

Multnomah County Multi-Jurisdictional Hazard Mitigation Program

Steering Committee Meeting

May 5, 2015, 1:00-4:00 pm

Multnomah County Yeon Annex, Columbia Room

1600 SE 190th Ave., Portland, OR 97233

AGENDA ITEM	TIME
Welcome Introductions; Review Agenda and previous Meeting Minutes	1:00-1:10
Review Timeline and Tasks Milestones to reach January 2016 FEMA approval deadline	1:10-1:15
Updates on Grants Implementation Pre-disaster Mitigation Grant – Technical assistance through OPDR State Homeland Security Grant – Human-caused Hazards Risk Assessment	1:15-1:20
Risk Assessment Updates for 2015 Wildfire Risk Assessment Maps (ODF) HAZUS-MH 2.2 for Earthquake and Flood scenarios Social Vulnerability Review and integrate new, available info (e.g. Landslides, Volcano, Levees)	1:20-1:40
Plan Format Integrating jurisdiction-specific info Community Summaries	1:40-1:50
Public and Stakeholder Participation Requirements and Strategy Feedback to solicit and use in plan Public Events to target; Stakeholder meetings to target	1:50-2:20
Goals and Objectives Review Review current plans' goals and objectives; Agree on changes	2:20-2:30
Actions Review Reporting status of actions Obtaining feedback from stakeholders Developing new actions (see eligible activities list as example)	2:30-2:45
Break (set up teleconference)	2:45-2:55
Human-caused and Tech. Hazards Risk Assessment Introduce Consultant (Ryan Wiedenman, Atkins) Review Scope of Work and timeframe Discuss methodology and inputs needed	2:55-3:20
Hazard Prioritization Process Review current processes and requirements (OEM, Health, THIRA) Discuss countywide/multi-plan approach	3:20-3:35

Multnomah County Multi-Jurisdictional Hazard Mitigation Program

Steering Committee Meeting

May 5, 2015, 1:00-4:00 pm

Multnomah County Yeon Annex, Columbia Room

1600 SE 190th Ave., Portland, OR 97233

Other Updates/Questions/Comments	3:35-3:45
Next Steps	3:45-4:00
Next meeting agenda	
Identify Stakeholders and input on Actions	
Action Status Reporting	
Adjourn Meeting	4:00

Multnomah County Multi-Jurisdictional Hazard Mitigation Program

Steering Committee Meeting Minutes

May 5, 2015, 1:00-4:00 pm

Multnomah County Yeon Annex, Columbia Room

1600 SE 190th Ave, Portland, OR 97233

Attendees: Ben Harper, Multnomah County GIS; Ken Johnson, Fairview, Danielle Butsick, Portland; Angela Carkner, Multnomah County Drainage District; Mike McBride, Multnomah County Facilities; Mark Gunter, Wood Village; Chris Strong, Gresham; Tina Birch, MCEM; Allison Boyd, MCEM

1. Welcome, Introductions, Agenda and previous Meeting Minutes

- Allison Boyd welcomed the group and asked attendees to introduce themselves.
- Committee reviewed minutes from the previous meeting.
- Committee reviewed and approved agenda for this meeting.

2. Review Timelines and Tasks

- The group reviewed the planning process timeline included in the meeting slides.
- The focus for the month of May will be data updates. Items that must be updated will be looked at in detail.
- Plan goals and mitigation actions will need updating. The Steering Committee will need to meet again during the summer months to continue work on this.
- Public and stakeholder outreach will take place mostly during the summer.

3. Updates on Grants Implementation

- MCEM is a recipient of technical assistance through a Pre-Disaster Mitigation Grant administered by the State and contracted to the University of Oregon's OPDR program. The primary area of work for OPDR in our planning process will be assistance with action planning, public involvement, and community profiles.
- MCEM received grant funding through the State Homeland Security Program for a human caused and technological risk assessment. The contracting process just completed. Atkins is the selected contractor. The grant funding has a September deadline which aligns with our overall planning timeline.

4. Risk Assessment Updates for 2015

- The State has received a very sophisticated wildfire risk model. It provides additional detail to consider with the previous analysis used in the 2011 Community Wildfire Protection Plan (CWPP). A multi-criteria analysis was used for the modeling, including factors such as slope, vegetation, weather, community impact, emergency responder response times, and historic fire events. The CWPP stakeholders group will be convened to review the maps.
- HAZUS-MH 2.2 includes updated Census data for analyzing earthquake and flood scenarios. The basic modeling can be customized to include local data such as essential facilities, building stock, and land use information. We have been assessing at what point in the future we will be able to do these more advanced analyses and what our data availability is currently. The RDPO recently approved a project for HAZUS earthquake analysis that we will find out more info on to ensure our analyses will complement this future work.
- MCDD added that they are also working on modeling for levee breaches. Their input will be included into the HMP update.
- Oregon Health Authority has just completed a social vulnerability analysis for climate change.

The analysis is consistent with what the county was planning to conduct for disaster vulnerability so we will be using the same data sets and include this in the plan.

- Other hazard risk data included in the plan is being reviewed to determine if there is readily available new data that we can use in the update.

5. Plan Format

- The multi-jurisdiction plan format will follow FEMA guidance and will address each jurisdiction specifically. Because the current plans for Multnomah County, Troutdale, Wood Village, and Fairview were all developed by the same consultant, the format is already the same and will make merging the plans easier.
- It is very difficult to create a brief, reader-friendly plan due to the extensive federal requirements for documentation and need for comprehensiveness on all hazards. To combat this issue we are going to create community summaries that include only the pertinent information and hazard analysis for each jurisdiction/unincorporated communities to provide an alternative, shortened format. The goal is to make the community summaries easy to read, graphically and visually appealing, and informative for general public use. Community summaries will include:
 - A community profile
 - A brief summary for each hazard including:
 - hazard overview
 - hazard risk/vulnerability assessment
 - hazard maps and other visuals
 - historical hazard data
 - Mitigation actions
 - actions identified in the plan
 - actions that can be taken in the home/business
 - Additional community information resources
- Community summaries will be created for the following areas:
 - City of Troutdale
 - City of Fairview
 - It was discussed at the meeting that including the Interlachen community in the Fairview summary may not be politically acceptable so we will most likely separate Interlachen into its own summary
 - City of Wood Village
 - East County Unincorporated – Areas S/SE of Gresham and east of the Sandy River (we may break this into two areas)
 - West Hills/Sauvie Island

6. Public and Stakeholder Participation

- MCEM has scheduled outreach events within each of the focus jurisdictions/ unincorporated communities (Fairview, Troutdale, Wood Village, Corbett, Sauvie Island). The strategy is to reach out to the public via pre-identified events and community meetings.
- It was suggested that libraries may be another place to do public outreach. Interlachen has an annual meeting but it may have already occurred. Friends of Fairview also has events.
- MCEM will distribute the list of stakeholders for review and requests input for any additional stakeholders that may have been overlooked. Given the short timeframe for planning, we will be conducting targeted outreach to many stakeholder groups and meeting with them individually for input and review rather than holding large mitigation-specific meetings. Stakeholder outreach will also include engagement with groups at their meetings whenever

possible, e.g. attending LEPC, etc.

7. Goals and Objectives Review

- The planning process includes an update of the plan goals. The current plan goals are lengthy and revised goals should align with State HMP goals and other related local plan goals. One of the goals is slightly out of the scope of the mitigation plan and more appropriate for emergency response plans. The 2010 plan also includes objectives with the goals. These are not required and to be more reader-friendly we may ensure that the intent of the objectives is included in the goals and then remove the objectives.
- Social vulnerability and historic and cultural preservation goals should be included.
- Goals should be linked to planning elements and actions.

8. Actions Review

- Action items from the 2010 plan need to be reviewed and updated. Many of the actions are identical across plans and are not specific enough to be easily implemented. Moving forward we will be working to make actions more specific with a timeline within the scope of the plan (i.e. 1-5 years) and have a specific person/position as a contact for each item. Each jurisdiction must have actions relative to its risks included in the plan but we will also be opening up the action planning to other stakeholder groups within the county.
- The action items spreadsheet will be sent out to everyone and will include guidance on reviewing and updating the actions. Tina and Allison are available to assist with questions or meetings concerning updates of the actions.

9. Human-caused and Technological Hazards Risk Assessment

- Ryan Wiedenman from Atkins gave an introductory project presentation via a webinar and discussed the methodology options for the risk analysis. The powerpoint will be made available.
- Meeting participants weighed the usefulness of a Priority Risk Index (PRI) vs. an Asset-based prioritization. No decision was made at this meeting although consensus leaned toward doing both but perhaps limiting the number of assets analyzed to fit the scope of work.

10. Hazard Prioritization Process

- The discussion on hazard prioritization was continued also considering needs outside of the Human-caused risk assessment project. Oregon Emergency Management requires a hazard prioritization be done every 10 years as an EMPG requirement. The county's last prioritization was conducted in 2008 so it is not due yet. Public health and hospital stakeholders are also required to prioritize hazards annually and have expressed interest in basing their assessment on a countywide methodology. The Hazard Mitigation Plan is not required to "score" or rank hazards however much of the info needed to do rankings is required to be assessed as part of the Hazard Identification and Risk Assessment of the plan.

11. Other Updates/Questions/Comments

- No updates

12. Next Steps

- Convene a steering committee meeting in July/August prior to draft plan submission
- Identify stakeholders and input on actions
- Action status reporting

A stylized graphic on the left side of the slide. It features two dark green mountain peaks in the background. In the foreground, there is a dark green wavy band representing a forest or a middle ground, and a blue wavy band at the bottom representing water. The entire graphic is composed of solid-colored shapes with no outlines.

