

ANNEX C – Combined Multi-Jurisdictional Risk Ratings and Mitigation Actions

Risk ratings, as determined by each participating jurisdiction/district. Scoring used to determine these ratings is located in each jurisdiction/district chapter.

Jurisdiction/District	Earthquake	Flood	Landslide	Severe Weather	Volcano	Wildfire & Wildfire Smoke
Fairview	Moderate	Low	Low	High ⁹¹	Low	High ⁹²
Gresham	High	Moderate	Moderate	High	Low	Moderate
Troutdale	Moderate	Low	Low	High ⁹³	Moderate	High ⁹⁴
Wood Village	High	Low	Low	High ⁹⁵	Low	High ⁹⁶
Multnomah County	High	Moderate	Moderate	High	Low	High
Multnomah County Drainage District	Moderate	High	Low	High	Moderate	Moderate
Peninsula 1 Drainage District	Moderate	High	Low	High	Low	Low
Peninsula 2 Drainage District	Moderate	High	Low	High	Low	Moderate
Sandy Drainage Improvement Company	Moderate	High	Low	High	Moderate	Low
CCDDDJCA/UFSWQD	Moderate	High	Low	High	Low	Moderate
Port of Portland	High	Moderate	Low	Moderate	Low	Moderate

⁹¹ All elements of Severe Weather were rated high risk, except for Drought which was rated low.

⁹² Wildfire Smoke rated as high risk, Wildfire was rated as low risk.

⁹³ All Severe Weather elements rated as high risk, except for Winter Storms.

⁹⁴ High Rating for Wildfire Smoke, moderate risk for Wildfire

⁹⁵ High Rating for Extreme Heat and Winter Storms. Windstorm was rated moderate and Drought low.

⁹⁶ High Rating for Wildfire Smoke, low rating for wildfire

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Collected mitigation actions are in order as they appear in the jurisdiction/district chapters and are presented here to be more easily compared.

Hazards	Jurisdiction/District	No.	Mitigation Action
Multi-Hazard	Fairview	1	Regularly share hazard materials and risk information, including in languages other than English, at City of Fairview events such as Fairview on the Green and National Night Out.
Multi-Hazard	Fairview	2	Identify water and wastewater system resilience opportunities, including well houses and wastewater pump stations housed in unreinforced block buildings and increasing resilience of newly constructed infrastructure.
Multi-Hazard	Fairview	3	Publicize severe weather and wildfire smoke risks by providing accessible preparation, warning and alert information on the city website.
Earthquake	Fairview	4	Assess the feasibility of seismic retrofits at City Hall and the Crestwood Shop, which stores Public Works' outdoor equipment.
Flood	Fairview	5	Maintain participation in Levee Ready Columbia and support continuing accreditation of Columbia Corridor Drainage District levees.
Multi-Hazard	Gresham	1	Develop a Disaster Debris Management Plan to support community recovery and maximize FEMA reimbursement.
Multi-Hazard	Gresham	2	Engage with community-based organizations (CBO's) to ensure touchpoints with frontline communities vulnerable in disasters.
Multi-Hazard	Gresham	3	Support the City's adopted Climate Action Plan actions that relate to climate change resiliency and preparedness.
Multi-Hazard	Gresham	4	Support local businesses in preparing for disasters and promote local business continuity planning.
Earthquake	Gresham	5	Implement improvements to the wastewater treatment plant to resist seismic events.
Earthquake	Gresham	6	Harden the city's sewer backbone system to resist seismic events.
Earthquake	Gresham	7	Continue to implement seismic structural retrofits at water reservoirs and pump stations.
Earthquake	Gresham	8	Improve seismic resilience of water pipeline infrastructure.

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Hazards	Jurisdiction/District	No.	Mitigation Action
Earthquake	Gresham	9	Seismically retrofit existing public wastewater facilities and infrastructure to withstand and continue service after a catastrophic earthquake, allowing the city to meet the Oregon Resilience Plan Target States of Recovery.
Earthquake	Gresham	10	Build resiliency and mitigation education into public events. Partner with NGOs to ensure culturally appropriate and engaging material.
Earthquake	Gresham	11	Develop a seismic overlay.
Flood	Gresham	12	Develop and implement strategies to restore and enhance the natural functions of floodplains.
Flood	Gresham	13	Implement flood attenuation strategies as identified and prioritized in the Stormwater Master Plan.
Flood	Gresham	14	Maintain eligibility in the National Flood Insurance Program (NFIP) and initiate participation in the Community Rating System (CRS).
Landslide	Gresham	15	Protect slopes and associated infrastructure by identifying and prioritizing at-risk slopes with high consequences of failure.
Landslide	Gresham	16	Integrate landslide prevention into outreach/enforcement programs to find and resolve encroachments at the public/private interface where dumping contributes to landslide risk.
Severe Weather	Gresham	17	Revisit where and what kind of generators need to be available for water and wastewater infrastructure due to significant power outages.
Severe Weather	Gresham	18	Coordinate with Multnomah County to identify at-risk population from long-term power outages.
Severe Weather	Gresham	19	Conduct a shade audit in all city parks.
Severe Weather	Gresham	20	Install trees in tree-deficient neighborhoods that experience urban heat island effect impacts to enhance shade equity in underserved areas.
Severe Weather	Gresham	21	Develop an emergency service plan for solid waste removal in multifamily properties after a disaster event.
Wildfire & Wildfire Smoke	Gresham	22	Expand permanent backyard burning ban.

