Mayor and Council,

I write to suggest pausing any changes in the land use code that would likely increase danger to life and property during an urban wildfire. The proposed changes in building size, height, lot coverage and setbacks should be evaluated by qualified experts and appropriate changes should be made, including possible prescriptions to building materials and construction methods.

The following suggestions flow from my background as a wildland firefighter and what I have learned as co-coordinator of the Eugene Neighborhood's Preparedness Network. I am a resident of Eugene's Ward 2.

I urge you to adopt only land use changes that are consistent with Oregon's Land Use Goal 7, and to maintain or improve our community's resilience against urban conflagrations in the era of climate change. You should consider recent urban fires as new hazard information and act upon them. The lack of specific instructions from state agencies such as DLCD or the Building Codes Division does not relieve you of your responsibility to act in accordance with general objectives of Goal 7 and its attention to newly emergent hazards.

The hazard in question is that of an urban conflagration caused by an East Wind, our regional name for a phenomenon known worldwide as "Foehn Winds". These fires are the result of special weather conditions where high velocity winds flow from the cold interior of a continent toward lower ground with warmer conditions and lower air pressure. Until September 2020's devastating fires in Oregon, many people did not understand that the Pacific Northwest experiences "Santa Ana" type winds (another name for foehn winds), but we do. They were responsible for the first Tillamook Fire and the destruction of the city of Bandon in the 1930's.

Foehn-wind driven wildfires differ from the other wildfires in Oregon that are far more numerous. These fires are of concern to the cities themselves, not simply the countryside and the wildland-urban interface. The prescriptions to mitigate risk are different; it is not a matter of simply clearing vegetation to create a defensible space. The foehn wind fires do not depend on vegetation to spread, they move building to building. The houses ignite and burning embers are lofted into the airflow, to be deposited on downwind buildings near and far. The radiant heat of one building on fire also contributes to the fire spread, by heating its nearby neighbors and preparing them for ignition. The number of buildings on fire simultaneously means than these fires cannot be controlled by Fire Departments, who must focus their efforts on evacuating residents. The risk maps for foehn-wind fires, to the extent that they exist at all, may be very different than for other wildfires that primarily assess vegetation conditions in the wildland-urban interface.

Recent examples of Foehn-wind fires affecting urban areas in the western United States include:

1. Numerous incidents involving Santa Ana and Diablo winds in the state of California. In the 2017 Tubbs Fire, the city of Santa Rosa lost many houses and 22 lives. Urban neighborhoods of newer, closely spaced single family homes were among the over 5000 structures destroyed in that fire.

2. The Marshall fire, December 30, 2021 in Louisville and Superior Colorado. This fire destroyed over 1000 structures, primarily suburban style homes in non-forested areas, in one day.

3. The Almeda fire in Jackson County Oregon, September 8, 2020. This fire destroyed over 3000 structures, many of them closely spaced mobile homes in the cities of Phoenix and Talent.

Are these Foehn Wind fires on the increase because of climate change? They are in California, where Santa Ana and Diablo wind fires have been more numerous and destructive (due to drought conditions) in recent decades.

We don't know yet if East Wind fires in the Pacific Northwest are going to become more numerous due to climate change, or impact low-lying areas such as the Willamette Valley more often. They existed before human-driven climate change and, as mentioned before, some historic fires in the Coast Range as well as the recent fires in the western slopes of the Cascades were driven by Foehn winds.

What we do know is that in general, increasing the height and mass and lot coverage of buildings in the city, without any change to the siding, roofing and other building methods and materials, will increase the danger during an urban conflagration. The middle housing code amendments do exactly that.

I urge you to commission a study of urban foehn wind fires focusing on how the spacing and size of buildings affects their spread and intensity.

Please adopt any changes to the building code that will mitigate the danger of fire spread, such non-flammable roofs and fire-resilient siding materials. Err on the side of caution; post-1964 building code changes for fire safety in some Santa Rosa neighborhoods failed to prevent the loss of homes in the 2017 disaster.

Please adjust the setbacks, mass, and lot coverage of buildings that would be allowed under the middle housing amendments to achieve risk levels no greater than in the current urban landscape.

Thank you for your consideration.
Randy Prince