HMP Steering Committee

May 5, 2015

Multnomah County Hazard Mitigation Plan Update Process

Task	2014			2015												2016
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1. Planning Process																
1.1 Jurisdictional Participation	◆							◆								
1.2 Stakeholder Participation																
1.3 Public Involvement										O	O					
2. Data Updates																
2.1 Incorporate Existing Plans/Studies																
2.2 Changes in Development																
2.3 Minimum Risk Assessment Updates																
2.4 New Analysis																
3. Goals and Actions Updates																
3.1 Review Goals & Prioritization Process																
3.2 Report on Status of Actions																
3.3 Develop Updated Mitigation Strategy																
4. Doc. Production; Review/Adoption																
4.1 Document Production																
4.2 Plan Review																
4.3 Plan Adoption																

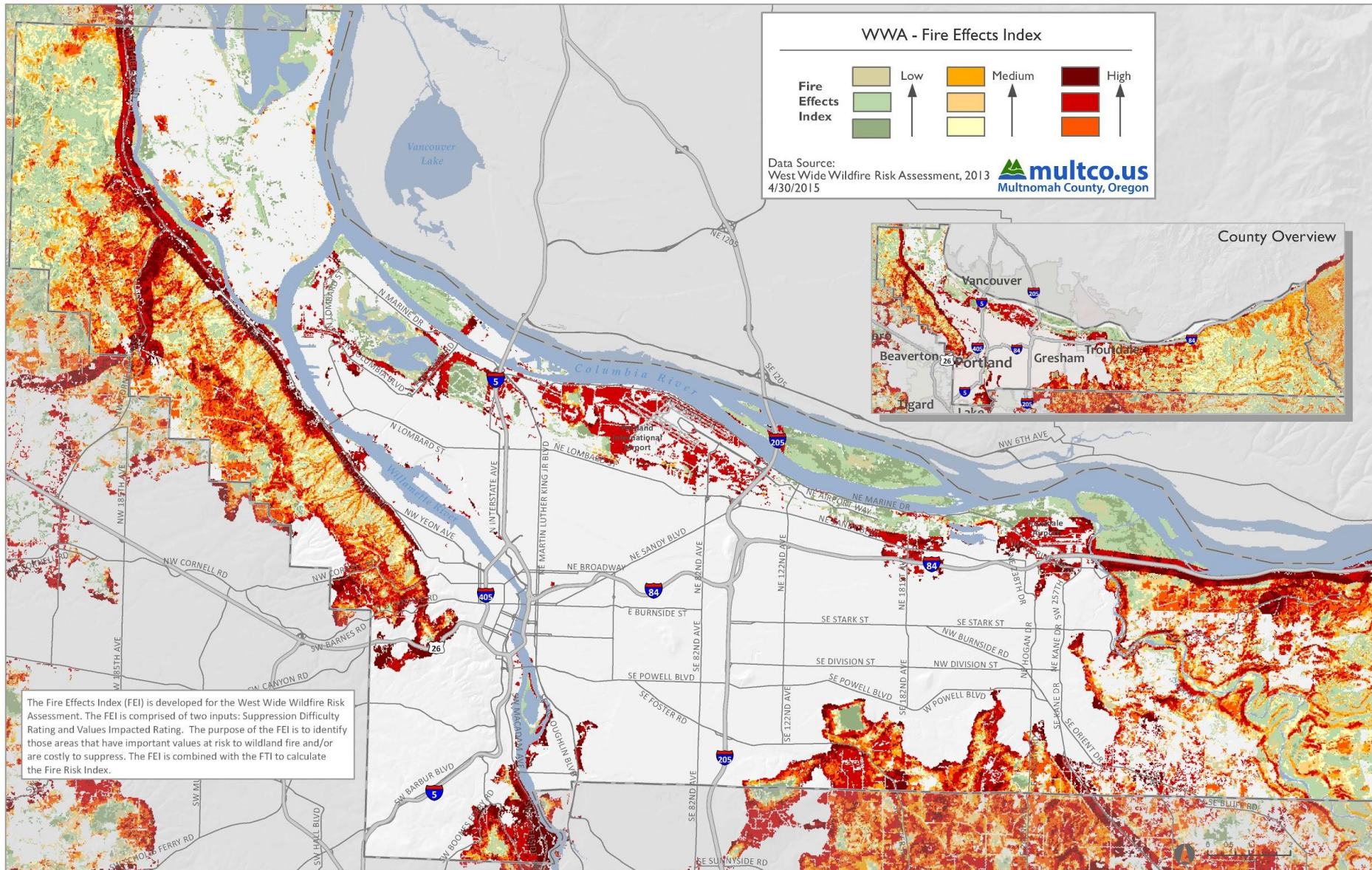
Legend

◆ Steering Committee Meeting

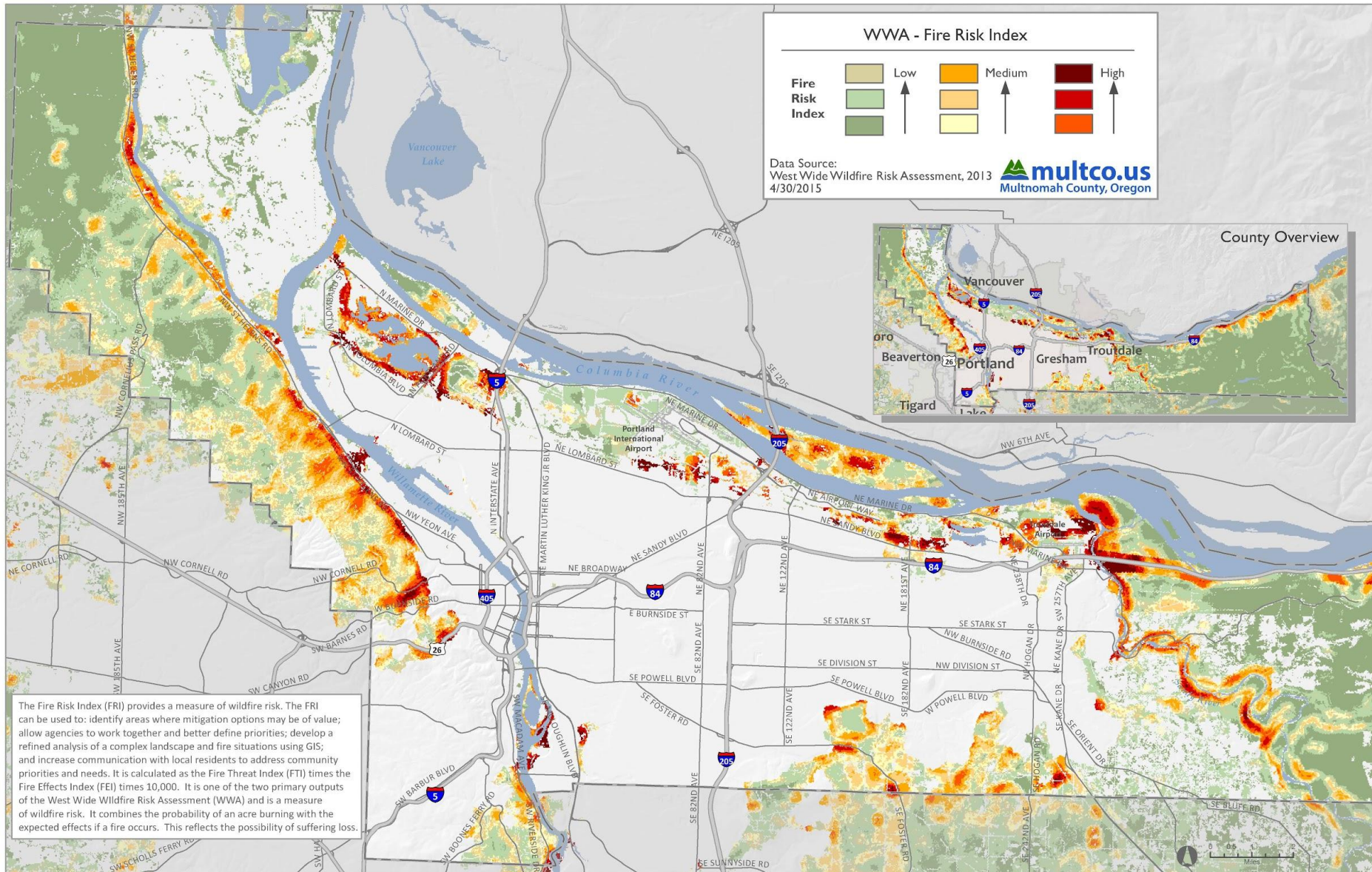
O Public Event

Time period for working on a project task

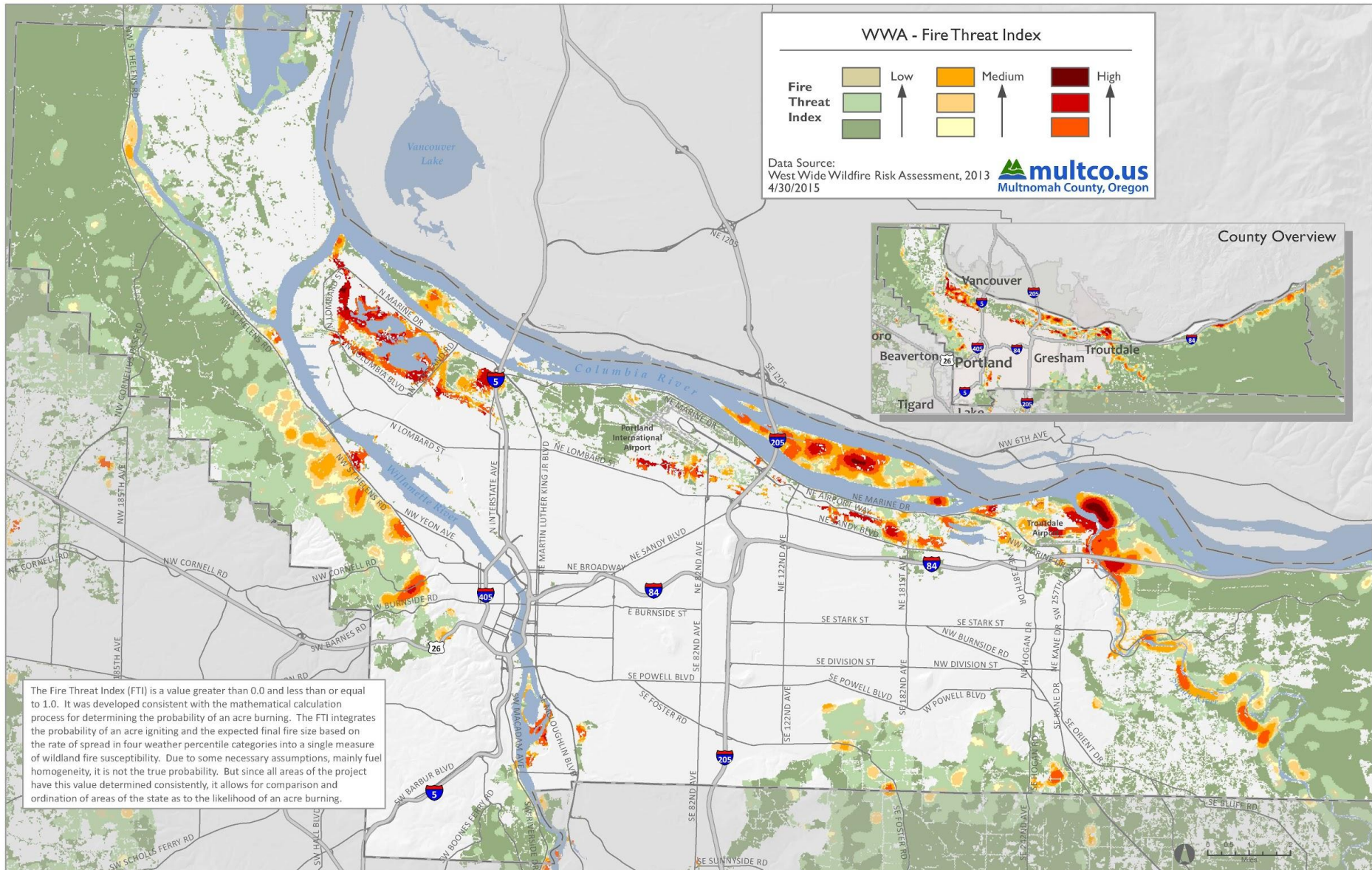
HMP Steering Committee // Wildfire Risk Assessment Maps



HMP Steering Committee // Wildfire Risk Assessment Maps



HMP Steering Committee // Wildfire Risk Assessment Maps




Community Summaries for:

- City of Troutdale
- City of Fairview - including Interlachen community
- City of Wood Village
- East County Unincorporated - areas S/SE of Gresham & east of Sandy River
- West Hills/Sauvie Island

Community summaries will consist of:

- Community Profile
- A summary for each hazard including:
 - hazard overview
 - hazard risk/vulnerability assessment (summarized)
 - hazard maps and other visuals
 - historical hazard data
- Mitigation Actions
 - actions identified in the plan
 - actions that can be taken in the home/business
- Additional information resources



Increasing Level of Public Impact 					
	Inform	Consult	Involve	Collaborate	Empower
Public Participation goal	To provide the public with balanced and objective information.	To obtain public feedback on analysis, alternatives, and/or decisions.	To work directly with the public throughout the process.	To partner with the public in each aspect of the decision	To place final decision-making in the hands of the public.
Promise to the public	We will keep you informed	We will keep you informed, listen to and acknowledge concerns and aspirations and provide feedback on how public input influenced decisions	We will work with you to ensure that your concerns and aspiration are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example techniques	<ul style="list-style-type: none"> • Fact sheets • Web sites • Open houses 	<ul style="list-style-type: none"> • Public comment • Focus groups • Surveys • Public meetings 	<ul style="list-style-type: none"> • Workshops • Deliberative planning 	<ul style="list-style-type: none"> • Citizen advisory committees • Consensus building • Participatory decision-making 	<ul style="list-style-type: none"> • Citizen juries • Ballots • Delegated decision

Source: IAP2 Spectrum of Public Participation, 2007



Currently scheduled outreach events:

- City of Wood Village National Night Out - July 17th
- Troutdale Summerfest - July 18th
- City of Fairview National Night Out - August 4th
- Corbett Area National Night Out - August 2015 and community meeting
- Sauvie Island Community Association - community meeting and possible event in August

Looking for additional opportunities with:

- Citizen Advisory Committees
- Outreach to interested businesses through Chambers of Commerce
- Strategic engagement to citizen groups



Multnomah County
Hazard Mitigation Action Items

Hazard	Jurisdiction	Term	Action Item	Coordinating Departments	Timeline	Status	Funding Source	Comments
Earthquake	Multnomah County	Short Term #1	Evaluate the structural vulnerability of critical county buildings and retrofit or replace when necessary.	Facilities	Ongoing			
Earthquake	Multnomah County	Short Term #2	Encourage school districts, fire agencies and private building owners to evaluate the structural vulnerability of buildings and retrofit or replace when necessary. Example: Grant workshops.	Emergency Management	Annually			
Earthquake	Multnomah County	Short Term #3	Evaluate the nonstructural vulnerabilities in county buildings and implement mitigation measures where necessary, including: automatic seismic shut off valves on gas lines, flexible connections to gas-fueled equipment, bracing of fire sprinklers, bracing of contents and others.	Facilities	1-2 Years			
Earthquake	Multnomah County	Short Term #4	Obtain and update earthquake map data as it becomes available through DOGAMI and other partners.	GIS	Ongoing			
Earthquake	Multnomah County	Short Term #5	Complete and maintain an inventory of critical facilities and lifelines that are susceptible to severe disruption due to earthquake hazards.	Emergency Management	Ongoing			
Earthquake	Multnomah County	Short Term #6	Enhance Multnomah County's staff earthquake expertise by attending training classes on nonstructural mitigation, post-earthquake seismic evaluations of buildings, and FEMA mitigation grants.	Emergency Management	Ongoing			
Earthquake	Multnomah County	Long Term #1	Retrofit suspended ceilings including light fixtures as replacement becomes necessary.	Facilities	Ongoing			
Earthquake	Multnomah County	Long Term #2	Retrofit or replace key bridges with substantial seismic vulnerabilities.	Transportation	Ongoing			
Earthquake	Multnomah County	Long Term #3	Seismic upgrades to the Multnomah County Courthouse	Facilities	5 Years			
Wildland/Urban Interface Fire	Multnomah County	Short Term #1	Track and report progress of action items in the Community Wildfire Protection Plan	Emergency Management	Annually			
Wildland/Urban Interface Fire	Multnomah County	Short Term #2	Review and amend as necessary planning and development regulations to incorporate mitigation strategies for wildland/	Multnomah County Land Use Planning	3 Years			
Wildland/Urban Interface Fire	Multnomah County	Short Term #3	Consider how Multnomah County Land Use Planning should coordinate with fire agencies' planning for wildland/urban interface fires.	Planning	1-2 Years			
Landslide	Multnomah County	Short Term #1	Inventory utility and communication infrastructure in areas with a history of landslides or which are within mapped landslide hazard areas.	GIS	1-2 Years			
Landslide	Multnomah County	Short Term #2	Compile inventory of county road segments with a history of landslides or which are within mapped landslide hazard areas.	Transportation	3 Years			
Landslide	Multnomah County	Short Term #3	Review the hillside development ordinance to consider amendments that address areas at risk from landslides for areas not already identified on the County Slope Hazard Map or otherwise subject to the hillside development zoning code.	Planning	3 Years			
Landslide	Multnomah County	Short Term #4	Obtain completed detailed lidar-based inventory of historical and active landslides and areas with high landslide risk to update the County's slope hazard maps.	GIS	Ongoing			
Landslide	Multnomah County	Short Term #1	Encourage the relocation of identified critical or essential facilities and high occupancy facilities in high landslide hazard areas or mitigation of the landslide hazard if feasible.	Emergency Management	Ongoing			