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Hazards	Jurisdiction/District	No.	Mitigation Action
Wildfire & Wildfire Smoke	Gresham	23	Include content on wildfire defensible space in outreach to properties within or adjacent to protected resource areas.
Wildfire & Wildfire Smoke	Gresham	24	Develop emergency ingress/egress mapping tool for older developments and assess options for alternative access where no secondary ingress/egress exists.
Wildfire & Wildfire Smoke	Gresham	25	Strengthen code language to ensure secondary access for future subdivisions.
Wildfire & Wildfire Smoke	Gresham	26	Address forest die off and implement measures to transition to more drought tolerant/climate resilient plan communities through open spaces and the urban canopy, and through transition to more fire-resistant plant communities at the wildland urban interface.
Wildfire & Wildfire Smoke	Gresham	27	Develop a wildfire overlay.
Multi-Hazard	Troutdale	1	Continue to integrate natural hazard risk information into plan and development code updates.
Multi-Hazard	Troutdale	2	Continue to use natural hazard risk information to identify and pursue mitigation projects through continuity of operations and resilience plans.
Multi-Hazard	Troutdale	3	Consider adopting a development standard requiring consideration of natural hazard risk when designing public improvements.
Earthquake	Troutdale	4	Continue to pursue seismic upgrades to suspended wastewater conveyance pipelines identified in Public Works' Resiliency Plan.
Flood	Troutdale	5	Maintain engagement with levee recertification efforts to provide local considerations and information and identify capital improvements that will help maintain levee accreditation.
Flood	Troutdale	6	Conduct an inventory of wastewater manholes within the 1% annual chance floodplain and determine the feasibility of replacing manhole covers with watertight lids.
Landslide	Troutdale	7	Incorporate landslide risk mapping into the next update of the Comprehensive Plan.
Landslide	Troutdale	8	Develop coordination between Public Works and the Building Department for improving stormwater management standards on private property.
Severe Weather	Troutdale	9	Create a handout for residents living in mobile homes about wind and snow load impacts on roofs.

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Volcano	Troutdale	10	Perform outreach with homebuilders professional organizations to determine how volcano risk disclosure might be included in home sale documentation.
Wildfire & Wildfire Smoke	Troutdale	11	Consider adoption of additional wildfire safety standards in the Troutdale Development Code focusing on siting, defensible space, construction standards, access standards, mitigation planning, and subdivision proposals - using policy work developed through Senate Bill 762 as a guide.
Wildfire & Wildfire Smoke	Troutdale	12	Implement wildfire mitigation strategies identified in the revision to the Multnomah County Community Wildfire Protection Plan, including pursuing grants for fuel management projects in and near residential neighborhoods in identified Wildfire Urban Interface areas.
Wildfire & Wildfire Smoke	Troutdale	13	Continue development of culturally competent wildfire risk education materials for residents.
Multi-Hazard	Wood Village	1	Work with local partners, including churches, to identify locations in the city that could be used for weather or smoke sheltering and develop strategies for operating sites.
Multi-Hazard	Wood Village	2	Continue to integrate hazard mitigation goals into early design processes for public facilities and infrastructure projects.
Multi-Hazard	Wood Village	3	Continue to identify retrofit programs to strengthen mobile homes from high winds and earthquakes.
Multi-Hazard	Wood Village	4	Implement natural hazard resilience actions identified in the upcoming update to the city's water and wastewater master plans.
Severe Weather	Wood Village	5	Collaborate with Multnomah County to identify potential in-home cooling interventions for the most at-risk residents living in mobile home parks within the city.
Multi-Hazard	Multnomah County	1	Build coordination with disability advocacy groups and disabled residents to analyze varied community risks and identify actions to enhance the safety of disabled residents in all types of hazards.
Multi-Hazard	Multnomah County	2	Develop countywide recovery plan to enhance short-term disaster resilience and focus long-term social and economic equity in recovery processes.
Multi-Hazard	Multnomah County	3	Continue to integrate hazard mitigation goals in the early design processes for County public facility and infrastructure projects, co-benefitting sustainability and resilience goals.

