events as having a high probability of recurrence and a high vulnerability in Salem. Addressing the most vulnerable buildings first, those made of un-reinforced masonry, will reduce the city's vulnerability to seismic events. The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community, particularly to buildings and infrastructure [201.6(c)(3)(ii)]. Inventorying un-reinforced masonry structures will identify the major issues surrounding these buildings and what appropriate mitigation measures should be used to address these issues. In addition, protecting existing buildings and infrastructure will help reduce the negative impact of a seismic event on the community. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Identify critical facilities constructed of un-reinforced masonry and develop appropriate mitigation action items or consider relocating the facility to a new building. Seek funding to develop programs to retrofit un-reinforced masonry buildings and provide outreach on seismic hazards. 			
Coordinating Organization:		Community Development Department	
Internal Partners:		External Partners:	
Urban Development, Public Works, Fire		FEMA, DOGAMI	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		TBD	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input checked="" type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Earthquake #2		Alignment with Plan Goals:	
Identify, inventory, and mitigate (as prioritization and resources allow) critical facilities and utilities that require seismic retrofit (consider structural and non-structural retrofit options).	<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4	<input type="checkbox"/> Goal 5
	<input checked="" type="checkbox"/> Goal 2		
	<input checked="" type="checkbox"/> Goal 3		
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The Salem Natural Hazards Mitigation Committee noted that certain critical facilities have a high vulnerability for seismic events. Seismically retrofitting these facilities will significantly reduce their vulnerability in the event of an earthquake. Oregon Senate Bill 3 (2005) enabled the state develop a grant program to seismically rehabilitate critical public facilities. Conducting an inventory of critical facilities early will assist communities in obtaining funding. The Disaster Mitigation Act of 2000 requires communities to identify comprehensive actions that protect new and existing buildings [201.6(c)(3)(ii)]. Seismically retrofitting existing critical facilities, including reservoirs and pump stations, will help Salem reduce their vulnerability to seismic events. The Department of Geology and Mineral Industries (DOGAMI) Statewide Seismic Needs Assessment completed in 2007 of educational and emergency service facilities in Salem identified 53 structures with a high or very high likelihood of collapse in the event of a major earthquake. facilities should be retrofitted accordingly to reduce the likelihood of collapse should an earthquake occur. (See Section 2 for a list of retrofitted facilities) 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Use DOGAMI's Seismic Needs Assessment of buildings in Salem to identify and prioritize buildings vulnerable to seismic events. Seek additional information from DOGAMI, if vulnerable reservoirs and pump stations are not included in the Seismic Needs Assessment. Coordinate with OEM and FEMA to determine funding for conducting seismic retrofit of buildings. 			
Coordinating Organization:	Emergency Management		
Internal Partners:		External Partners:	
Natural Hazards Mitigation Committee, Community Development Department, Public Works		FEMA, OEM, DOGAMI, School Districts	
Potential Funding Sources:		Estimated cost:	Timeline:
HMGP, PDM, Local Funding Resources, SRGP		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Earthquake #3		Alignment with Plan Goals:	
Create a bridge prioritization inventory based on major lifeline routes including state highways, routes, and major road arteries.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Salem EOP, TSP; Marion County EOP, TSP			
Rationale for Proposed Action Item:			
Salem does not currently have a bridge prioritization list that is tied to major lifeline routes.			
Ideas for Implementation:			
Work with Transportation lifeline sector representatives to identify the lifeline routes. Establish bridge prioritization list based on those routes.			
Coordinating Organization:	Public Works/ GIS		
Internal Partners:		External Partners:	
Emergency Management		ODOT	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		Less than \$10,000	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input checked="" type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

Action Item: Earthquake #4		Alignment with Plan Goals:	
Collaborate with SEDCOR to develop relevant public-private partnerships with businesses that can contribute to mitigation, response, and recovery.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Community Economic Development Strategy			
Rationale for Proposed Action Item:			
Government cannot do everything. Engaging the private sector is critical to success.			
Ideas for Implementation:			
Continue the innovative and successful collaboration with SEDCOR to engage local business.			
Coordinating Organization:	Emergency Management		
Internal Partners:		External Partners:	
Urban Development		Marion County Emergency Management, SEDCOR, Regional Solutions, Mid-Willamette Valley Council of Governments, UO Economic Development Administration University Center	
Potential Funding Sources:		Estimated cost:	Timeline:
Economic Development Administration, Hazard Mitigation Grant Program, General Fund, Business Oregon		TBD	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input checked="" type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

APPENDIX A-2: ACTION ITEM POOL

Table A-2 and the subsequent action item forms, are the complete list of non-priority actions for the 2017 Salem NHMP.