Multnomah County
Hazard Mitigation Action Items

Hazard	Jurisdiction	Term	Action Item	Coordinating Departments	Timeline	Status	Funding Source	Comments
Flood - in floodplain	Multnomah County	Short Term #1	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data	GIS	1-2 Years			
Flood - in floodplain	Multnomah County	Short Term #2	Facilitate an identificatio nand prioritization process for the purpose of defining a candidate list of localized inundation scenarios related to levee failures that result from different hazard events.	Emergency Management	1-2 Years			
Flood - in floodplain	Multnomah County	Short Term #3	Conduct a targeted risk assessment for all areas within the county containing public facilities, private industry and/or residential facilities which were previously flooded or flood prone.	Emergency Management	3 Years			
Flood - in floodplain	Multnomah County	Short Term #4	Use targeted flood risk assessments to educate stakeholders on need to take mitigation and/or preparedness actions in order to reduce flood hazard impacts.	Emergency Management	5 Years			
Flood - in floodplain	Multnomah County	Short Term #5	Encourage local jurisdictions to post high water marks around the county to aid citizens and first responders in visually assessing flood hazards.	Emergency Management	1-2 Years			
Flood - in floodplain	Multnomah County	Long Term #1	Implemetn mitigation actions for identified high risk buildigns or infrastructure as funding becomes available.	Emergency Management	Ongoing			
Flood - outside floodplain	Multnomah County	Short Term #1	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components in locaitons with a history of severe or repetitive flooding.	GIS	1-2 Years			
Flood - outside floodplain	Multnomah County	Short Term #2	For locations with repetitive flooding and significant damages or road cloasures, determine and implement mitigation measures such as upsizing culverts or storm water drainage capacity.	Transportation	Ongoing			
Severe Weather	Multnomah County	Short Term #1	Ensure that all critical facilities in Multnomah County have backup power and/or coordination of operations plans in place to withstand loss of grid power.	Facilities	5 Years			
Severe Weather	Multnomah County	Short Term #2	Conduct tree trimming activities on county roads where County Transportaiton has jurisdictional responsibility.	Transportation	Ongoing			
Severe Weather	Multnomah County	Short Term #3	Develop a strategy that encourages property owners to trim tress that could impact life safety and damage property.	Emergency Management	1-2 Years			
Severe Weather	Multnomah County	Short Term #4	Work with stakeholder groups to identify common criteria for defining extreme heat and cold events ofr the sake of determining proper mitigation, protection or preparedness strategies.	Emergency Management	1 Year			
Severe Weather	Multnomah County	Long Term #1	Encourage utilities to upgrade lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage ares.	Emergency Management	5 Years			
Volcanic	Multnomah County	Short Term #1	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Emergency Management	3 Years			
Volcanic	Multnomah County	Short Term #2	Updated public education, emergency notificaiton procedures and emergency planning for ash fall and lahar events.	Emergency Management	1-2 Years			

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
37	Earthquake	Multnomah County	Complete and maintain an inventory of critical facilities and lifelines that are susceptible to severe disruption due to earthquake hazards.	Emergency Management	Ongoing				
2	Earthquake	Fairview	Conduct a sidewalk survey of residential, commercial and industrial buildings in Troutdale using FEMA's Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Public Works, Community Development, Building Official	1-2 Years				
67	Earthquake	Troutdale	Conduct a sidewalk survey of residential, commercial and industrial buildings in Troutdale using FEMA's Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Public Works	1-2 Years				
97	Earthquake	Wood Village	Conduct a sidewalk survey of residential, commercial and industrial buildings in Troutdale using FEMA's Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Public Works	1-2 Years				
3	Earthquake	Fairview	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and non-structural retrofitting of vulnerable buildings and encourage retrofit.	Administration, Community Development	1-2 Years				
68	Earthquake	Troutdale	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and non-structural retrofitting of vulnerable buildings and encourage retrofit.	Community Development	1-2 Years				
98	Earthquake	Wood Village	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and non-structural retrofitting of vulnerable buildings and encourage retrofit.	Public Works, Administration	1-2 Years				
4	Earthquake	Fairview	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Administration	1-2 Years				
69	Earthquake	Troutdale	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Administration	1-2 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
99	Earthquake	Wood Village	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Public Works, Building Department	1-2 Years				
36	Earthquake	Multnomah County	Encourage school districts, fire agencies and private building owners to evaluate the structural vulnerability of buildings and retrofit or replace when necessary. Example: Grant workshops.	Emergency Management	Annually				
38	Earthquake	Multnomah County	Enhance Multnomah County's staff earthquake expertise by attending training classes on nonstructural mitigation, post-earthquake seismic evaluations of buildings, and FEMA mitigation grants.	Emergency Management	Ongoing				
34	Earthquake	Multnomah County	Evaluate the nonstructural vulnerabilities in county buildings and implement mitigation measures where necessary, including: automatic seismic shut off valves on gas lines, flexible connections to gas-fueled equipment, bracing of fire sprinklers, bracing of contents and others.	Facilities	1-2 Years				
5	Earthquake	Fairview	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Public Works, Building Official	1-2 Years				
70	Earthquake	Troutdale	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Community Development	1-2 Years				
100	Earthquake	Wood Village	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Public Works	1-2 Years				
39	Earthquake	Multnomah County	Evaluate the structural vulnerability of critical county buildings and retrofit or replace when necessary.	Facilities	Ongoing				
40	Earthquake	Multnomah County	Obtain and update earthquake map data as it becomes available through DOGAMI and other partners.	GIS	Ongoing				
1	Earthquake	Fairview	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Administration, Public Works	10 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
66	Earthquake	Troutdale	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Finance	10 Years				
96	Earthquake	Wood Village	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Administration	10 Years				
41	Earthquake	Multnomah County	Retrofit or replace key bridges with substantial seismic vulnerabilities.	Transportation	Ongoing				
42	Earthquake	Multnomah County	Retrofit suspended ceilings including light fixtures as replacement becomes necessary.	Facilities	Ongoing				
35	Earthquake	Multnomah County	Seismic upgrades to the Multnomah County Courthouse	Facilities	5 Years				
43	Flood - in floodplain	Multnomah County	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data	GIS	1-2 Years				
71	Flood - in floodplain	Troutdale	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data and structure/facility information.	Public Works	1-2 Years				
101	Flood - in floodplain	Wood Village	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data and structures/facility information.	Planning	5 Years				
6	Flood - in floodplain	Fairview	Complete inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains or within areas subject to flood in the event of levee or dam failures, including elevation data and facility information.	Public Works, Community Development, Building Official	1-2 Years				
46	Flood - in floodplain	Multnomah County	Conduct a targeted risk assessment for all areas within the county containing public facilities, private industry and/or residential facilities which were previously flooded or flood prone.	Emergency Management	3 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
7	Flood - in floodplain	Fairview	Develop funding alternatives for replacement of Fairview Creek culverts at 223rd Avenue and Halsey and 223rd Avenue and Walnut.	Public Works, Community Development, Building Official	1-2 Years				
8	Flood - in floodplain	Fairview	Develop specific mitigation strategies for high risk facilities identified in short term item #1.	Public Works, Community Development	1-2 Years				
44	Flood - in floodplain	Multnomah County	Encourage local jurisdictions to post high water marks around the county to aid citizens and first responders in visually assessing flood hazards.	Emergency Management	1-2 Years				
102	Flood - in floodplain	Wood Village	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Public Works	5 Years				
45	Flood - in floodplain	Multnomah County	Facilitate an identification and prioritization process for the purpose of defining a candidate list of localized inundation scenarios related to levee failures that result from different hazard events.	Emergency Management	1-2 Years				
48	Flood - in floodplain	Multnomah County	Implement mitigation actions for identified high risk buildings or infrastructure as funding becomes available.	Emergency Management	Ongoing				
47	Flood - in floodplain	Multnomah County	Use targeted flood risk assessments to educate stakeholders on need to take mitigation and/or preparedness actions in order to reduce flood hazard impacts.	Emergency Management	5 Years				
49	Flood - outside floodplain	Multnomah County	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components in locations with a history of severe or repetitive flooding.	GIS	1-2 Years				
10	Flood - outside floodplain	Fairview	Complete an inventory of structures, critical facilities and important transportation or utility system components in locations with a history of severe or repetitive flooding.	Public Works	1-2 Years				
73	Flood - outside floodplain	Troutdale	Complete an inventory of structures, critical facilities and important transportation or utility system components in locations with a history of severe or repetitive flooding.	Public Works	1-2 Years				
9	Flood - outside floodplain	Fairview	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Police, Public Works	1 Year				
72	Flood - outside floodplain	Troutdale	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Police	1 Year				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
50	Flood - outside floodplain	Multnomah County	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or storm water drainage capacity.	Transportation	Ongoing				
74	Flood - outside floodplain	Troutdale	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or storm water drainage capacity.	Public Works	Ongoing				
104	Flood - outside floodplain	Wood Village	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or storm water drainage capacity.	Public Works	Ongoing				