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Multi-Hazard	Multnomah County	4	Enhance equitable community capacity building by applying for and managing resilience grants that can be administered by community-based organizations that represent underserved communities.
Multi-Hazard	Multnomah County	5	Continue participation in state, regional, and local Critical Energy Infrastructure Hub all-hazard mitigation planning; supporting studies to identify mitigation strategies to reduce environmental impact and threat to life.
Multi-Hazard	Multnomah County	6	Continue process of evaluating the resilience of all county facilities to all natural hazards, and recommend mitigation opportunities resulting from the evaluation.
Multi-Hazard	Multnomah County	7	Evaluate small residential care and child-care facilities licensed by Multnomah County for resilience to natural hazards and power loss and develop implementable mitigation strategies.
Multi-Hazard	Multnomah County	8	Develop power backup and air quality resilience capabilities at critical county facilities, especially those that protect residents with heightened risk to climate and wildfire smoke impacts. Capabilities may include backup power generators, transfer switches, and portable or permanent air filtration or air conditioning systems.
Multi-Hazard	Multnomah County	9	Convene an update to the Critical Facilities Inventories of the participating entities in this plan and analyze with updated natural hazard risk mapping.
Multi-Hazard	Multnomah County	10	Support the development of resilience hubs to create sites for community pre-disaster engagement and response capacity in county locations with barriers to resilience and recovery.
Multi-Hazard	Multnomah County	11	Develop a prioritization of county transportation emergency routes based on trip studies.
Multi-Hazard	Multnomah County	12	Develop accessible Story Maps and other GIS Mapping Tools to enhance risk communication and the visibility of natural hazard mitigation opportunities.
Earthquake	Multnomah County	13	Continue pursuit of funding for seismic home retrofit programs for historically underserved residents.
Earthquake	Multnomah County	14	Reassess existing seismic assessments of County facilities, and develop new project prioritization based on results.

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Hazards	Jurisdiction/District	No.	Mitigation Action
Earthquake	Multnomah County	15	Continue to develop the Earthquake Ready Burnside Bridge project and consider project and funding pathways for seismic retrofits of the Hawthorne, Broadway, and Morrison Bridges, as identified in the 2015 Willamette River Critical Infrastructure Plan (CIP).
Earthquake	Multnomah County	16	Identify and develop applications for ShakeAlert in public safety preparation and seismic resilience of critical county facilities.
Earthquake	Multnomah County	17	Identify post-earthquake debris storage sites and fully implement the current Multnomah County Debris Management Plan.
Flood	Multnomah County	18	Assess Emergency Action Plan for the Van Raden Dam and develop preparation and response planning for any potential dam failure.
Flood	Multnomah County	19	Develop policy recommendations for channel migration zone impacts on the Sandy River to existing and future development.
Landslide	Multnomah County	20	Update the County's geological hazards overlay, building off the existing steep slope overlay and addressing stormwater management and slope stabilization for landslide prevention.
Landslide	Multnomah County	21	Work with residents with homes in high landslide risk areas to identify mitigation opportunities, including potential property buyout grants when residents have interest.
Severe Weather	Multnomah County	22	Continue to fund and develop programs to support in-home mitigation for residents in high-risk housing and with limited resources, through weatherization programs and the delivery and installation of portable air conditioners and air filters.
Severe Weather	Multnomah County	23	Coordinate with cities on tree-planting, concrete removal, and other heat island mitigation projects across the county in neighborhoods with high proportions of historically underserved residents, with those living in vulnerable housing, and with those with high proportions of residents with pre-existing health conditions.
Wildfire & Wildfire Smoke	Multnomah County	24	Support grants for home ignition zone assessment and mitigation, including vegetation management and structure maintenance, especially for residents in high-hazard areas or with physical or resource limitations.
Wildfire & Wildfire Smoke	Multnomah County	25	Implement mitigation strategies for wildfire and wildfire smoke identified in the current and upcoming revision of the Multnomah County Community Wildfire Protection Plan.