Table A-2 Action Item Pool

Action Item ID	Mitigation Action Item
Action Item Pool	
Multi-Hazard	
MH #2	Coordinate with the Capitol Planning Commission to integrate natural hazard mitigation into State and City respective capital improvements.
MH #3	Develop an inventory of the number and type of critical facilities within the community that are at reasonable risk for each hazard type.
MH #4	Develop public outreach materials for all natural hazard risks addressed in the Salem Natural Hazards Mitigation Plan. Materials should include mitigation actions residents and businesses can implement to reduce their risk to natural hazards, and where they can obtain more detailed natural hazard information.
MH #5	Include a post-disaster recovery and mitigation annex/appendix in the Salem Emergency Operations Plan that encourages property owners to incorporate retrofitting and mitigation measures in recovery efforts.
MH #6	Ensure Unified Development Code (UDC) updates consider specific hazards when updating the Salem code for mitigating the location of future development in identified/mapped high hazard areas.
MH #7	Strengthen or replace unsafe public structures (especially facilities critical to disaster and post-disaster planning/response).
MH #8	Continue developing alert and warning systems to notify residents of incidents involving natural hazards and hazardous materials.
MH #9	Enhance hazard resistant construction methods (wind, winter storm, landslide, etc.) where possible to reduce damage to utilities and critical facilities. In part, this may be accomplished by encouraging electric utility providers to convert existing overhead lines to underground lines.
MH #10	Integrate the Mitigation Plan findings into planning and regulatory documents and programs including the Comprehensive Plan (particularly Goal 7).
MH #11	Participate in assessments of the short and long term needs for sheltering access and functional needs populations for all hazards.
Drought	
DR #1	Complete and implement the North Santiam Drought Contingency Plan.
Earthquake	
EQ #5	Partner with the school districts to help identify and prioritize seismic retrofits to school district facilities.

Source: Salem NHMP Steering Committee (2017)

Table A-3 Action Item Pool (Continued)

Action Item ID	Mitigation Action Item
Action Item Pool	
Extreme Heat	
EH #1	No specific action item developed for this hazard. See multi-hazard actions for applicable mitigation strategies.
Flood	
FL #1	Update, maintain, and implement flood actions via a floodplain management plan in accordance with FEMA's Community Rating System guidelines.
FL #2	Improve the City of Salem's National Flood Insurance Program (NFIP) Community Rating System (CRS) rating in order to reduce flood risk and NFIP premiums.
Landslide	
LS #1	Map areas of landslide risk adjacent to the North Santiam River (upstream of the Geren Island water intake structures) and areas impacted by a catastrophic failure of the Detroit or Big Cliff Dams.
LS #2	Update landslide overlay maps using Light Detection and Ranging (LIDAR) data.
LS #3	Utilize the updated regional landslide risk maps (DOGAMI O-16-02) to identify hazard areas and collaborate with the Oregon Department of Geology and Mineral Industries to work on landslide risk reduction efforts; determine areas and buildings at risk to landslides and propose Comprehensive Plan and land use policies accordingly.
Volcano	
VE #1	No specific action item developed for this hazard. See multi-hazard actions for applicable mitigation strategies.
Windstorm	
WD #1	Partner with public and private utilities to educate the public about hazardous trees and the damage they can cause in the event of a windstorm.
Winter Storm	
WT #1	Partner with public and private utilities to educate the public about hazardous trees and the damage they can cause in the event of a winter storm.
Wildfire	
WF #1	Conduct wildfire prevention outreach, as outlined in the Marion County and Polk County (West Salem) Community Wildfire Protection Plans (CWPPs), to residents near the wildland-urban interface.
Hazardous Materials Incident	
HM #1	Map facilities that handle or contain hazardous materials, rank them based on their level of risk, and refine response strategies for each situation in the event of an accident.

Source: Salem NHMP Steering Committee (2017)

Action Item: Multi-Hazard #2		Alignment with Plan Goals:	
Coordinate with the Capitol Planning Commission to integrate natural hazard mitigation into State and City respective capital improvements.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The Capitol Planning Commission (SB 671, 2009 Session) is identified as the main body to implement the State of Oregon capital improvement projects within the greater Salem area. A similar responsibility rests with the Salem Public Works Department in the development and implementation of the City's Capital Improvements Program (CIP). It is important that natural hazard mitigation be integrated into both the State's and Salem's Capital Improvement Program so that critical public facilities, including government buildings, are constructed to function during and after natural disasters. Local units of government want to ensure continuous service by strengthening essential facilities. Ensuring continuous service will assist residents in recovering from a natural disaster as well as make the process easier. The Disaster Mitigation Act of 2000 requires communities to maintain the Hazard Mitigation Plan by having local governments incorporate the requirements of the mitigation plan into other planning mechanisms [201.6(c)(4)(ii)]. Coordinating mitigation activities with other planning activities will help local governments incorporate mitigation into other plans and policies currently being developed. Coordination will also reduce duplication of planning efforts, strengthening the overall mitigation planning process. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Determine what roles the Capitol Planning Commission plays in mitigating natural hazards, especially for State of Oregon properties or others in Salem for which it has jurisdiction. Review action items and discuss which ones can be integrated into Capital Improvement Programs for Salem. Inventory critical facilities that may be potentially vulnerable to a natural disaster and present these to the Capitol Planning Commission for their review. Include members of the Capitol Planning Commission in the NHMP Committee meetings Realign or replace roads and utilities when feasible in the course of regularly scheduled replacement to reduce the impact of natural hazard events on new development. Explore the possibility of under grounding utilities that are vulnerable to severe weather. 			
Coordinating Organization:	Community Development Department		
Internal Partners:	External Partners:		
Natural Hazard Mitigation Committee	FEMA, OEM, Capitol Planning Commission		
Potential Funding Sources:	Estimated cost:	Timeline:	
Local Funding Resources	TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)	
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Multi-Hazard #3		Alignment with Plan Goals:	
Develop an inventory of the number and type of critical facilities within the community that are at reasonable risk for each hazard type.	<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4	
	<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5	
	<input type="checkbox"/> Goal 3		
Alignment with Existing Plans/Policies:			
Emergency Operations Plan, Comprehensive Plan			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> • Many older commercial buildings in Salem are vulnerable to damage in the event of a natural disaster. This could have significant impacts on Salem's economy. Identifying and retrofitting buildings that are susceptible to a natural disaster will reduce the vulnerability of the buildings in the event of a natural disaster and improve the resiliency of Salem's local economy. • OEM's checklist for local mitigation plans includes the need to estimate the type and number of structures within the community at risk for each hazard type, including residences, businesses, critical facilities (hospitals, fire stations, and storage sites for hazardous materials), and infrastructure (e.g., roads and utilities). There also needs to be a map of repetitive flood loss properties (extent of flooding, no evaluation of cost of property damage) and discussion of potential mitigation activities for these properties. • The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community, particularly to buildings and infrastructure [201.6(c)(3)(ii)]. Inventorying important historic and cultural resources and identifying their vulnerability to natural hazards will help to develop mitigation actions that reduce Salem's overall vulnerability to natural hazards. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> • Determine vulnerabilities of community structures to natural hazards • Identify appropriate mitigation measures to help preserve structures within the community that are at risk for each hazard type. • Create an electronic data base which illustrates an inventory of the number and type of structures within the community that are at risk for each hazard type. • Identify significant cultural and historic resources, whether on the national register or not, that are worthy of additional protection. 			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Natural Hazards Mitigation Committee, GIS, IT		FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Retained, from 2012 version of the NHMP		