11	Flood - outside floodplain	Fairview	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or storm water drainage capacity: 28 projects identified in Fairview's 2007 Consolidated Stormwater Master Plan.	Public Works	Ongoing				
103	Flood - outside floodplain	Wood Village	Identify locations where improvements to the stormwater drainage system are desired.	Planning	1-2 Years				
52	Landslide	Multnomah County	Compile inventory of county road segments with a history of landslides or which are within mapped landslide hazard areas.	Transportation	3 Years				
12	Landslide	Fairview	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Public Works	Ongoing				
75	Landslide	Troutdale	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Community Development	1-2 Years				
105	Landslide	Wood Village	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Public Works	1-2 Years				
76	Landslide	Troutdale	Consider landslide mitigation actions for slides seriously threatening buildings or infrastructure.	Community Development	5 Years				
106	Landslide	Wood Village	Consider landslide mitigation actions for slides seriously threatening buildings or infrastructure.	Public Works	5 Years				
13	Landslide	Fairview	Consider landslide potential in the permitting process for new development in the few areas of Fairview where landslide potential is not nil.	Community Development, Building Official	Ongoing				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
54	Landslide	Multnomah County	Encourage the relocation of identified critical or essential facilities and high occupancy facilities in high landslide hazard areas or mitigation of the landslide hazard if feasible.	Emergency Management	Ongoing				
51	Landslide	Multnomah County	Inventory utility and communication infrastructure in areas with a history of landslides or which are within mapped landslide hazard areas.	GIS	1-2 Years				
77	Landslide	Troutdale	Limit future development in high landslide potential areas.	Community Development	Ongoing				
107	Landslide	Wood Village	Limit future development in high landslide potential areas.	Planning	Ongoing				
55	Landslide	Multnomah County	Obtain completed detailed liar-based inventory of historical and active landslides and areas with high landslide risk to update the County's slope hazard maps.	GIS	Ongoing				
53	Landslide	Multnomah County	Review the hillside development ordinance to consider amendments that address areas at risk from landslides for areas not already identified on the County Slope Hazard Map or otherwise subject to the hillside development zoning code.	Planning	3 Years				
15	Multi-Hazard	Fairview	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions	Community Development, Public Works	Ongoing				
78	Multi-Hazard	Troutdale	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions	Public Works	1-2 Years				
108	Multi-Hazard	Wood Village	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions	Public Works, Building Department	1-2 Years				
14	Multi-Hazard	Fairview	Develop education programs aimed at mitigating the risk posed by hazards.	Community Development, Public Works	1-2 Years				
79	Multi-Hazard	Troutdale	Develop education programs aimed at mitigating the risk posed by hazards.	Administration	Ongoing				
109	Multi-Hazard	Wood Village	Develop education programs aimed at mitigating the risk posed by hazards.	Administration	Ongoing				
16	Multi-Hazard	Fairview	Develop public and private sector partnerships to foster hazard mitigation activities.	Administration, Public Works, Police	Ongoing				
80	Multi-Hazard	Troutdale	Develop public and private sector partnerships to foster hazard mitigation activities.	Administration	Ongoing				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
110	Multi-Hazard	Wood Village	Develop public and private sector partnerships to foster hazard mitigation activities.	Public Works, Administration	Ongoing				
17	Multi-Hazard	Fairview	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor, and evaluate citywide mitigation actions.	Public Works, Police	Ongoing				
81	Multi-Hazard	Troutdale	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor, and evaluate citywide mitigation actions.	Administration	Ongoing				
111	Multi-Hazard	Wood Village	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor, and evaluate citywide mitigation actions.	Public Works	Ongoing				
18	Multi-Hazard	Fairview	Identify and pursue funding opportunities to implement mitigation actions.	Administration, Public Works, Police	Ongoing				
82	Multi-Hazard	Troutdale	Identify and pursue funding opportunities to implement mitigation actions.	Finance	Ongoing				
112	Multi-Hazard	Wood Village	Identify and pursue funding opportunities to implement mitigation actions.	Administration	Ongoing				
19	Multi-Hazard	Fairview	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Police	Ongoing				
83	Multi-Hazard	Troutdale	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Public Works	Ongoing				
113	Multi-Hazard	Wood Village	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Public Works	Ongoing				
20	Multi-Hazard	Fairview	Integrate the Mitigation Plan findings into planning and regulatory documents and programs.	Community Development, Public Works	Ongoing				
84	Multi-Hazard	Troutdale	Integrate the Mitigation Plan findings into planning and regulatory documents and programs.	Community Development	Ongoing				
114	Multi-Hazard	Wood Village	Integrate the mitigation plan findings into planning and regulatory documents and programs.	Administration	Ongoing				
60	Severe Weather	Multnomah County	Conduct tree trimming activities on county roads where County Transportation has jurisdictional responsibility.	Transportation	Ongoing				
57	Severe Weather	Multnomah County	Develop a strategy that encourages property owners to trim tress that could impact life safety and damage property.	Emergency Management	1-2 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
58	Severe Weather	Multnomah County	Encourage utilities to upgrade lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	Emergency Management	5 Years				
59	Severe Weather	Multnomah County	Ensure that all critical facilities in Multnomah County have backup power and/or coordination of operations plans in place to withstand loss of grid power.	Facilities	5 Years				
56	Severe Weather	Multnomah County	Work with stakeholder groups to identify common criteria for defining extreme heat and cold events for the sake of determining proper mitigation, protection or preparedness strategies.	Emergency Management	1 Year				
21	Volcanic	Fairview	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Police, Public Works	1-2 Years				
62	Volcanic	Multnomah County	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Emergency Management	3 Years				
85	Volcanic	Troutdale	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Administration	1-2 Years				
115	Volcanic	Wood Village	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Public Works, Administration	1-2 Years				
86	Volcanic	Troutdale	Develop GIS overlay maps of parcel and building data within lahar zones.	Public Works	1-2 Years				
23	Volcanic	Fairview	Quantify the lahar risk in Fairview via GIS mapping to overlay the lahar hazard zones with parcel data.	Community Development, Public Works	2-5 Years				
22	Volcanic	Fairview	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Community Development, Public Works, Police	1-2 Years				
87	Volcanic	Troutdale	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Administration	1-2 Years				
116	Volcanic	Wood Village	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Public Works, Administration	1-2 Years				
61	Volcanic	Multnomah County	Updated public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Emergency Management	1-2 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
63	Wildland/Urban Interface Fire	Multnomah County	Consider how Multnomah County Land Use Planning should coordinate with fire agencies' planning for wildland/urban interface fires.	Planning	1-2 Years				
25	Wildland/Urban Interface Fire	Fairview	Disseminate fire-wise pamphlets and other educational materials to residents in high risk areas.	Community Development, Gresham Fire	1 Year				
26	Wildland/Urban Interface Fire	Fairview	Encourage fire-safe construction practices for existing and new construction in high risk areas.	Community Development, Building Official	Ongoing				
89	Wildland/Urban Interface Fire	Troutdale	Encourage fire-safe construction practices for existing and new construction in high risk areas.	Community Development	Ongoing				
118	Wildland/Urban Interface Fire	Wood Village	Encourage fire-safe construction practices for existing and new construction in high risk areas.	Public Works, Building Department	Ongoing				
24	Wildland/Urban Interface Fire	Fairview	Identify and map high risk areas.	Public Works, Gresham Fire	1 Year				
90	Wildland/Urban Interface Fire	Troutdale	Identify evacuation routes and procedures for high risk areas and educate the public.	Police	Ongoing				
119	Wildland/Urban Interface Fire	Wood Village	Identify evacuation routes and procedures for high risk areas and educate the public.	Public Works	Ongoing				
88	Wildland/Urban Interface Fire	Troutdale	Identify specific parts of Troutdale at high risk for wildland/urban interface fires because of fuel loading, topography and prevailing construction practices.	Community Development	1-2 Years				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
117	Wildland/Urban Interface Fire	Wood Village	Identify specific parts of Wood Village as high risk for wildland/urban interface fires because of fuel loading, topography and prevailing construction practices.	Public Works, Gresham Fire	1-2 Years				
27	Wildland/Urban Interface Fire	Fairview	Participate in the upcoming development of the Multnomah County Wildfire Protection Plan.	Community Development	Ongoing				
64	Wildland/Urban Interface Fire	Multnomah County	Review and amend as necessary planning and development regulations to incorporate mitigation strategies for wildland/	Multnomah County Land Use Planning	3 Years				
65	Wildland/Urban Interface Fire	Multnomah County	Track and report progress of action items in the Community Wildfire Protection Plan	Emergency Management	Annually			No Action/Deferred/Delayed	
30	Winter Storm	Fairview	Conduct annual hazardous tree assessment and mitigation in city parks.	Community Development, Public Works	Ongoing				
29	Winter Storm	Fairview	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	PGE	5 Years				
92	Winter Storm	Troutdale	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	PGE	5 Years				
122	Winter Storm	Wood Village	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	PGE	5 Years				
31	Winter Storm	Fairview	Encourage new developments to include underground power lines.	Community Development	Ongoing				
93	Winter Storm	Troutdale	Encourage new developments to include underground power lines.	Community Development	Ongoing				
123	Winter Storm	Wood Village	Encourage new developments to include underground power lines.	PGE, Planning	Ongoing				
32	Winter Storm	Fairview	Encourage property owners to trim trees near service drops to individual customers.	PGE	Ongoing				

