



## PORTLAND BUREAU OF EMERGENCY MANAGEMENT

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**TO:** Portland Planning and Sustainability Commission  
**FROM:** Jonna Papaefthimiou, Planning and Preparedness Manager  
**DATE:** March 11, 2015  
**RE:** Proposed Draft Comprehensive Plan

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**Thank you for the opportunity to comment on the 2035 Comprehensive Plan Proposed Draft Goals and Policies.** These comments, submitted on behalf of the Portland Bureau of Emergency Management (PBEM), are intended to amplify testimony at the Planning Commission meeting on November 18, 2014, and to provide more specific suggestions on sections of the text where I propose some modification. These comments also build on written comments submitted by PBEM in April 2013 and June 2014 in response to earlier drafts of the Plan, and on comments I made as a representative of PBEM in the Watershed Health and Environment PEG.

**PBEM is extremely gratified to see “resilience” identified as a guiding principle in the Plan,** and specifically addressed in Goals 3.B “Climate and Hazard Resilient Urban Form,” 4.D “Urban Resilience,” 7.C “Resilience,” 8.C “Reliability and Resilience” 8.F “Flood Management” and 8.I “Public Safety and Emergency Response.” Numerous policies support these goals; I particularly appreciate the inclusion of two goals that specifically promote planning for disaster recovery (Policies 4.63, 4.64).

Resilience is embodied in this plan not only in the goals that use this word. Healthy connected neighborhoods are the foundations of a resilient city, building networks that enable residents to support one another through difficulties large and small. Green infrastructure to reduce urban flooding, reduce urban heat islands, and promote neighborhood connections, is also a best practice in building resilience. These efforts have long been a focus for the Bureau of Planning and Sustainability (BPS) and are well-addressed in the Plan draft.

What follows are some general comments on important elements of the plan, followed by specific suggestions for changes in specific (numbered) policies that are of particular interest to PBEM.

## Reduced Densities in Hazard-Prone Areas

PBEM strongly supports proposed changes in the comprehensive plan designations that would decrease density on steep slopes near Powell Butte and in parts of the West Hills. Lowering the number of homes that can be built in areas subject to both landslides and wild land fires is the best way to protect the City from these significant and life-threatening hazards. This approach accords with the City's own adopted Natural Hazard Mitigation Plan, and with best practices from other communities.

Current zoning designations would allow considerable additional development in areas that are already at high risk for both landslides and wild land fires. These areas are difficult for emergency responders to serve, and can put responders as well as residents in harm's way. Limiting density in these areas will bring the amount of permitted development closer to what the landscape can support, reduce the City's exposure to risk, and may ultimately reduce not only response costs and economic losses, but human suffering.

Reducing zone densities will be disappointing to some landowners. It is regrettable that there was ever an expectation that steep slopes could be intensively developed. But lowering zoned densities in hazard-prone areas is a responsible change that reflects a commitment to real resilience.

I suggested the following modifications to strengthen goals related to lowered density in hazard-prone areas:

***Policy 4.61 Reducing natural hazards and climate change risks and impacts. Limit development in or near areas prone to natural hazards where practicable, using the most current hazard and climate change-related information and maps.***

Eliminate "where practicable." The plan is already predicated on a balancing of interests; inserting "where practicable" here unnecessarily weakens this important goal.

***Policy 4.64 Planning and disaster recovery. Facilitate effective disaster recovery by providing recommended updates to land use designations and development codes, as warranted, in preparation for natural disasters.***

Similar to 4.61: eliminate "as warranted." The entire document is predicated on making warranted changes, the phrase here weakens this goal.

## Seismic Safety of Structures

Landslides and fires are both events that we have experienced in Portland, at least on a small scale. Earthquakes are an equally real risk, but one we have not experienced in our collective memory. Portland's earthquake risk was not well-understood until the late 1980s, and building codes were not updated until the 1990s. As a result, a large portion of Portland homes and commercial structures are not seismically sound, and would be severely damaged by even a moderate earthquake.

Many residences are not bolted to the foundation. In an earthquake, unbolted buildings can fall off their foundations and become uninhabitable, and mostly unrepairable. In Portland there are also many unreinforced masonry structures, including multifamily and commercial structures, which are not sound and would crumble in a moderate or severe quake. Adding to our woes, much of our industrial land is located in areas prone to liquefaction. This is a phenomenon where soils that are mostly sediment or fill re-liquefy during an earthquake. Buildings sink and fill with sediment in liquefaction zones.