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Hazards	Jurisdiction/District	No.	Mitigation Action
Wildfire & Wildfire Smoke	Multnomah County	26	Identify strategies for supporting defensible space for structures in high-risk wildfire areas in zoning regulations, using Senate Bill 762 processes including new state land-use requirements, new risk mapping, and building code revision opportunities.
Multi-Hazard	Columbia Corridor Drainage Districts	1	Prepare for and reduce impacts from power outages by installing backup portable generator connections at pump stations, backup power at facilities, purchasing back-up pumping equipment, and/or having rental contracts for back-up power and equipment.
Multi-Hazard	Columbia Corridor Drainage Districts	2	Build relationships with community groups and culturally specific community-based organizations and learn how we can best serve those communities for emergency preparedness and response.
Multi-Hazard	Columbia Corridor Drainage Districts	3	Develop a Continuity of Operations Plan (COOP) to maintain general District operations during emergencies.
Multi-Hazard	Columbia Corridor Drainage Districts	4	Customize and integrate flood-risk, earthquake-risk, and emergency preparedness curriculum and outreach/communications for the public and partners.
Multi-Hazard	Columbia Corridor Drainage Districts	5	Adapt and expand ICS training, exercises, and job shadowing opportunities for MCDD staff.
Multi-Hazard	Columbia Corridor Drainage Districts	6	Develop and implement asset management program to track asset condition, performance and risk and set priorities for maintenance and repairs in advance of natural hazards.
Multi-Hazard	Columbia Corridor Drainage Districts	7	Build GIS capacity to improve preparedness and enhance responsiveness and recovery from natural hazards within the Districts.
Earthquake	Columbia Corridor Drainage Districts	8	Improve seismic resilience of hard infrastructure (e.g. pump stations) to reduce downtime by assessing seismic retrofit options to determine feasibility and benefit-cost ratio; planning mitigation investments where practical and cost-effective; and incorporating design criteria for new infrastructure to be seismically resilient.
Earthquake	Columbia Corridor Drainage Districts	9	Implement seismic upgrades for MCDD administrative and operations buildings.
Flood	Columbia Corridor Drainage Districts	10	Levee Ready Columbia partners, the Columbia Corridor Drainage Districts, and the Urban Flood Safety & Water Quality District will seek funding to support re-certification and maintaining accreditation of the Columbia River levee systems, including support of federal investments in the system.

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Flood	Columbia Corridor Drainage Districts	11	Continue coordination across all jurisdictions for development reviews to prevent unplanned impacts on levee and drainage system.
Flood	Columbia Corridor Drainage Districts	12	Increase capacity, dependability and redundancy for all District pump stations.
Flood	Columbia Corridor Drainage Districts	13	Conduct training, planning, and modeling exercises that integrate new district mandates: water quality, fish and wildlife habitat, climate change, landscape resilience, equity and social justice, and cultural history.
Flood	Columbia Corridor Drainage Districts	14	Update and maintain Flood Emergency Action Plan to prepare for riverine and internal drainage flooding due to natural hazard emergencies.
Flood	Columbia Corridor Drainage Districts	15	Complete SCADA Upgrades at all pump stations to improve data collection and storage, communications, monitoring and surveillance.
Flood	Columbia Corridor Drainage Districts	16	Develop and implement preventative maintenance strategies to monitor performance and increase redundancy at all District pump stations.
Flood	Columbia Corridor Drainage Districts	17	Enhance security and surveillance at District pump stations to improve resiliency and increase redundancy in response to a natural hazard emergency.
Flood	Columbia Corridor Drainage Districts	18	Rehabilitate gravity flow system (drainage pipes, slide gates, and inlet/outlet screens) as redundancy to Pump Station 1.
Flood	Columbia Corridor Drainage Districts	19	Conduct 2-D flood inundation modeling, graphic design, and map products to improve flood risk analysis and communication with the partners and the public.
Flood	Columbia Corridor Drainage Districts	20	Design, purchase, and install signage in the floodplain for flood evacuation rates and demarcation of the managed floodplain/protected area.
Flood	Columbia Corridor Drainage Districts	21	Improve pump station reliability by installing flow monitors at all district pump stations.
Flood	Columbia Corridor Drainage Districts	22	Rehabilitate or replace drainage pipes and slide gates at 142nd cross levee.
Flood	Columbia Corridor Drainage Districts	23	Convert recent USACE PMLS Study modeling and lessons learned to inform drainage master planning in Districts.
Flood	Columbia Corridor Drainage Districts	24	Protect levee toe from hydraulic scouring caused by anticipated increased frequency loading in the wet season under current climate models.