Hazard Mitigation Actions to Be Updated for 2015 HMP

Action ID	Hazard	Jurisdiction	Action Item	Responsible Organizations	Timeframe to Begin Work	Implementation Mechanism	Potential Funding Source(s)	Status (as of mid-2015)	Comments
94	Winter Storm	Troutdale	Encourage property owners to trim trees near service drops to individual customers.	Code Enforcement	Ongoing				
124	Winter Storm	Wood Village	Encourage property owners to trim trees near service drops to individual customers.	PGE	Ongoing				
33	Winter Storm	Fairview	Enhance tree trimming efforts especially for transmission lines and trunk distribution lines.	PGE	Ongoing				
95	Winter Storm	Troutdale	Enhance tree trimming efforts especially for transmission lines and trunk distribution lines.	Parks	Ongoing				
125	Winter Storm	Wood Village	Enhance tree trimming efforts especially for transmission lines and trunk distribution lines.	Public Works	Ongoing				
28	Winter Storm	Fairview	Ensure that all critical facilities in Fairview have backup power and emergency operations plans to deal with power outages.	Public Works for city-owned, other public and private facility owners	1-2 Years				
91	Winter Storm	Troutdale	Ensure that all critical facilities in Troutdale have backup power and emergency operations plans to deal with power outages	Public Works	1-2 Years				
120	Winter Storm	Wood Village	Ensure that all critical facilities in Wood Village have backup power and emergency operations plans to deal with power outages, including the Public Works Operations Building and the Shea Lift Station.	Public Works	1-2 Years				
121	Winter Storm	Wood Village	Evaluate the adequacy of foundations or tie-downs for mobile homes and encourage upgrades to improve wind resistance if necessary.	Public Works	1-2 Years				

Tips for Updating or Creating New Actions

1. Keep in mind the SMART criteria (Specific, Measurable, Attainable, Relevant, and Time-bound) and ensure the action is not too vague to make future implementation and tracking difficult.
2. Is the action connected to one of our goals and to the vulnerability assessment? Is it still a relevant solution to a hazard risk?
3. Have you addressed all of the hazards that your jurisdiction/community is at risk from?
4. Is the organization listed as responsible for implementation supporting this action? Is there a specific champion or person assigned to see it through implementation? If you have a POC please include it so we can followup next year more easily.
5. Can you set a realistic deadline for when you want to see the action implemented? You may need to reword the action to be more specific in order to set a target date, e.g. June 2016. None of the actions should say "ongoing" when we are done updating. If its not time-specific then it should be included in the goals or considered for inclusion in a policy-based plan. If the action is intended to be pursued during disaster recovery, then mark it as post-disaster.
6. How can the action be implemented? Will it need a policy to be created in the comprehensive plan, development code amendment, inclusion on capital improvements plan, added to an agency's work plan, etc.?
7. If the project is going to require funding please note any potential funding sources that we could consider pursuing, e.g. FEMA HMA grants, local budgets, private-sector partnerships, etc. See handout or www.fema.gov/hazard-mitigation-assistance-mitigation-activity-chart for FEMA grant eligible projects.
8. What is the status of the actions that were included in the previous plan? (pick one: Complete, In Progress, No action/deferred, Revised, or NA/Recommend Removal). If you're recommending removal, the action was deferred, or you have just now revised the action please use the comment column to note any reasons/obstacles that made this necessary. You can also comment on any successes for complete or in progress items if you desire.