Action Item: Multi-Hazard #4		Alignment with Plan Goals:	
Develop public outreach materials for all natural hazard risks addressed in the Salem Natural Hazards Mitigation Plan. Materials should include mitigation actions residents and businesses can implement to reduce their risk to natural hazards, and where they can obtain more detailed natural hazard information.		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> • Conducting public outreach campaigns raises awareness about natural hazards and helps illustrate what residents and businesses can do to reduce the impact of a natural disaster on their properties, thereby significantly reducing the impact of a natural disaster on Salem. • Several natural hazards, such as severe weather, earthquakes, and floods, have the potential for disrupting transportation services and isolating rural residents from basic services and needs. Salem residents need to be educated about the dangers that natural hazards pose and what actions they can take to mitigate the impact hazards on the community. • The Disaster Mitigation Act of 2000 requires communities to identify comprehensive actions and projects that reduce the effects of a hazard on the community [201.6(c)(3)(ii)]. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> • Conduct public outreach campaigns, such as articles in the newspaper or through brochures instructing residents and businesses about the risks natural hazards pose and mitigation actions they can implement. • Coordinate with other groups conducting other emergency management activities to assist in conducting public outreach campaigns, developing emergency kits, and educating residents and businesses about other mitigation activities • Develop handouts that inform residents and businesses about natural hazard risk, appropriate mitigation actions that can be implemented, and where citizens can obtain further information. • Create an online informational website where residents and businesses can be educated about appropriate mitigation actions residents and businesses can implement to reduce the impact of natural hazards • Work with local real estate trade associations to prepare informational handouts advising property owners of natural hazard risks in their area and measures they can implement to reduce their risk of exposure. 			
Coordinating Organization:		Emergency Management	
Internal Partners:		External Partners:	
Community Development Department, Public Works		FEMA, Oregon State Police, OMD-Office of Emergency Management, DOGAMI, DLCD	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, FEMA, DLCD, DOGAMI		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)

Form Submitted by:	Salem Natural Hazards Mitigation Committee
Action Item Status:	Ongoing, from 2012 version of the NHMP

Action Item: Multi-Hazard #5		Alignment with Plan Goals:	
Include a post-disaster recovery and mitigation annex/appendix in the Salem Emergency Operations Plan that encourages property owners to incorporate retrofitting and mitigation measures in recovery efforts.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Emergency Operations Plan			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Disaster response is an important component to natural hazards planning that can save lives and property during a natural disaster. Coordinating disaster response efforts with the mitigation plan will ensure that the plan remains relevant to the larger community. Resources that may not be available on a routine basis for certain improvements may become available through various disaster relief sources, particularly where careful planning has allowed the community to identify certain needs in advance, saving critical time in the aftermath of a disaster. The Disaster Mitigation Act of 2000 requires communities to develop actions that reduce the impact of a natural hazard [201.6(c)(3)(ii)]. Incorporating information about mitigation and retrofitting will increase Salem's ability to recover from a natural disaster. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Seek guidance from FEMA and the Oregon Office of Emergency Management on how to incorporate recovery and mitigation measures into the Salem Emergency Operations Plan. Periodically update the recovery and mitigation measures that have been incorporated into the Salem Emergency Operations Plan 			
Coordinating Organization:	Emergency Management		
Internal Partners:	External Partners:		
Natural Hazards Mitigation Committee	FEMA, Oregon State Police, OMD-Office of Emergency Management		
Potential Funding Sources:	Estimated cost:	Timeline:	
Local Funding Resources	TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)	
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Deferred, from 2012 version of the NHMP		