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Flood	Columbia Corridor Drainage Districts	25	Evaluate temporary flood control structure needs, determine the best options for each closure (including automated systems where beneficial), invest in needed closure structures, and create clear job sheets for each closure for emergency response.
Flood	Columbia Corridor Drainage Districts	26	Coordinate with partners in floodplain resilience planning, environmental zoning, and development standards within floodplains to increase / maintain green infrastructure and to increase flood resilience within building standards.
Flood	Columbia Corridor Drainage Districts	27	Raise levee near I-5 cloverleaf & Marine Drive interchange.
Flood	Columbia Corridor Drainage Districts	28	Decommission or install valve replacements for Gate Tower & associated drainage pipes between MCDD and SDIC to address hydrologic connection vulnerabilities between drainage basins.
Flood	Columbia Corridor Drainage Districts	29	Analyze and address houseless community's impacts on flood management system and access.
Flood	Columbia Corridor Drainage Districts	30	Relocate and replace PIR and Vanport Pump Stations with upgrades for backup power connection, seismic resilience, wind event resilience, pumps and discharge lines, and addition of automatic trash rake system.
Flood	Columbia Corridor Drainage Districts	31	Address oversteepened toe of levee for Columbia Slough southwest levee enhancement.
Flood	Columbia Corridor Drainage Districts	32	Address vulnerabilities from animal burrows on Columbia River MCDD Levee of NE Corner Rehab.
Flood	Columbia Corridor Drainage Districts	33	Replace, and potentially increase capacity of, the primary stormwater pumping station for the Sandy Pump Station.
Flood	Columbia Corridor Drainage Districts	34	Incorporate climate and equity into flood modeling/planning, factoring in updated precipitation and hydrologic forecasts and anticipated impacts on communities.
Flood	Columbia Corridor Drainage Districts	35	Regrade and bench oversteepened levee banks on the Columbia River.
Flood	Columbia Corridor Drainage Districts	36	Improve drainage pathways through pipe improvements or daylight open channels in areas such as Meadow Drive and Middlefield Road.

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Flood	Columbia Corridor Drainage Districts	37	Identify and create redundant channels and pipes to allow for additional flood storage and flow paths.
Flood	Columbia Corridor Drainage Districts	38	Plan for landscape resilience, including identifying open spaces within the managed floodplain (or brownfield sites that could be converted to open space), developing solutions for flood storage (or other objectives), and creating a worklist for future study/modeling to quantify services that provided by those sites.
Flood	Columbia Corridor Drainage Districts	39	Upgrade levee management practices by implementing measures that increase early-warning times prior to failures.
Flood	Columbia Corridor Drainage Districts	40	Plan designated safe zones for people who cannot safely evacuate in the event of a levee breach and flood.
Flood	Columbia Corridor Drainage Districts	41	Support agency partners to improve joint stormwater assets that are essential to the existing internal drainage system.
Multi-Hazard	Port of Portland	1	Develop internal and external programming to inform and educate employees, tenants and business partners about hazards and potential ways to mitigate them.
Multi-Hazard	Port of Portland	2	Establish and maintain agreements with federal and state partners to support the use of Port facilities in response and recovery operations and identify collaborative opportunities with federal and state agencies to implement supporting on-site mitigation measures.
Multi-Hazard	Port of Portland	3	Document facility, infrastructure and equipment vulnerabilities to high heat and wildfire smoke; evaluate mitigation actions; and implement actions as appropriate.
Multi-Hazard	Port of Portland	4	Develop and implement communications plans and systems, including automated and robotic communications and notification systems at Port facilities to mitigate risks related to communication system loss in the event of an earthquake or flood.
Multi-Hazard	Port of Portland	5	Harden security systems and upgrade communications to address seismic and flood risks.
Multi-Hazard	Port of Portland	6	Assess expected climate impacts on T6 and identify and implement needed mitigation investment to ensure continued performance and longevity given heat and flood risks.

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Earthquake	Port of Portland	7	Complete the engineering and design for and construct the resilient runway seismic mitigation, construct the resilient airfield regulator building with back-up power, and related improvements needed to ensure a resilient airfield.
Earthquake	Port of Portland	8	Set performance goals, update or expand seismic risk assessments and feasibility studies, identify and prioritize mitigation strategies and make investments for the airfield, concourses, terminal, maintenance facilities, parking and transportation infrastructure, passenger processing and critical utility systems, and other PDX systems and facilities as appropriate.
Earthquake	Port of Portland	9	Identify system failure points and mitigate harm to people, the environment, and infrastructure systems by implementing Earthquake Early Warning systems.
Earthquake	Port of Portland	10	Review and update the T6 seismic plan to address completed projects and identify new needs.
Earthquake	Port of Portland	11	Support investments in fueling facilities to mitigate harm resulting from an earthquake.
Earthquake	Port of Portland	12	Assess seismic vulnerabilities of flood and stormwater management infrastructure that serves PDX and implement appropriate mitigation measures and risk mitigation plans; plan for and invest to improve seismic resilience and power reliability for pump stations that serve or support PDX, and mitigate flood exposure risk for critical airport facilities.
Earthquake	Port of Portland	13	Complete the construction of seismic resilience improvements at Berth 603 to enable T6 to mitigate seismic risk.
Earthquake	Port of Portland	14	Mitigate seismic risk by developing a Disaster Recovery Site for technology infrastructure.
Earthquake	Port of Portland	15	Plan for and invest in seismically resilient on-site emergency power and district energy systems to mitigate earthquake risk.