FEMA Requirements for Updating Actions

D2. Was the plan revised to reflect progress in local mitigation efforts? 44 CFR 201.6(d)(3)	The plan must describe the status of hazard mitigation actions in the previous plan by identifying those that have been completed or not completed. For actions that have not been completed, the plan must either describe whether the action is no longer relevant or be included as part of the updated action plan.
--	---

FEMA Requirements for the Mitigation Strategy/Action Plan (Bold text = considerations for improving the previous plan's actions)

<p>C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? 44 CFR 201.6(c)(3)(ii) and 44 CFR 201.6(c)(3)(iv)</p> <p><u>Intent</u> : To ensure the hazard mitigation actions are based on the identified hazard vulnerabilities, are within the capability of each jurisdiction, and reduce or avoid future losses. This is the heart of the mitigation plan, and is essential to leading communities to reduce their risk. Communities, not FEMA, "own" the hazard mitigation actions in the strategy.</p>	<p>a. The plan must include a mitigation strategy that 1) analyzes actions and/or projects that the jurisdiction considered to reduce the impacts of hazards identified in the risk assessment, and 2) identifies the actions and/or projects that the jurisdiction intends to implement.</p> <p><i>The mitigation plan may include non-mitigation actions, such as actions that are emergency response or operational preparedness in nature. These will not be accepted as hazard mitigation actions, but neither will FEMA require these to be removed from the plan prior to approval.</i></p> <p>b. Each jurisdiction participating in the plan must have mitigation actions specific to that jurisdiction that are based on the community's risk and vulnerabilities, as well as community priorities.</p> <p>c. The action plan must reduce risk to existing buildings and infrastructure as well as limit any risk to new development and redevelopment. With emphasis on new and existing building and infrastructure means that the action plan includes a consideration of actions that address the built environment.</p>	<p><i>Mitigation actions and projects means a hazard mitigation action, activity or process (for example, adopting a building code) or it can be a physical project (for example, elevating structures or retrofitting critical infrastructure) designed to reduce or eliminate the long term risks from hazards. This sub-element can be met with either actions or projects, or a combination of actions and projects.</i></p> <p><i>A comprehensive range consists of different hazard mitigation alternatives that address the vulnerabilities to the hazards that the jurisdiction(s) determine are most important.</i></p>
--	--	--

<p>C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? <i>44 CFR 201.6(c)(3)(iii) and 44 CFR (c)(3)(iv)</i></p> <p><u>Intent</u> : <i>To identify how the plan will directly lead to implementation of the hazard mitigation actions. As opportunities arise for actions or projects to be implemented, the responsible entity will be able to take action towards completion of the activities.</i></p>	<p>a. The plan must describe the criteria used for prioritizing implementation of the actions.</p> <p>b. The plan must demonstrate when prioritizing hazard mitigation actions that the local jurisdictions considered the benefits that would result from the hazard mitigation actions versus the cost of those actions. The requirement is met as long as the economic considerations are summarized in the plan as part of the community's analysis. A complete benefit-cost analysis is not required. Qualitative benefits (<i>for example</i> , quality of life, natural and beneficial values, or other "benefits") can also be included in how actions will be prioritized.</p> <p>c. The plan must identify the position, office, department, or agency responsible for implementing and administering the action (for each jurisdiction), and identify potential funding sources and expected timeframes for completion.</p>	<p><i>FYI - We will work on prioritization once we have updated existing actions and brainstormed new ones.</i></p>
<p>C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? <i>44 CFR 201.6(c)(4)(ii)</i></p> <p><u>Intent</u> : <i>To assist communities in capitalizing on all available mechanisms that they have at their disposal to accomplish hazard mitigation and reduce risk.</i></p>	<p>a. The plan must describe the community's process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms.</p> <p>b. The plan must identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated. Planning mechanisms means governance structures that are used to manage local land use development and community decision- making, such as comprehensive plans, capital improvement plans, or other long-range plans.</p> <p>c. A multi-jurisdictional plan must describe each participating jurisdiction's individual process for integrating hazard mitigation actions applicable to their community into other planning mechanisms.</p> <p>d. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.</p> <p>e. The updated plan must continue to describe how the mitigation strategy, including the goals and hazard mitigation actions will be incorporated into other planning mechanisms.</p>	

Comparison of Goals from Natural Hazards Mitigation Plans

Requirement: The plan must include general hazard mitigation goals that represent what the jurisdictions seek to accomplish through plan implementation. Goals are broad policy statements that explain what is to be achieved. The goals must be consistent with the hazards identified in the plan.

Wood Village, Fairview, and Troutdale, 2010

Goal 1: Reduce the Threat to Life Safety

Objectives:

- A. Enhance life safety by minimizing the potential for deaths and injuries in future disaster events.
- B. Enhance life safety by improving public awareness of earthquakes and other natural hazards posing life safety risk to the Wood Village community.

Goal 2: Reduce the Threats to Wood Village Buildings, Facilities and Infrastructure

Objectives:

- A. Identify buildings and infrastructure at high risk from one or more hazards addressed in the Hazard Mitigation Plan.
- B. Conduct risk assessments for critical buildings, facilities and infrastructure at high risk to determine cost effective mitigation actions to eliminate or reduce risk.
- C. Implement mitigation measures for buildings, facilities and infrastructure which pose an unacceptable level of risk.
- D. Ensure that new buildings and infrastructure in Wood Village are adequately designed and located to minimize damages in future disaster events.

Goal 3: Enhance Emergency Response Capability, Emergency Planning and Post-Disaster Recovery

Objectives:

- A. Ensure that critical facilities and critical infrastructure are capable of withstanding disaster events with minimal damages and loss of function.
- B. Enhance emergency planning to facilitate effective response and recovery from future disaster events.
- C. Increase collaboration and coordination between Wood Village, nearby communities, utilities, businesses and citizens to ensure the availability of adequate emergency and essential services for the Wood Village community during and after disaster events.

Goal 4: Vigorously Seek Funding Sources for Mitigation Actions

Objectives:

- A. Prioritize and fund action items with the specific objective of maximizing mitigation, response and recovery resources.
- B. Explore both public (local, state and federal) funding and private sources for mitigation actions.

Goal 5: Increase Public Awareness of Natural Hazards and Enhance Education and Outreach Efforts

Objectives:

- A. Develop and implement educational and outreach programs to increase public awareness of the risks from natural hazards.
- B. Provide information on resources, tools, partnership opportunities and funding resource sources to assist the community in implementing mitigation activities.
- C. Strengthen communication and coordinate participation among and within public agencies, non-profit organizations, business, industry and the public to encourage and facilitate mitigation actions.

Goal 6: Incorporate Mitigation Planning into Natural Resource Management and Land Use Planning**Objectives:**

- A. Balance natural resource management, land use planning and natural hazard mitigation to protect life, property and the environment.
- B. Preserve, rehabilitate and enhance natural systems to both enhance habitats and serve natural hazard mitigation functions.

Multnomah County, 2012

Goals 1-4 are the same as Wood Village, et al.

County's plan does not include Goal 4 (funding) and Goal 6 (planning).

Additional goal (similar to Goal 6 from cities' plans):

Goal 5: Environmental Stewardship**Objectives:**

- A. Balance and coordinate natural resource management, land use planning and natural hazard mitigation to protect life, property and the environment.
- B. Preserve, rehabilitate and enhance natural systems to both enhance habitats and serve natural hazard mitigation functions.
- C. Build and reinforce alliances with sustainability and climate adaptation initiatives that promote community resilience.

Gresham, 2013**I. Maintain a comprehensive, citywide risk assessment.**

Identify, document, evaluate, and update the City's risk exposure and vulnerability to natural hazards.

II. Reduce risk to people, property and environment.

Involve citizens, property owners (both public and private), special districts, businesses, and communities in taking action to reduce risk and exposure to natural hazards –now and for future generations.

III. Support a disaster resilient economy.

Promote sustainable and disaster resilient business practices by providing education and training opportunities and strong infrastructure (road, rail, and public and private utilities) for City business owners large and small.

IV. Promote public education, awareness, and understanding of risk.

Engage public participation and enhance partnerships through the education, outreach, and coordination of a diverse and representative group of the City's population. Document mitigation success.

V. Develop and maintain collaborative partnerships and funding strategies for implementing the mitigation plan.

Develop partnership and coordination activities focused on strengthening communication and increasing participation between City departments, public agencies, citizens, non-profits organizations, special districts, businesses, and communities to assist in implementing mitigation actions.