Action Item: Multi-Hazard #6		Alignment with Plan Goals:	
Ensure Unified Development Code (UDC) updates consider specific hazards when updating the Salem code for mitigating the location of future development in identified/mapped high hazard areas.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Goal 7 of Oregon's Land Use Planning Goals requires that local governments "adopt or amend, as necessary, based on the evaluation of risk, plan policies and implementing measures...[that prohibit] the siting of essential facilities, major structures, hazardous facilities and special occupancy structures, as defined in the state building code (ORS 455.447(1) (a)(b)(c) and (e)), in identified hazard areas..." The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community [201.6(c)(3)(ii)]. Adjusting the Salem code to move future development from identified/mapped hazards areas will reduce the vulnerability of new development to natural hazards. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Consider transferring development rights from high hazard areas to safer areas, especially in those areas where the risk to people and property cannot be mitigated. Address high hazard areas and consider measures for mitigating the location of future development in these areas during the update of the Salem code. 			
Coordinating Organization:	Community Development		
Internal Partners:		External Partners:	
Natural Hazards Mitigation Committee		DLCD, FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, DLCD Technical Assistance Grant		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Multi-Hazard #7		Alignment with Plan Goals:	
Strengthen or replace unsafe public structures (especially facilities critical to disaster and post-disaster planning/response).		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The Disaster Mitigation Act of 2000 requires communities to assess their vulnerability to natural hazards, particularly by identifying the types and number of buildings, infrastructure, and critical facilities that could be affected. It is important that critical facilities function during and after disasters. Strengthening all essential facilities will improve recovery capacity and reduce risk and loss of life. Retrofitting of vital infrastructure, such as schools and community buildings, provides important improvements that reduce hazard exposure and the cost and time associated with recovery. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Develop formal agreements with internal and external partners who could assist the partners in collaborating and sharing the responsibility of natural hazard mitigation. Such actions to form collaborative partnerships and commitments to mitigation can assist the City in reducing its risk to the natural hazards addressed by the Natural Hazards Mitigation Plan. Conduct structural and non-structural retrofits of critical facilities to reduce the impacts of a natural hazard. Conduct a cost-benefit analysis to assess whether the cost of mitigation improvements to critical facilities balance with the benefits to be gained. Create proposals to reinforce buildings so they can withstand an earthquake and thereby reduce vulnerability risks; ORS 455.447 regulates vulnerable building retrofits. 			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Fire Department, Police Department, Community Development, Urban Development, Administrative Services		FEMA, ODOT	
Potential Funding Sources:		Estimated cost:	Timeline:
FMA, HMGP, PDM, SRGP, Local Funding Resources,		TBD	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input checked="" type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Retain, revised from 2012 version of the NHMP		

Action Item: Multi-Hazard #8		Alignment with Plan Goals:	
Continue developing alert and warning systems to notify residents of incidents involving natural hazards and hazardous materials.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Alert and warning systems can provide a life-saving service to residents in the event of a natural or manmade disaster. Natural and manmade disasters can occur at any time, often unannounced, putting people at risk. Developing alert and warning systems can reduce the risk of exposure to natural hazard incidents and hazardous materials spills and help to save lives and property. Alert and warning system have significant relevance to hazardous materials accidents. Hazardous materials are located near businesses and residences in Salem as well as along major transportation routes. Trucking routes along the I-5 corridor and Highway 22 may also contain hazardous materials because there are no restrictions on the type of cargo that travels over these routes which run through residential and commercial areas in the city. In addition, the heavily-traveled railroad line near the Capital area has approximately 12,000 cars of hazardous materials running through the area each year. Accidents in businesses or on any of the above routes can have an adverse impact on the quality of life and economy of the city and the state; significant events have already occurred in Salem in 1976 and along the I-5 corridor. Alert and warning systems can help to prevent larger accidents from occurring and help to save lives and property. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Continue to enforce the Salem Fire Prevention Code to regulate hazardous materials. Develop strategies in local building codes and zoning ordinances to reduce the impact of natural hazard and manmade hazard events on buildings and infrastructure. Continue to develop a reverse 9-11 system to alert nearby residents and businesses of natural hazard events or hazardous materials accident. Develop improved maps to locate areas vulnerable to natural hazard events and hazardous materials. 			
Coordinating Organization:	Emergency Management		
Internal Partners:		External Partners:	
Public Works, Police Department, GIS and Mapping Departments		ODOT, FEMA, OSHA	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, Local Funding Resources		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, from 2012 version of the NHMP		

Action Item: Multi-Hazard #9		Alignment with Plan Goals:	
Enhance hazard resistant construction methods (wind, winter storm, landslide, etc.) where possible to reduce damage to utilities and critical facilities. In part, this may be accomplished by encouraging electric utility providers to convert existing overhead lines to underground lines.		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Transportation Plan, Community Wildfire Protection Plans (Marion and Polk)			
Rationale for Proposed Action Item:			
Downed power lines result in power failures and block critical transportation routes. The loss of electric power for a long period of time (more than 72 hours) can lead to failures of multiple critical systems including health care, water filtration, wastewater treatment, communications, transportation, and others. Impassable roadways from downed lines also inhibit emergency response and restoration of critical services, such as drinking water and health care, and is particularly problematic if fuel for backup generators cannot be delivered. The hazards most likely to impair surface transportation and disrupt electric service are severe winter storm (snow, ice, downed trees, utility pole, and wire failures) and earthquake (downed trees, utility pole and wire failures).			
Ideas for Implementation:			
Over the next five years: a) Develop a list of key backbone transmission and distribution routes that serve critical customers and enable efficient restoration to the broader distribution system; b) Develop a long-term plan to underground, relocate, or “harden” key electric distribution lines along critical corridors (including feasibility assessment and prioritization); c) Seek funds and opportunities to relocate power poles and power lines, or harden existing facilities, where feasible and appropriate, to reduce blockage of roadways and to reduce risk of outages from natural disasters; and d) Continue to enhance wind and winter storm resistant construction methods where possible to reduce damage to utilities and critical facilities.			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Community Development, Emergency Management, GIS		Public Utility Commission, Pacific Power	
Potential Funding Sources:		Estimated cost:	Timeline:
HMGP, PDM, Electric Utilities, Local Funding Resources		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

