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Indicators of the Metroscope: Radon

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Indicators of the Metro scape

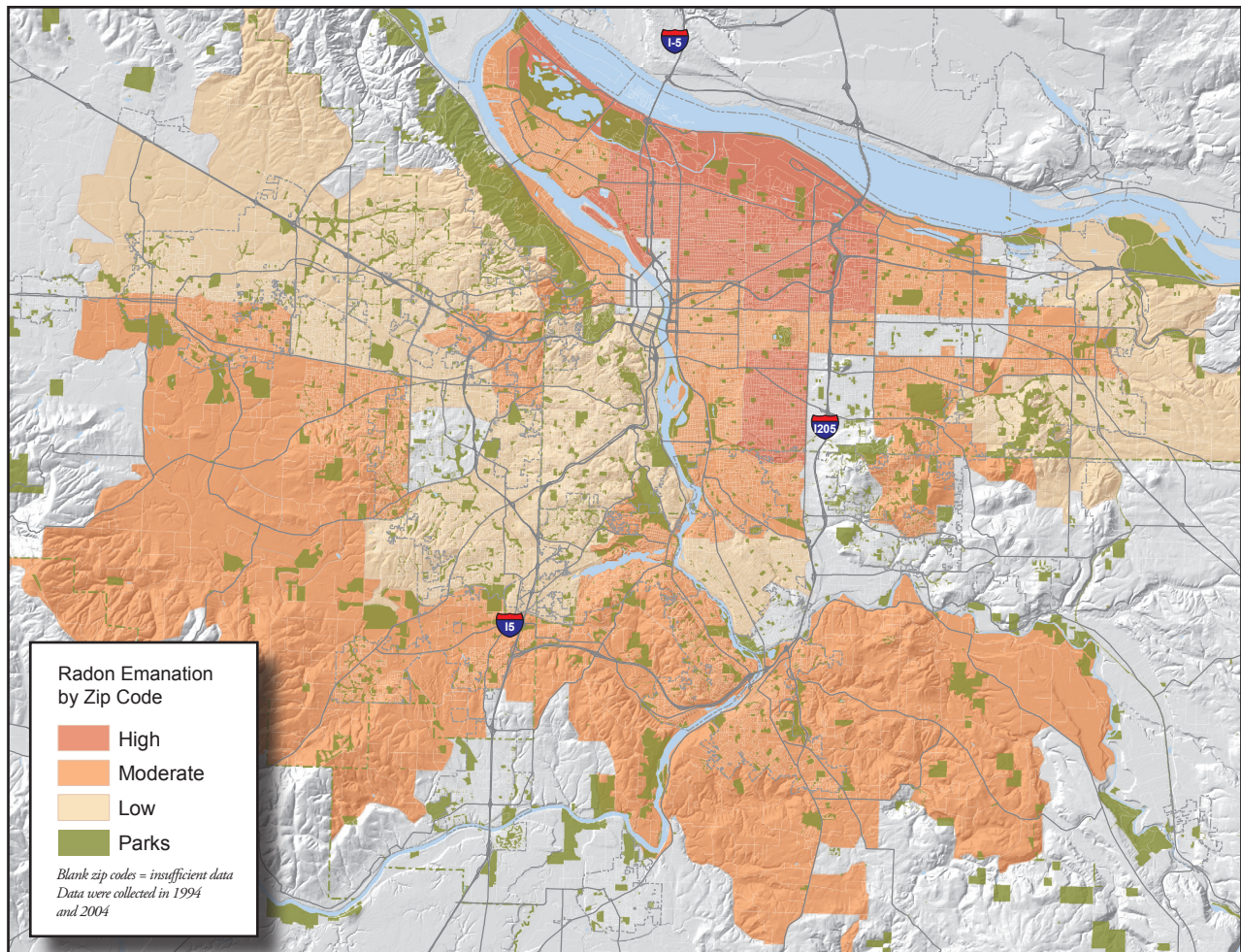
RADON

by Scott Burns

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Radon is a colorless, odorless and tasteless gas that comes out of the ground from the breakdown of uranium. It is naturally occurring in the soil in very small quantities. Concentrations in the soil vary based on different geological origins of the soil, so radon rates going into houses depend upon where the house is sited. The gas leaks through the foundations of the homes and collects in houses. EPA tells us that radon gas is the number two cause of lung cancer in humans behind smoking and that 20% of lung cancer cases are attributable to radon. It is a health hazard. Meanwhile homes and buildings have become more tightly sealed with the advent of energy conservation. This can lead to increased levels of radon in the living space.

Power companies did extensive testing of homes in the 1980's to determine levels of radon. My students and I analyzed the Portland data in 1994 from over 1100 homes and then again updated their research in 2004 with information from another 600 homes. The map below shows the updated areas where radon emanation is high (dark red), medium (medium red) and low (tan) in the Portland area. Most of the Portland area rates low in radon potential because the common bedrock is basalt which is low in uranium. The high areas are where houses are on Missoula Flood sediments. They had their ultimate origins from granite bedrock that is traditionally high in uranium, and in Portland these soils are very permeable allowing the radon gases to flow easily into basements.



Source: Portland State University