Portland, 2010

1. Update the Risk Assessment and Vulnerability Analysis every five years
2. Implement actions to prepare, protect, preserve and restore life, property and natural systems
3. Promote public outreach to a variety of City populations
4. Improve City of Portland's economic resilience through inclusion of the private sector into mitigation action implementation
5. Commit to continuously reducing the City's natural hazards vulnerability
6. Maximize mitigation effectiveness by taking a comprehensive approach to natural resource management via city plans, codes and programs that increase mitigation efforts
7. Coordinate mitigation activities with regional communities and agencies

Community Wildfire Protection Plan, 2011

Same as Gresham NHMP.

Oregon, Draft 2015

- 1 Protect life and reduce injuries resulting from natural hazards.
- 2 Minimize public and private property damages and the disruption of essential infrastructure and services from natural hazards.
- 3 Increase the resilience of local, regional, and statewide economies.
- 4 Minimize the impact of natural hazards while protecting, restoring, and sustaining environmental processes.
- 5 Enhance and maintain state capability to implement a comprehensive statewide hazard loss reduction strategy.
- 6 Document and evaluate Oregon's progress in achieving hazard mitigation.

7 Motivate the public, private sector, and government agencies to mitigate against the effects of natural hazards through information and education.

8 Eliminate development within mapped hazardous areas where the risks to people and property cannot be mitigated.

9 Minimize damage to historic and cultural resources.

10 Increase communication, collaboration, and coordination among agencies at all levels of government and the private sector to mitigate natural hazards.

11 Integrate local NHMPs with comprehensive plans and implementing measures.

Table 3: Eligible Activities by Program

Eligible Activities	HMGP	PDM	FMA
1. Mitigation Projects	✓	✓	✓
Property Acquisition and Structure Demolition	✓	✓	✓
Property Acquisition and Structure Relocation	✓	✓	✓
Structure Elevation	✓	✓	✓
Mitigation Reconstruction	✓	✓	✓
Dry Floodproofing of Historic Residential Structures	✓	✓	✓
Dry Floodproofing of Non-residential Structures	✓	✓	✓
Generators	✓	✓	
Localized Flood Risk Reduction Projects	✓	✓	✓
Non-localized Flood Risk Reduction Projects	✓	✓	
Structural Retrofitting of Existing Buildings	✓	✓	✓
Non-structural Retrofitting of Existing Buildings and Facilities	✓	✓	✓
Safe Room Construction	✓	✓	
Wind Retrofit for One- and Two-Family Residences	✓	✓	
Infrastructure Retrofit	✓	✓	✓
Soil Stabilization	✓	✓	✓
Wildfire Mitigation	✓	✓	
Post-Disaster Code Enforcement	✓		
Advance Assistance	✓		
5 Percent Initiative Projects	✓		
Miscellaneous/Other ⁽¹⁾	✓	✓	✓
2. Hazard Mitigation Planning	✓	✓	✓
Planning Related Activities	✓		
3. Technical Assistance			✓
4. Management Cost	✓	✓	✓

⁽¹⁾ Miscellaneous/Other indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

Additional information regarding eligible projects for **HMGP** is included in Part VIII, A.11 and A.12, and for **FMA**, in Part VIII, C.1.

Costs for eligible activities must be reasonable, allowable, allocable, and necessary as required by 2 CFR Part 200 Subpart E, applicable program regulations, and this guidance.

E.1.1 Mitigation Projects

This section briefly describes the mitigation projects eligible under one or more of the three HMA programs. **Table 3** summarizes the eligibility of the following project types for each program:

- ◆ **Property Acquisition and Structure Demolition:** The voluntary acquisition of an existing flood-prone structure and, typically, the underlying land, and conversion of the land to open space through the demolition of the structure. The property must be deed-restricted in perpetuity to open space uses to restore and/or conserve the natural floodplain functions. For property acquisition and structure demolition projects, see Addendum, Part A.
- ◆ **Property Acquisition and Structure Relocation:** The voluntary physical relocation of an existing structure to an area outside of a hazard-prone area, such as the Special Flood Hazard Area (SFHA) or a regulatory erosion zone and, typically, the acquisition of the underlying land. Relocation must conform to all applicable State and local regulations. The property must be deed-restricted in perpetuity to open space uses to restore and/or conserve the natural floodplain functions. For property acquisition and structure relocation projects, see Addendum, Part A.
- ◆ **Structure Elevation:** Physically raising and/or retrofitting an existing structure in accordance with ASCE 24-14 (Base Flood Elevation [BFE] plus freeboard) or higher when required by FEMA or local ordinance. Elevation may be achieved through a variety of methods, including elevating on continuous foundation walls; elevating on open foundations, such as piles, piers, posts, or columns; and elevating on fill. Foundations must be designed to properly address all loads and be appropriately connected to the floor structure above, and utilities must be properly elevated as well. FEMA requires Recipients and subrecipients to design all structure elevation projects in accordance with ASCE 24-14. For additional information about structure elevation projects, see Addendum, Part E.
- ◆ **Mitigation Reconstruction:** The construction of an improved, elevated building on the same site where an existing building and/or foundation has been partially or completely demolished or destroyed. Mitigation reconstruction is only permitted for structures outside of the regulatory floodway or Coastal High Hazard Area (Zone V) as identified by the existing best available flood hazard data. Activities that result in the construction of new living space at or above the BFE will only be considered when consistent with mitigation reconstruction requirements. FEMA requires Recipients and subrecipients to design all mitigation reconstruction projects in accordance with ASCE 24-14. For additional information about structure elevation projects, see Addendum, Part D.
- ◆ **Dry Floodproofing:** Techniques applied to keep structures dry by sealing the structure to keep floodwaters out. For all dry floodproofing activities, FEMA requires Recipients and subrecipients to design all dry floodproofing projects in accordance with ASCE 24-14. Dry floodproofing is not permitted in the Coastal V Zone.

- **Dry Floodproofing of Historic Residential Structures** is permissible only when other techniques that would mitigate to the BFE would cause the structure to lose its status as a Historic Structure, as defined in 44 CFR Section 59.1.
- **Dry Floodproofing of Non-residential Structures** must be performed in accordance with NFIP Technical Bulletin (TB) 3-93, *Non-Residential Floodproofing—Requirements and Certification*, and the requirements pertaining to dry floodproofing of non-residential structures found in 44 CFR Sections 60.3(b)(5) and (c)(4).

◆ **Generators:** Generators are emergency equipment that provide a secondary source of power. Generators and related equipment (e.g., hook-ups) are eligible provided that they are cost effective, contribute to a long-term solution to the problem they are intended to address, and meet other program eligibility criteria.

- Under **PDM**: A generator that is a stand-alone project can be considered for **PDM** funding if the generator protects a critical facility. Generators and/or related equipment purchases (e.g., generator hook-ups) are eligible when the generator directly relates to the hazards being mitigated and is part of a larger project.
- Under **HMGP**: A generator that is a stand-alone project can be considered under regular **HMGP** funding if the generator protects a critical facility. Critical facilities may include police and fire stations, hospitals, and water and sewer treatment facilities (for the definition of critical facilities, see Appendix B, Glossary). A generator that is a component of a larger project (e.g., elevation of a lift station) can also be funded under regular **HMGP** funding and the use of aggregation is permitted. Stand-alone generator projects that cannot be determined to be cost effective via standard HMA benefit-cost methodology may be eligible under the 5 Percent Initiative. See Part VIII, A.14 for additional information about the 5 Percent Initiative.

GENERATORS

- Stand-alone generators and related equipment (e.g., generator hook-ups) are eligible under the 5 Percent Initiative.
- Stand-alone generators (including related equipment) are eligible for regular **HMGP** and **PDM** funding if the generator protects a critical facility and meets all other program eligibility criteria.
- Generators (including related equipment) that constitute a functional portion of an otherwise eligible mitigation measure are eligible for **HMGP** and **PDM** funding.

For additional information on generators, see HMA Job Aid (*Eligibility of Generators as a Fundable Project by the Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program*).

HMA funds are not available as a substitute for emergency, temporary, or partial solutions under the Stafford Act Section 403, Essential Assistance (42 U.S.C. 5170b) and/or the Stafford Act, Title VI Emergency Preparedness (42 U.S.C. 5195).

-
- ◆ **Localized Flood Risk Reduction Projects:** Projects to lessen the frequency or severity of flooding, and decrease predicted flood damage, within an isolated and confined drainage or catchment area that is not hydraulically linked or connected to a larger basin. These projects include but are not limited to installation or modification of culverts and other stormwater management facilities; construction or modification of retention and detention basins; and construction or modification of floodwalls, dams, and weirs. Modifications must be for the purpose of increasing risk reduction capabilities of the existing structures and cannot constitute only repairs. Localized flood risk reduction projects must not duplicate the flood prevention activities of other Federal agencies and may not constitute a section of a larger flood control system.
 - Under **FMA**, localized flood reduction projects should benefit NFIP-insured properties. Projects will be prioritized based on the number of NFIP-insured properties included in the project. Projects that do not include NFIP-insured properties will not be considered for funding. Documentation must be provided in the subapplication to verify the NFIP insurance coverage, including the flood insurance policy and property locator numbers as appropriate.
 - ◆ **Non-localized Flood Risk Reduction Projects:** Projects that lessen the frequency or severity of flooding, and decrease predicted flood damage, within an area that is hydraulically linked or connected to a drainage basin that is regional in scale. These projects reduce flood hazards in areas larger than that of localized flood reduction projects and may include the construction, demolition, or rehabilitation of dams; construction or modification of dikes, levees, floodwalls, seawalls, groins, jetties, breakwaters, and stabilized sand dunes; and large-scale channelization of a waterway. Modifications must be for the purpose of increasing risk reduction capabilities of the existing structures and cannot constitute only repairs. These projects cannot constitute a section of a larger flood control system or duplicate the flood prevention activities of other Federal agencies on the same site. These projects types are only eligible under **HMGP** and **PDM**.
 - ◆ **Structural Retrofitting of Existing Buildings:** Modifications to the structural elements of a building to reduce or eliminate the risk of future damage and to protect inhabitants. The structural elements of a building that are essential to prevent damage include foundations, load-bearing walls, beams, columns, building envelope, structural floors and roofs, and the connections between these elements.
 - ◆ **Non-structural Retrofitting of Existing Buildings and Facilities:** Modifications to the non-structural elements of a building or facility to reduce or eliminate the risk of future damage and to protect inhabitants. Non-structural retrofits may include bracing of building contents to prevent earthquake damage or the elevation of utilities.
 - ◆ **Safe Room Construction:** Safe room construction projects are designed to provide immediate life-safety protection for people in public and private structures from tornado and severe wind events, including hurricanes. For HMA, the term “safe room” only applies to

extreme wind (combined tornado and hurricane) residential, non-residential, and community safe rooms; tornado community safe rooms; and hurricane community safe rooms. This type of project includes retrofits of existing facilities or new safe room construction projects and applies to both single and dual-use facilities. For additional information, see Addendum, Part C.