Action Item: Multi-Hazard #10		Alignment with Plan Goals:	
Integrate the Mitigation Plan findings into planning and regulatory documents and programs including Comprehensive Plans.		<input checked="" type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Action proposes integration with relevant existing plans and policies.			
Rationale for Proposed Action Item:			
<p>The federal Disaster Mitigation Act of 2000 requires communities to describe a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate.</p> <p>Every five years, natural hazard mitigation plans must be updated and resubmitted for approval in order to continue to be eligible for mitigation project grant funding. The updated plan must explain how the local government incorporated the mitigation plan into other planning mechanisms, when appropriate, as a demonstration of progress in local mitigation efforts. This action item serves as a reminder to the Natural Hazards Mitigation Plan committee that efforts must be made to integrate the requirements of the mitigation plan into other planning mechanisms.</p>			
Ideas for Implementation:			
<p>Local government functions provide a myriad of methods in which to implement actions identified in the mitigation strategy. Among them is the comprehensive plan. Others include, but are not limited to, the following: sustainability plans, capital improvement plans, redevelopment plans, post-disaster redevelopment or recovery plans, regional development plans, flood mitigation plans, college campus plans, etc. (see Federal Emergency Management Agency Local Mitigation Planning Guidance, July 2008).</p> <p>Conduct an ‘audit’ of the Salem Comprehensive Plan (specifically, Goal 7). Determine whether information needs to be (or can be) updated by content within the natural hazards mitigation plan or otherwise. Develop a strategy and timeline for updating Goal 7 content. Ideally, integration should happen as a dedicated component of future comprehensive plan or natural hazards mitigation plan updates.</p> <p>Inventory and review other local plans to identify gaps, weaknesses, or opportunities for enhancing plan integration.</p> <p>The American Planning Association (APA) developed a report entitled Hazard Mitigation: Integrating Best Practices into Planning. The report identifies where local planning activities could benefit from better integration of hazard mitigation concerns.</p> <p>The Federal Emergency Management Agency (FEMA) developed a guidebook entitled Integrating the Local Natural Hazard Mitigation Plan into a Community’s Comprehensive Plan. The guidebook includes case studies of Benton County and Corvallis NHMP integration efforts.</p>			
Coordinating Organization:		Community Development	
Internal Partners:		External Partners:	
Emergency Management, Public Works, City Administration		FEMA, American Planning Association, DLCD, OEM	

Potential Funding Sources:	Estimated cost:	Timeline:
Local Funding Resources, DLCDC Technical Assistance Grants	TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)	
Action Item Status:	New	

DRAFT

Action Item: Multi-Hazard #11		Alignment with Plan Goals:	
Participate in assessments of the short and long term needs for sheltering access and functional needs populations for all hazards.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Salem EOP, Marion County EOP, Marion County NHMP			
Rationale for Proposed Action Item:			
<p>Marion County has been conducting an ongoing effort to address functional needs populations. This action acknowledges the success of that work and acknowledges that additional effort is needed. Functional needs populations are an identified priority for the city and county. Salem will participate with the county's corresponding NHMP action (Marion County NHMP Priority Action #3, 2017).</p>			
Ideas for Implementation:			
Interviews, focus groups and data analysis.			
Coordinating Organization:		Emergency Management	
Internal Partners:		External Partners:	
Community Development		Marion County Emergency Management, Oregon DHS	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, Americorps/ Resource Assistance for Rural Environments		TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

Action Item: Drought #1		Alignment with Plan Goals:	
Complete and Implement the North Santiam Drought Contingency Plan		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Water Master Plan, Comprehensive Plan			
Rationale for Proposed Action Item:			
<p>Water availability is an increasing concern in Salem and Marion County. The ongoing water contingency planning effort is an innovative and successful collaboration between numerous local and regional partners. The effort is already resulting in significant mitigation benefits across Marion County.</p>			
Ideas for Implementation:			
Complete, adopt and begin to implement the plan.			
Coordinating Organization:		Public Works	
Internal Partners:		External Partners:	
City Departments		Marion County (Emergency Management), Santiam Water Control District, City of Stayton, Linn Soil & Water Conservation District, Marion Soil & Water Conservation District, Norpac Foods, Inc., North Santiam Watershed Council, Oregon Department of Agriculture, Oregon Department of Environmental Quality, Oregon Department of Forestry	
Potential Funding Sources:		Estimated cost:	Timeline:
Bureau of Reclamation, Local Funding Resources		TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee (2017)		
Action Item Status:	New		