ANNEX D – Collected Public Comment

This annex collects all responses to a question posted in an online survey distributed during the planning phase of this plan update. The question asked how constituents of this plan would like to see resources used. The answers are summarized in Chapter 4, but are presented here in full to preserve the complete words of those who took the time to respond. Those involved with the development of this plan wish to extend their gratitude to those who responded and provided information used to shape this and future planning work.

Answers have been lightly edited for clarity and to correct typos. Not all survey respondents answered this question. No responses were received in Chinese, Somali, or Vietnamese.

If money and other resources were available, how should it be used to make your community or home safer from natural disasters?

English, Respondent Self-Identified Location – City of Fairview

- We've put in a request for emergency disaster preparedness planning and training money through RDPO for Fairview, Troutdale, and Wood Village and hope it is funded. Our plans are 10 years old.
- We need an updated disaster management plan, training with our neighbors, and a ton of community education and engagement. We are at risk!

English, Respondent Self-Identified Location – City of Gresham

- Seismically fitted reservoirs cached around the city that would be accessible to public for safe drinking water - without relying on current infrastructure / plumbing. Encouraging more kitchen gardens especially in place of lawns. Would love to see a program for empty structures to be used for housing. There are so many empty retail spaces. Or houses that just sit empty. If not used for housing, at least for Extreme Heat and Extreme Cold shelters. More effort to build communities and get neighbors to know each other so we don't all just hope 911 will save us. Distribution of mini phone books for resources for all pertinent services to each area. People don't know who to call "in case of..."
- Electrical grid, water and utilities. Alerts on where to go for shelter and help.
- Too many areas of dry grasses in the summer and fall.
- We should have community heating and warming shelters in every school so people don't have to go far. Public employees and other volunteers should be trained to staff them. We should have AC units we could get to renters and low income owners. We would have smoke BMPs available to renters and low income homeowners (window insulation, air purifiers, masks etc.) We should require that houses near forested corridors or in the country be roofed and built of fire resistant materials We should

require reroofs or changes in siding trigger better insulation (and fire retardance when relevant).

- I would get heating sources, water, emergency food, emergency kits
- Prepare for earthquake
- Honestly, this is something that each person has to care enough about to prepare. The City has made lots of outreach regarding being prepared. I would continue on the current course.
- Providing community members with emergency backpacks that include: Drinking water (at least one gallon per person per day), Nonperishable food, such as canned veggies and protein bars, manual can opener, flashlights or portable lanterns and extra batteries, first aid kit, a crank- or battery-powered radio, sanitation supplies: toilet paper, moist towelettes, soap, trash bags and disinfectants, local maps.
- Good public emergency response training and map of needed supply stations strategically established throughout Gresham for all citizens!
- Make sure that Police, Fire and other emergency responders know where gas and water branch turnoffs are located and train them to be able to manage this in the absence of those utilities personnel.
- Early warning system for everyone.
- Establish Neighborhood cache of emergency supplies including water, food, blankets, masks, and other emergency supplies for humans and pets.
- Offshore wind event, drought fueled suburban/urban, wildfire-begun, fire-torrent. No escape routes or fire break lines have yet been planned.
- Assigning certain areas to a specific evacuation route to avoid congestion in case of disaster.
- Cooling stations for this summer. Air filtration units for the smoke that's coming.
- I would love more accessible information to any kind of rendezvous points/resources/aid that the county plans to have available in such disasters.
- Provide low cost items for an emergency "Go-Kit" for each household
- Air conditioning and filtration/purification systems for all low income people. Community cooling & warming shelters (like in elementary schools that people can easily get to not the big centralized ones) especially for homeless people who should be given safe storage for their belongings. Community clinics for respiratory illness/distress during smoke events to ensure healthcare access and prevent acute cases that need ER/Hospital care. Planting more trees in highly urbanized heat islands.

English, Respondent Self-Identified Location – City of Portland

- I would use it to retrofit my home to better prepare for disasters
- Earthquake proof older buildings: attach them to their foundations or secure brick walls and other falling hazards. Distribute AC units and air purifiers to low income houses. Create more safe shelters for any type of emergency.
- If money and other resources were available, how should it be used to make your community or home safer from natural disasters?

Whatever can be done to decrease the chance of wildfire--preparing Forest Park by more careful forestry. Also, free retrofitting of buildings that are in areas that were historically "redlined."