- ◆ **Wind Retrofit Projects:** Wind retrofit projects of one- and two-family residential buildings must be designed in conformance with the design criteria found in FEMA P-804, *Wind Retrofit Guide for Residential Buildings* (2010). This document is available in the FEMA Library at <http://www.fema.gov/library/viewRecord.do?id=4569>.
- ◆ **Infrastructure Retrofit:** Measures to reduce risk to existing utility systems, roads, and bridges.
- ◆ **Soil Stabilization:** Projects to reduce risk to structures or infrastructure from erosion and landslides, including installing geotextiles, stabilizing sod, installing vegetative buffer strips, preserving mature vegetation, decreasing slope angles, and stabilizing with rip rap and other means of slope anchoring. These projects must not duplicate the activities of other Federal agencies.
- ◆ **Wildfire Mitigation:** Projects to mitigate at-risk structures and associated loss of life from the threat of future wildfire through:
 - **Creation of Defensible Space:** Projects creating perimeters around homes, structures, and critical facilities through the removal or reduction of flammable vegetation. For additional information, see Addendum, Part B.4.1.
 - **Application of Ignition-resistant Construction:** Projects that apply ignition-resistant techniques and/or non-combustible materials on new and existing homes, structures, and critical facilities. For additional information, see Addendum, Part B.4.2.
 - **Hazardous Fuels Reduction:** Projects that remove vegetative fuels proximate to at-risk structures that, if ignited, pose a significant threat to human life and property, especially critical facilities. For additional information, see Addendum, Part B.4.3.
- ◆ **Post-Disaster Code Enforcement:** Projects designed to support the post-disaster rebuilding effort by ensuring that sufficient expertise is on hand to ensure appropriate codes and standards, including NFIP local ordinance requirements, are used and enforced. For additional information, see Part VIII, A.11.
- ◆ **Advance Assistance:** Section 1104 of the SRIA authorizes the use of Advance Assistance to accelerate the implementation of **HMGP**. Applicants and subapplicants may use Advance Assistance to develop mitigation strategies and obtain data to prioritize, select, and develop complete **HMGP** applications in a timely manner. See Part VIII, A.12 for additional information on Advance Assistance.

-
- ◆ **5 Percent Initiative Projects:** These projects, which are only available pursuant to an **HMGP** disaster, provide an opportunity to fund mitigation actions that are consistent with the goals and objectives of the State or Tribal (Standard or Enhanced) and local mitigation plans and meet all **HMGP** requirements, but for which it may be difficult to conduct a standard BCA to prove cost-effectiveness. For additional information, see Part VIII, A.14.
 - ◆ **Miscellaneous/Other:** FEMA encourages Applicants and subapplicants to pursue activities that best address mitigation planning and priorities in their community; however, these eligible activities are not limited to those that are described under Part III, E of the HMA Guidance. Miscellaneous/Other project activities will be reviewed according to Part V of the HMA Guidance for application eligibility, cost-effectiveness, feasibility and effectiveness, and EHP compliance.

FEMA encourages mitigation projects that fall into the Miscellaneous/Other category to address climate change adaptation and resiliency. Mitigation projects must adapt to new challenges posed by more powerful storms, frequent heavy precipitation, heat waves, prolonged droughts, extreme flooding, higher sea levels, and other weather events. Miscellaneous/Other projects can also address projects that could benefit from sustainable development practices focusing on ecosystem-based and hybrid approaches to disaster risk reduction.

Any mitigation activities prohibited in Part III, E.2 of the HMA Guidance will remain ineligible. It is important for Applicants and subapplicants to provide thorough descriptions of project activities because of the unique nature of this eligibility category.

- ◆ **Technical Assistance (FMA):** For information on Technical Assistance, see Part III, E.1.4.
- ◆ **Management Costs:** For information on Management Costs, see Part III, E.1.5, and Part IV, E.4.

E.1.2 Ineligible Stand-Alone Activities

The following activities are not eligible as stand-alone activities but are eligible when included as a functional component of eligible mitigation activities:

- ◆ For **PDM**, eligible information dissemination activities in project or planning subapplications. The information dissemination activities are limited to a maximum of 10 percent of the total cost of a subapplication.
- ◆ For **PDM**, generator-related equipment purchases (e.g., generator hook-ups), unless the generator-related equipment directly relates to the hazards being mitigated and is part of a larger project
- ◆ Real property or easement purchases required for the completion of an eligible mitigation project

-
- ◆ Studies that are integral to the development and implementation of a mitigation project, including hydrologic and hydraulic, engineering, or drainage studies

E.1.3 Hazard Mitigation Planning

Mitigation plans are the foundation for effective hazard mitigation. A mitigation plan is a demonstration of the commitment to reduce risks from natural hazards and serves as a strategic guide for decision-makers as they commit resources.

MITIGATION PLANNING-RELATED ACTIVITIES

Planning activities can include assessing risk, updating the mitigation strategy, and promoting resilience to reflect current disaster recovery goals (**HMGP** only).

The mitigation planning process includes hazard identification and risk assessment leading to the development of a comprehensive mitigation strategy for reducing risks to life and property. The mitigation strategy section of the plan identifies a range of specific mitigation actions and projects being considered to reduce risks to new and existing buildings and infrastructure. This section includes an action plan describing how identified mitigation activities will be prioritized, implemented, and administered.

Planning activities funded under HMA are designed to develop State, tribal, and local mitigation plans that meet the planning requirements outlined in 44 CFR Part 201. A mitigation planning subaward must result in a mitigation plan adopted by the jurisdiction(s) and approved by FEMA or it must result in a planning-related activity (eligible under **HMGP only**) approved by FEMA (e.g., incorporating new data into the risk assessment or updating the mitigation strategy to reflect current disaster recovery goals) consistent with the requirements in 44 CFR Parts 201 and 206.

For **FMA**, funds shall only be used to support the flood hazard portion of State, tribal, or local mitigation plans to meet the criteria specified in 44 CFR Part 201. Funds are only available to support these activities in communities participating in the NFIP.

For links to mitigation planning and risk assessment resources, see Part IX, C.2.

E.1.3.1 Eligible Hazard Mitigation Planning–Related Activities

Eligible activities that can be funded as mitigation planning–related activities under **HMGP** (these activities are not eligible under **PDM** and **FMA**) include but are not limited to:

- ◆ Updating or enhancing sections of the current FEMA-approved mitigation plan, such as:
 - The risk and vulnerability assessment based on new information, including supporting studies, such as economic analyses
 - The mitigation strategy, specifically strengthening the linkage to mitigation action implementation, with emphasis on available HMA project grant funding

-
- The risk assessment and/or mitigation strategy, incorporating climate adaptation, green building, smart growth principles, or historic properties and cultural resources information
 - ◆ Integrating information from mitigation plans, specifically risk assessment or mitigation strategies, with other planning efforts, such as:
 - Disaster recovery strategy (pre- or post-), preparedness, or response plans
 - Comprehensive (e.g., land use, master) plans
 - Capital improvement or economic development plans
 - Resource management/conservation plans (e.g., stormwater, open space)
 - Other long-term community planning initiatives (e.g., transportation or housing)
 - ◆ Building capability through delivery of technical assistance and training
 - ◆ Evaluating adoption and/or implementation of ordinances that reduce risk and/or increase resilience

E.1.3.2 Ineligible Hazard Mitigation Planning–Related Activities

The following activities cannot be funded as mitigation planning–related activities:

- ◆ Hazard identification or mapping and related equipment for the implementation of mitigation activities (eligible under 5 Percent Initiative)
- ◆ Geographic Information System (GIS) software, hardware, and data acquisition whose primary aim is mitigation activity (eligible under 5 Percent Initiative)
- ◆ Public awareness or education campaigns about mitigation (eligible under 5 Percent Initiative)
- ◆ Project scoping or development (also referred to as “project planning”), such as BCA, engineering feasibility studies, application development, construction design, or EHP data collection
- ◆ Activities not resulting in a clearly defined product or products

E.1.4 Technical Assistance

The Biggert-Waters Flood Insurance Reform Act of 2012 allows FEMA to provide a technical assistance grant to any Applicant that was awarded at least \$1,000,000 (Federal share) in **FMA** grants in the prior fiscal year. A technical assistance award cannot exceed \$50,000 (Federal share) to any single Applicant in any fiscal year.