Action Item: Earthquake #5		Alignment with Plan Goals:	
Partner with the school districts to help identify and prioritize seismic retrofits to school district facilities.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> • Due to the high concentration of students and the relative vulnerability of that population, schools have large negative impacts from seismic events. Seismically retrofitting these facilities will significantly reduce their vulnerability in the event of an earthquake. • Oregon Senate Bill 3 (2005) enables the Oregon Office of Emergency Management to develop a grant program to seismically rehabilitate critical public facilities. While the grant program is still being developed, conducting an inventory of critical facilities early will assist communities in obtaining funding once the grant program is in place. • The Department of Geology and Mineral Industries (DOGAMI) Statewide Seismic Needs Assessment completed in 2007 of educational facilities in the state of Oregon identified 48 school structures with a high or very high likelihood of collapse in the event of a major earthquake. These facilities should be retrofitted accordingly to reduce the likelihood of collapse in the event of an earthquake. • The Disaster Mitigation Act of 2000 requires communities to identify comprehensive actions that protect new and existing buildings [201.6(c)(3)(ii)]. Seismically retrofitting existing critical facilities, including reservoirs and pump stations and especially schools, will help Salem reduce their vulnerability to seismic events. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> • Use DOGAMI's Seismic Needs Assessment of Salem school facilities to identify and prioritize school district facilities that are vulnerable to seismic events. • Educate school district officials about the effectiveness of natural hazard mitigation actions. • Coordinate with OEM and FEMA to seek funding for conducting seismic retrofit of buildings. • Engage the members of the school district with the Salem Natural Hazards Mitigation Committee. 			
Coordinating Organization:	Emergency Management		
Internal Partners:		External Partners:	
Natural Hazards Mitigation Committee, Community Development Department,		FEMA, OEM, DOGAMI, Salem-Keizer School District, private schools, Chemeketa C.C., Willamette University, Corban University	
Potential Funding Sources:		Estimated cost:	Timeline:
HMGP, PDM, Local Funding Resources, SRGP		TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Flood #1		Alignment with Plan Goals:	
Update, maintain, and implement flood actions via a floodplain management plan in accordance with FEMA's Community Rating System guidelines.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<p>Floodplain management for Salem is unique and warrants a separate public process to identify specific action items. Factors include involvement in the Community Rating System, Endangered Species Act and compliance with existing adopted plans.</p>			
Ideas for Implementation:			
<p>Continue 10-step process identified by FEMA. The City's Public Works department has started the process and anticipates a final Floodplain Management Plan to be presented to City Council by the end of 2012.</p>			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Emergency Management, Fire, Operations and Engineering		FEMA, DLCD, National Flood Insurance Program, Floodplain Management Committee	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, DLCD Technical Assistance Grant		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Flood #2		Alignment with Plan Goals:	
Improve the City of Salem's National Flood Insurance Program (NFIP) Community Rating System (CRS) rating in order to reduce flood risk and NFIP premiums.		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, insurance premiums under the NFIP are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. Salem has a CRS program rating of five. Implementing action items to improve the CRS rating will significantly reduce NFIP premiums on structures located within the floodplain. The Disaster Mitigation Act of 2000 requires communities to identify mitigation actions that address existing buildings and infrastructure [201.6(c)(3)(ii)]. Maintaining the status of the Community Rating System program can help the community to enhance mitigation efforts and decrease the vulnerability to floods. In addition, the Flood Mitigation Assistance Program requires that communities maintain their compliance with the NFIP. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Coordinate with the Department of Land Conservation and Development (DLCD) and FEMA to maintain the Community Rating System. Educate businesses and homeowners currently under the NFIP program about the CRS program and any mitigation actions they can implement to reduce their insurance premiums. Identify homes not in the NFIP that should have flood insurance. Develop mitigation activities to address repetitive and single loss flood properties in Salem, particularly in the area of McGilchrist Avenue and Pringle Road SE, adjacent to West Pringle Creek. 			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
Community Development		DLCD, National Flood Insurance Program, FEMA, Marion and Polk Counties	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, from 2012 version of the NHMP		

Action Item: Landslide #1		Alignment with Plan Goals:	
Map areas of landslide risk adjacent to the North Santiam River (upstream of the Geren Island water intake structures) and areas impacted by a catastrophic failure of the Detroit or Big Cliff Dams.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The current landslide hazard maps are a compilation of existing maps. These maps are a “work in progress” and have been compiled at widely varying scales and sometimes only depict risk for certain types of landslides. These various scales and levels of detail may lead to people to believe that some areas have no slope hazard, when the case is that those areas just have not yet been evaluated. Systematic upgrading of these maps will lead to greater understanding of hazard locales. Focusing on areas that will be developed and will affect people and critical infrastructure will improve land use planning and provide for more efficient and cost effective development. Better data provides for better decisions to minimize loss. Incorporating indirect economic loss better depicts the cost from natural hazard events. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Improve knowledge of debris flow (rapid moving) landslide hazard areas. Improve landslide hazard area maps for a variety of types of landslides that focus on areas that will affect people and critical infrastructure and facilities. Educate identified vulnerable residential and commercial building owners, occupants, and developers of their vulnerability to risk. 			
Coordinating Organization:	Public Works Department		
Internal Partners:		External Partners:	
Community Development		USACE, DOGAMI, DLCD, FEMA, BLM, USFS	
Potential Funding Sources:		Estimated cost:	Timeline:
HMGP, PDM, Risk MAP, Local Funding Resources		TBD	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input checked="" type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Deferred, revised from 2012 version of the NHMP		