- Stormwater surge management, seismic retrofitting (especially for hazmat facilities like the fuel tank farm by the river). Infrastructure upgrades.
- reduce fuel loads in forest, build up infrastructure for our houseless neighbors living outside in extreme weather conditions
- Help those experiencing homelessness and build disaster preparedness amongst the most vulnerable.
- Let's get that Burnside bridge retrofitted
- in the short term, I believe extreme weather is our worst problem right now. deforestation around the mountains and building on flood plains makes the valley very susceptible to flooding and landslides. In the metro area, extreme heatwaves and extreme cold waves kill people. our physical infrastructure isn't built to withstand it. Fatal car crashes r way too high during ice and snow. We need resources such as home to home emergency relief packages for filtering air from wildfires. Scarcity and poverty makes buying yourself necessary tools to keep your homes, families, and vehicles safe very difficult, from cold, heat, and smoke. i think the city should allocate funds not just to the shelters like last year for the extreme temperature, but create resources for people to make their own homes safe from wildfire smoke. My apartment reached up to 116° during a heat wave this year. the only reason I didn't pass out, or die, from heat exhaustion was because my roommate happened to have an air conditioner in his bedroom that reduced the temperature to 103 degrees. i happened to work at a store selling box fans, so I was able to get one but filters were very difficult to find for months. TriMet also, should be free, especially during extreme heat. Free fares but only once it reached 100 degrees is unacceptable. 99 degrees, 95 degrees, these are also extreme, life-threatening temperatures for people to be outdoors.
- Make sure anyone who is registered to vote in Multnomah County and property tax payers receive information annually about the Cascadia Earthquake risk and earthquake disaster preparedness, make sure all hospitals, bridges and county bridges are seismically sound and retrofit those that are not, work with the Portland Bureau of Emergency NET (Neighborhood Emergency Team) program to provide all county residents with access to earthquake and natural disaster preparedness at least once every three years and sponsor an annual "walk home" event like the ones in New Zealand (where there are community walk home events) to build awareness about the need to prepare.
- Get buildings and bridges earthquake ready. Have snow plows, rock salt, and other things ready for ice and snow storms, and be prepared to keep the government employees at home.
- Preparing for a big earthquake by ensuring critical infrastructure (roads, water lines, etc.) can withstand the event

- I would like for there to be public evacuations options for people who don't have access to cars (e.g. shuttles or buses).
- Reinforce bridges such that we're not cut off. Provide yearly kits or at least yearly updated, ready to read and follow, lists in multiple languages of what we each should have for our local most likely disasters. Maybe kits could model after Finland's baby box, so people can choose between kit and a cash amount. City should have a plan and resources to aid the houseless.
- Prevent Linton petrochemical storage fire and chemical leak in the event of an earthquake or other disaster.
- Offering free home kits to residents to help in emergencies
- Seismic retrofitting an old Portland house is very costly. It would be great if there were some tax credits or something to help offset this expense. It seems like the gov't could do a bulk-buy of an earthquake supply bag and ought to be able to get the price down dramatically (assuming they can avoid being gouged by the seller who learns that it's the gov't doing the bulk buy :-/).
- more free online CNET training seminars for block-level community disaster response planning; door-to-door emergency kit distribution, supply hubs for residents without storage space for 14 days of water/food; improved 211 outreach and staffing during weather events; free property inspection for vulnerabilities and grant funding for seismic retrograding
- Major incentives for solar, ac, general weatherizing of homes. More communication on how to better prepare. Non-electric energy sources for heat/energy/water that are publicly accessible if not installed in each home if power is affected.
- Shelters, supplies etc.
- To retrofit existing buildings to improve their ability to withstand earthquakes
- Public Outreach to train people how to prepare their homes
- We need focus on preparation for the longer term aftermath of an earthquake. We may be able to respond in the moment, but not survive the months that follow. There isn't a roadmap for communities to get what they need and self-organize for this like there is for NET. As an example, NET citywide drills only talk about immediate events... I'd like to see some table top exercises that would help communities really think about the realities of post-earthquake survival. Also, so much of what we talk about locally is not very useful, as we perseverate on deciding how to handle immediate issues in ways that don't reflect the actual likely circumstances of our area. I'd like to see some earthquake damage predictions for our area (e.g. what will flood, landslides, which bridges will come down, what will liquefaction do to our streets) so that when we blithely say we will all evacuate "here" we understand that would not really be possible. We also spend a lot of time speculating about conditions without good data (e.g. will the Willamette Falls dam fail and cause us to flood? will our buildings still be standing? will we be able to drink the underground water?) If we had some expert advice, we could plan better and ignore things we don't need to address and really focus on the likely issues.