The City is already working to improve our inventory of unreinforced masonry buildings, and to identify opportunities to increase retrofits of these structures. We have also piloted a program to promote seismic retrofits in single-family homes. These types of efforts ought to be supported by the Comprehensive Plan. PBEM also raised this issue in its two previous comment letters.

I suggest the following modifications to support these efforts:

***Policy 4.49 Seismic and energy retrofits.*** *Promote seismic and energy efficiency retrofits of historic buildings and other existing structures to reduce carbon emissions, save money, and improve public safety.*

The reference to seismic retrofits is misplaced in the section on resource efficient design. Separate seismic and energy retrofits and move seismic retrofits to chapter 4, "Design and Development" Include seismic safety retrofits along with "crime prevention design" and "fire life safety design." Similarly, chapter 5 "Housing" should include seismic safety as an element of "healthy homes" and promote seismic retrofitting to improve the life-safety of structures.

***Policy 4.62 Disaster recovery.*** *Encourage development approaches that will enhance the ability of people, wildlife, natural systems, and property to withstand and recover from a natural disaster or other major disturbance.*

Clarify that this refers to “disaster-resilient design,” e.g. seismically strong buildings, buildings well outside the floodplain and away from landslide risk areas.

***Policy 3.61 Industry and port facilities.*** Enhance the regionally significant economic infrastructure that includes Oregon’s largest seaport and largest airport, unique multimodal freight, rail, and harbor access; and proximity to anchor manufacturing and distribution facilities.

Elaborate on this goal, or add a related goal, to reduce natural hazard risks to these important resources. Many of these areas, including the airport and virtually all seaports, are in liquefaction-prone areas and in floodplains.

**Chapter 6 “Economic Development” would also benefit from some discussion of seismic hazards.** Much of the City’s industrially-zoned areas are prone to liquefaction. **Depicting this risk in a map would be instructive.**

An area of particular concern with respect to seismic risk is Linnton. More than 90% of the state’s liquid fuel passes through the tank farms and terminals in this neighborhood, which is vulnerable to earthquake liquefaction, landslides, wild land-interface fires and, obviously, hazardous-materials spills. A problem with this liquid fuel infrastructure could spell disaster for Linnton residents, and also disrupt the economy of our state, which depends greatly on gas and diesel to transport goods and workers. It would benefit our economic resilience and public safety to include a goal to promote seismic retrofits of existing industrial infrastructure and some dispersion of these uses in the future.

**I suggest that you add one new goal in chapter 6, “Economic Development,” that calls on the City to develop a plan to address the multi-hazard situation in Linnton over the next twenty years.** This plan will necessarily include both land-use and other elements.

## **Environmental health, equity, and natural hazard risk**

Portland has been a national leader in seeking to accommodate and restore dynamic natural systems within the City. These strategies not only improve environmental quality and the urban experience, they can reduce losses from natural hazards, which disproportionately affect vulnerable populations.

This chapter has good language but there are several opportunities to strengthen proposed policies:

***Policy 7.22 Natural hazards.*** Prevent development-related degradation of natural systems and associated increases in landslide, wildfire, flooding, and earthquake risks, especially as they affect under-served and underrepresented communities.

Households and communities with fewer resources suffer disproportionately during natural disasters. However, all communities need protection from natural disasters. Consider splitting these goals into two; one that calls for reducing development-related environmental degradation and hazards, and one that recognizes the disproportionate impacts of such disasters on underserved communities, and calls for increased consideration for these communities. This approach is in keeping with the City's approach in updating the Natural Hazard Mitigation Plan, which seeks to protect all neighborhoods and prioritize projects that protect vulnerable populations.

***Policy 7.29 Brownfield remediation.*** Improve environmental quality and watershed health by promoting and facilitating brownfield remediation and redevelopment that incorporates ecological site design and resource enhancement.

This is excellent; include restoration as well as enhancement in these efforts. Restoration is sometimes the best strategy for long-term resilience.

***Policy 7.40 Floodplain protection and restoration.*** Promote restoration and protection of floodplain habitats as a flood protection strategy.

This is an important goal, but it is presented as applying only to the Columbia River Watershed. Move it to the section that addresses citywide goals.

**I thank you for the opportunity to comment on the plan from the standpoint of emergency management,** and I look forward to continuing to work with colleagues at BPS to build a more resilient Portland.