Action Item: Landslide #2		Alignment with Plan Goals:	
Update landslide overlay maps using Light Detection and Ranging (LIDAR) data.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> LIDAR (Light Detection and Ranging) is a new tool that can provide very precise, accurate, and high-resolution images of the surface of the earth, vegetation, and the built environment. The data are collected with aircraft-mounted lasers capable of recording elevation measurements at a rate of 2,000 to 5,000 pulses per second and have a vertical precision of 15 centimeters (6 inches). LIDAR mapping increases the ability to identify areas that are prone to landslides. In 2007, the Oregon Legislature Assembly directed DOGAMI to extend LIDAR collection efforts throughout the state. The ultimate goal is to provide high-quality LIDAR coverage for the entire state. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Contact DOGAMI and provide a map of Salem along with an estimate of available funding. Seek funding opportunities with DOGAMI to conduct LIDAR mapping for Salem. Once mapping is complete assess the need to update landslide ordinances. Explore potential cost-sharing agreements with Keizer, Turner, Marion and Polk Counties for LIDAR mapping of the entire Salem-Keizer urbanized area. 			
Coordinating Organization:		Public Works Department	
Internal Partners:		External Partners:	
Natural Hazards Mitigation Committee, City GIS technicians		FEMA, NOAA, DLCD, DOGAMI, Keizer, Turner, Marion County, Polk County	
Potential Funding Sources:		Estimated cost:	Timeline:
HMGP, PDM, Risk MAP, Local Funding Resources		TBD/ Potentially very expensive	<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input checked="" type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Deferred, from 2012 version of the NHMP		

Action Item: Landslide #3		Alignment with Plan Goals:	
Utilize the updated regional landslide risk maps (DOGAMI O-16-02) to identify hazard areas and collaborate with the Oregon Department of Geology and Mineral Industries to work on landslide risk reduction efforts; determine areas and buildings at risk to landslides and propose Comprehensive Plan and land use policies accordingly.		<input type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Comprehensive plans, Lidar data available from DOGAMI			
Rationale for Proposed Action Item:			
<p>The risk assessment identified the potential for landslides to cause damage to buildings and infrastructure within the city; landslides may cause road closures and interruptions to utility services. The risk assessment also identified previous incidents of landslides that affected the city. Road closures sometimes force residents to find alternate transportation routes. Review and monitor existing public infrastructure to identify specific exposure to landslide risk.</p> <p>The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on both new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Identifying existing public infrastructure with exposure to landslide risk will allow the implementation of mitigation measures to reduce this risk.</p>			
Ideas for Implementation:			
Utilize the Landslide Susceptibility Map and Data (DOGAMI O-16-02) to perform landslide risk analysis. Use the new information to prioritize risk reduction actions. Perform risk reduction. Update/ develop Landslide Ordinances as applicable			
Coordinating Organization:	Community Development		
Internal Partners:	External Partners:		
GIS and Mapping, Emergency Management	DOGAMI, DLCD		
Potential Funding Sources:	Estimated cost:	Timeline:	
Risk MAP, PDM, HMGP, Local Funding Resources	TBD	<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)	
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	New		

Action Item: Windstorm #1		Alignment with Plan Goals:	
Partner with public and private utilities to educate the public about hazardous trees and the damage they can cause in the event of a wind or winter storm.		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Overhead electrical lines and other above ground utilities are subject to damage from nearby trees in high winds and winter storm damage. Post-disaster, it is difficult to remove debris from the downed utility lines and this difficulty delays the time for restoration of power to the community. Partnering with utility companies to maintain and remove hazardous trees, in addition to educating the public about the damage hazardous trees can cause, will help reduce risk of damage from severe wind and winter storms. The Disaster Mitigation Act of 2000 requires communities to develop comprehensive actions to reduce the impacts of natural hazards, with an emphasis on new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Maintenance and removal of hazardous trees will reduce the impact of severe weather, and will continue power service to rural customers as well as ODOT, State Police, county sheriff, emergency services, telephone utilities, and cell phone companies. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Coordinate with the Salem Public Works Department to gather information about the maintenance and removal of hazardous trees. Work with the community and Salem Public Works Department to identify areas that are prone to damage from nearby trees and perform the necessary maintenance or removal of those trees. Create a hazardous tree inventory. 			
Coordinating Organization:		Public Works	
Internal Partners:		External Partners:	
Community Services Parks Operations, Fire Department		ODOT, Portland General Electric, Salem Electric	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, Utilities		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, from 2012 version of the NHMP		

Action Item: Winter Storm #1		Alignment with Plan Goals:	
Partner with public and private utilities to educate the public about hazardous trees and the damage they can cause in the event of a wind or winter storm.		<input type="checkbox"/> Goal 1	<input checked="" type="checkbox"/> Goal 4
		<input checked="" type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Overhead electrical lines and other above ground utilities are subject to damage from nearby trees in high winds and winter storm damage. Post-disaster, it is difficult to remove debris from the downed utility lines and this difficulty delays the time for restoration of power to the community. Partnering with utility companies to maintain and remove hazardous trees, in addition to educating the public about the damage hazardous trees can cause, will help reduce risk of damage from severe wind and winter storms. The Disaster Mitigation Act of 2000 requires communities to develop comprehensive actions to reduce the impacts of natural hazards, with an emphasis on new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Maintenance and removal of hazardous trees will reduce the impact of severe weather, and will continue power service to rural customers as well as ODOT, State Police, county sheriff, emergency services, telephone utilities, and cell phone companies. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Coordinate with the Salem Public Works Department to gather information about the maintenance and removal of hazardous trees. Work with the community and Salem Public Works Department to identify areas that are prone to damage from nearby trees and perform the necessary maintenance or removal of those trees. Create a hazardous tree inventory. 			
Coordinating Organization:		Public Works Department	
Internal Partners:		External Partners:	
Community Services Parks Operations, Fire Department		ODOT, Portland General Electric, Salem Electric	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, Utilities		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, from 2012 version of the NHMP		

