# Mapping Vulnerability to Becoming Homeless

## Composite Risk Index by Census Tract For the Greater Portland Area

### By: Jen Litteral

Despite Portland's liberal politics, the city has a serious homeless problem that is highly visible and impossible to ignore. The general opinion across multiple literature sources seems to be that there are a multitude of things that are likely to contribute to (but not necessarily cause) homelessness. These risk factors include, but are not limited to the following: mental illness, drug / alcohol addiction, living in poverty, lack of education, being unemployed, experiencing physical and/or sexual abuse, having a turbulent home life, getting in trouble with the law, being unable to find affordable housing, being a single mother, not having strong social ties, being of a race or within an age range found to experience homelessness more frequently, and, last but not least, having already been homelessness in the past.

Some of these variables can be mapped more easily than others, mainly due to data availability, or, more specifically, a lack thereof. For example, it is easy to map poverty levels, but not so easy to map the number of people with mental illnesses. It would be very helpful to be able to see on map whether there are particular areas where a disproportionate number of our homeless population were living *prior to* becoming homeless, so that preventative measures could be directly focused on these areas.

Unfortunately, such detailed data on homeless individuals is seriously lacking. What little there is comes from what shelter and health personnel learn about the people using their services, and would be difficult to use for GIS analysis. Therefore, the purpose of this analysis was to locate "hot spots" where combined levels of certain risk factors for homelessness were found to be very high. It would be interesting to perform future comparisons using data on where homeless people were living before, should it become available.
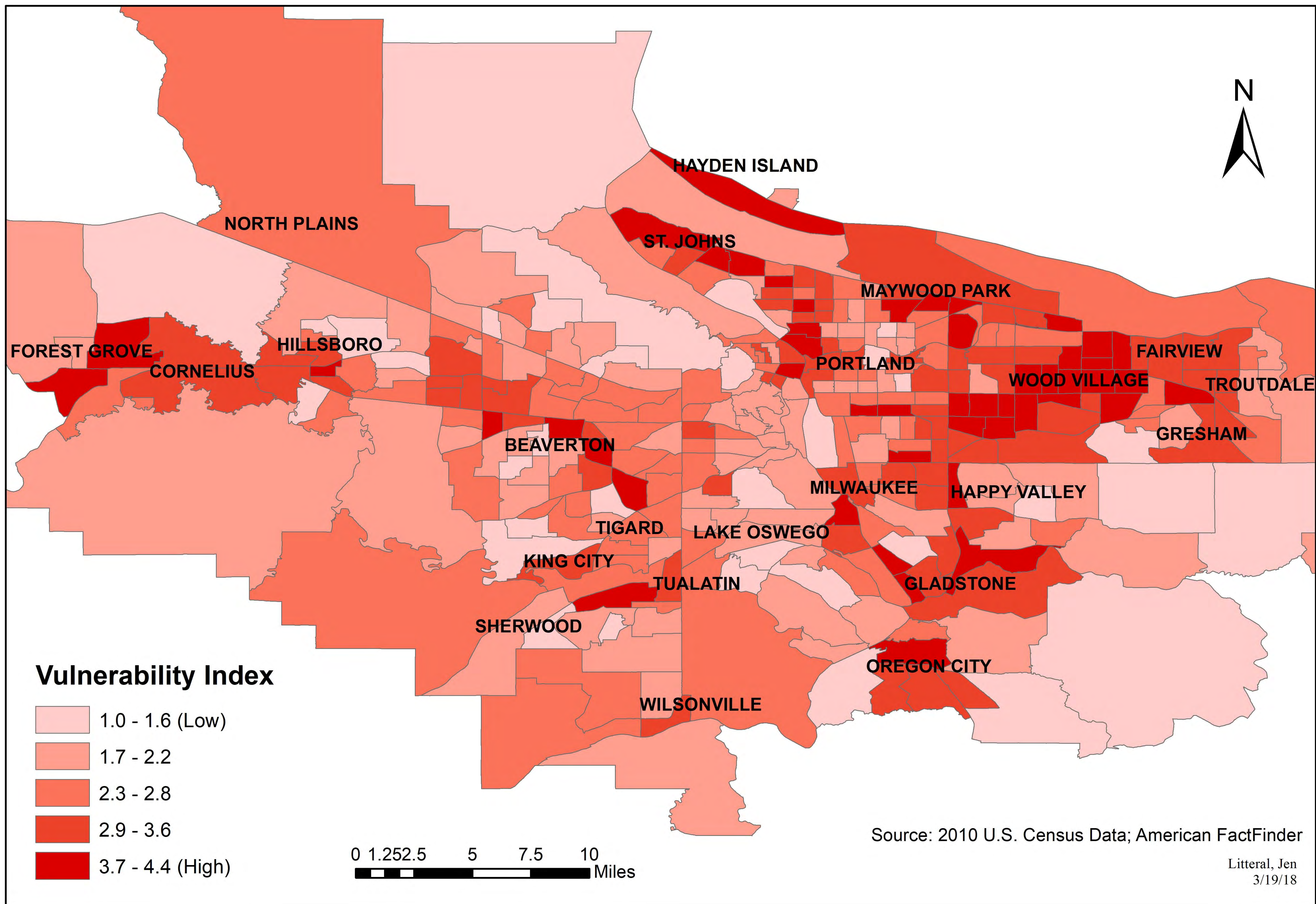
For this analysis, the focus was limited to five very broad risk factors, for which census tract level GIS data was readily available through the U.S. Census and American FactFinder. Any one of these factors, let alone their combination, could make finding affordable housing difficult to impossible, especially in cities with unforgiving housing markets such as Portland:

1. Being unemployed
2. Living in poverty
3. Paying too much rent relative to total income
4. Being a high school dropout
5. Being a single mother

Each of these attributes was available through census data, and was classified into fifths using the Jenks method, then ranked from best (1) to worst (5). They were then assigned equal weights (20% each) in a weighted overlay analysis. The decision to weigh variables equally was based upon the inability to locate enough conclusive literature which assigned importance to any one factor over the others, probably because the root causes of homelessness seem to vary.

Of the 332 census tracts within or partially within the metro limits, 49 of them were found to be highest on the vulnerability index. This analysis could be expanded upon in the future to include other datasets such as age, race etc. should one wish to do so. This analysis in no way states that residents of these census tracts are going to become homeless. Only that these tracts contain disproportionate numbers of people who may be more vulnerable to being unable to maintain their housing situation in the event of a major life crisis.

## Homelessness Vulnerability Index By Census Tract

Resources:

American Psychological Association: *Psychosocial Factors and Homelessness* http://www.apa.org/pi/ses/resources/publications/homelessness-factors.aspx
Oregon Live. 1/17/15. *Our Homeless Crisis* http://www.oregonlive.com/portland-homeless/
Grant et. Al. American Journal of Public Health. 12/1/13. *Twenty-Five Years of Child and Family Homelessness: Where Are We Now?*
Datasets: 2010 U.S. Census and American FactFinder American Community Survey 5-Yr Estimates:
2010 Census demographic data attached to TIGER file: DP013009 (single mother households) – normalized by total family households to obtain %
FactFinder: B25070 (rent-as % of income), S1702 (poverty level %), S1501 (% high school dropouts), S2301 (unemployment %)