- I think development regulations should be revised to preserve as many big trees as possible to reduce the heat island effect, which can produce much bigger temperature changes than global average increases. I also think that investing in community-scale facilities like composting toilets, water storage units (perhaps used for bathing and drinking for people living outdoors), or even solar-powered charging stations would greatly enhance community resilience to events that disrupt lifelines. A major earthquake will disrupt them all, but wind storms, ice storms, or extreme heat would also disrupt some. I know that Multnomah County is investing in making the Burnside Bridge resilient to a major earthquake, which I heartily applaud. I'm not sure which other elements of critical infrastructure fall under the county's purview, but hardening those against fire, flood, and earthquake should be top priorities.
- Access to low cost measures & tools; education about prep. & mitigation.
- Helping pay for supplies to help prepare low income and historically underserved populations.
- Masonry building retrofits, water storage,
- AC units and air purifiers for all who cannot afford them along with assistance for their resulting utility bills, financial incentives for homeowners to secure their homes to foundations, and more money invested in infrastructure in case of a natural disaster such as earthquakes, etc.
- I think we need to help those who cannot afford go-bags and extra food and water storage
- So many people rent and most rentals do not include air conditioners-- which is becoming necessary to living in Multnomah County in the summer. Last summer during the heat wave, stores quickly sold out and even if folks had funds, finding an AC was near impossible. If there was a way to help provide air conditioners to those in need well in advance of hot months- it would undoubtedly save lives in the summer.
- Make sure that an earthquake will be less destructive to our homes and infrastructure.
- Seismic upgrades to bridges, large buildings. Controlled fire burns to reduce wildfire risks. Localized community meeting spaces with resources in the case of a catastrophe. Removing gas and other pollutants from the Willamette banks at risk from liquefaction of the ground during a large earthquake. Education.
- I would have my house (built in 1939) seismically reinforced to protect against earthquakes; add AC to prepare for heatwaves; replace my single pane windows with double pane to protect against both extreme heat and smoke from wildfires; and replace gas furnace, water heater and stove with electric appliances.
- Retrofitting homes for earthquakes. Controlled burns and tree thinning to mitigate damage from wildfires. Perhaps helping with air conditioning costs.
- Help people retrofit their houses.
- I'm working class, but I'm okay except for not having AC/heat during an outage. I'm worried about folks who don't have air conditioners, earthquake kits, air filters, and the like.

- People in each block or cluster of blocks would have kits and training for: downed limbs, pothole repair, first aid, hand-crank radio, water & food supply refreshed quarterly, survival gear, and would be the designated Good Neighbor who would go around and make sure all their people knew about the resource. (What I'm actually most concerned about is anarchy after such a disaster. A person or two with a gun can take away any of what I just mentioned.)
- I've been researching and contacting county and city officials for years about mitigating and surviving the CSZ earthquake. Mostly because I need assistance with funding a retrofit for my home. I've been informed that funds were needed this year for wildfire and heat issues but I have this bad feeling that time is running out so I may just have to go back in debt again to cover the cost. I would like to hear your input on this. thanks!
- Holistic, community-led/community-centered mitigation strategies; building social capital within neighborhoods; equitable distribution of funding to communities with least historic investment; long-term capacity building at community-based organizations that can best reach 'hard-to-reach' households; natural infrastructure solutions (e.g. wetlands protection, green infrastructure); solutions that improve people's daily lives and personal resiliency.
- Purchase water tank, solar charging station, generator, etc. the larger bits!

English, Respondent Self-Identified Location – City of Troutdale

- Offering free home kits to residents to help in emergencies
- Earthquake readiness

English, Respondent Self-Identified Location – Other Unincorporated Community

- Prevent Linton petrochemical storage fire and chemical leak in the event of an earthquake or other disaster.
- Make sure Linton tank farm doesn't rupture and cause fire and pollution in the event of an earthquake.
- An earthquake plan that tells us exactly what do and where to go if we survive.

English, Respondent Self-Identified Location – Outside of Multnomah County

- Seismic retrofit; improving on-site and street stormwater drainage systems

Russian

Как должны использоваться денежные и другие средства, чтобы обезопасить ваше сообщество или дом от стихийных бедствий?

- Инвестировать в программы по предотвращению и использование современных технологий заранее уведомляющих о стихийных бедствиях.

Spanish

Si hubiera dinero y otros recursos disponibles, ¿cómo se deberían usar para proteger a su comunidad u hogar de los desastres naturales?

- Ijole, como responder esta pregunta... tantas cosas...

Chinese

如果可以获得金钱和其他资源，应该如何使用它来使您的社区或家庭免受自然灾害的影响？

Somali

Haddi lacag iyo khayraad kale aad heli karto, sidee ayaa ay tahay in loo isticmaalo si looga dhigo bulshada ama guriga mid ammaan ka ah masiibooyinka dabiiciga ah?

Vietnamese

Nếu tiền và các nguồn lực hỗ trợ khác sẵn có, chúng ta nên tận dụng như thế nào để giúp cho cộng đồng hoặc gia đình của quý vị trở nên an toàn hơn khỏi các thảm họa tự nhiên