Action Item: Wildfire #1		Alignment with Plan Goals:	
Conduct wildfire prevention outreach, as outlined in the Marion County and Polk County (West Salem) Community Wildfire Protection Plans (CWPPs), to residents near the wildland-urban interface.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> The Oregon Department of Forestry (ODF) completed a Communities at Risk Assessment for Salem that shows areas in northwest and south Salem that are at high risk to wildfire events. These areas are just outside of Salem but are vulnerable to wildfire events that could impact residents within the city. Conducting wildfire prevention outreach to residents near these areas can significantly reduce the vulnerability of the neighborhoods to wildfire events. Interviews with Salem Fire Department staff indicate that the areas with the highest risk have the steepest slopes, the right fuels, and high valued property. The areas outlined by the ODF Communities at Risk Assessment show that many of the areas at risk are near steep slopes and have combustible fuels. Conducting wildfire prevention outreach can help to reduce vulnerability of residents to wildfire events. The Marion County and Polk County CWPPs outline strategies for conducting wildfire prevention outreach to residents living in the wildland-urban interface. Conducting wildfire prevention outreach using the CWPP will help to integrate mitigation into existing plans and policies as required by the Disaster Mitigation Act of 2000 [201.6(c)(4)(ii)]. The Disaster Mitigation Act of 2000 requires communities to identify mitigation actions that address new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Conducting wildfire prevention outreach measures will help to protect new and existing buildings from wildfire. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> The Marion and Polk County CWPPs contain several action items for reducing the impacts of wildfire on communities throughout the city, including actions to conduct public outreach about fuels reduction and defensible space. Using these action items can assist in reducing the impact of wildfire on Salem. Coordinate with responsible agencies listed in the CWPPs to implement action items. 			
Coordinating Organization:		Fire Department	
Internal Partners:		External Partners:	
Public Works and Community Development Departments, Police Department, Community Services		Oregon Department of Forestry, Marion County Fire District #1, Salem Suburban Fire District, Neighborhood Associations	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, ODF		TBD	<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Ongoing, revised from 2012 version of the NHMP		

Action Item: Hazardous Materials Incident #1		Alignment with Plan Goals:	
Map facilities that handle or contain hazardous materials, rank them based on their level of risk, and refine response strategies for each situation in the event of an accident.		<input checked="" type="checkbox"/> Goal 1	<input type="checkbox"/> Goal 4
		<input type="checkbox"/> Goal 2	<input checked="" type="checkbox"/> Goal 5
		<input checked="" type="checkbox"/> Goal 3	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
<ul style="list-style-type: none"> Salem has identified and mapped hazardous materials located in the city. These maps need to be updated to determine the number and types of natural hazards present, and their level of risk. The Salem Natural Hazards Mitigation Committee indicated how the railroad running near the Capital Mall area in Salem is an area for potential concern because of the significant amount of hazardous materials that run through the area each year. Accidents with people and automobiles could derail cars and have the potential to spill hazardous materials in the Capital Mall area, affecting City and State operations. Refining response strategies for accidents on the railroad line would reduce the vulnerability of Salem to hazardous materials incidents. The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community, particularly to buildings and infrastructure [201.6(c)(3)(ii)]. Identifying facilities that handle or contain hazardous materials, ranking them based on their level of risk, and developing appropriate response strategies will help reduce the negative impact of hazardous materials on the population in Salem and improve disaster response efforts. 			
Ideas for Implementation:			
<ul style="list-style-type: none"> Contact businesses and property owners with hazardous materials about strategies they can implement to reduce the impacts of hazardous materials in their immediate area. Coordinate response strategies with alert warning systems to minimize potential exposure to hazardous materials. Provide information on shelter-in-place strategies to property owners and neighbors to reduce exposure to hazardous materials and simplify response efforts. Identify vulnerable areas along the Union Pacific and Burlington Northern Santa Fe railroad lines and coordinate with railroad companies to develop strategies for reducing accidents along the railroad lines. 			
Coordinating Organization:		Fire Department	
Internal Partners:		External Partners:	
Emergency Management, Public Works		OSHA, Salem Chamber of Commerce, Neighborhood Associations, ODOT, OEM, State Police, State Fire Marshal	
Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources		TBD	<input checked="" type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:	Salem Natural Hazards Mitigation Committee		
Action Item Status:	Retain, from 2012 version of the NHMP		

APPENDIX A-3: ACTION ITEM FORM

Action Item:		Alignment with Plan Goals:	
		<input type="checkbox"/> Goal 1 <input type="checkbox"/> Goal 2 <input type="checkbox"/> Goal 3	<input type="checkbox"/> Goal 4 <input type="checkbox"/> Goal 5
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
Ideas for Implementation:			
Coordinating Organization:			
Internal Partners:		External Partners:	
Potential Funding Sources:		Estimated cost:	Timeline:
			<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Mid-Term (3-5 years) <input type="checkbox"/> Long-Term (5+ years)
Form Submitted by:			
Action Item Status:			