

# NOISE POLLUTION IN THE URBAN ENVIRONMENT

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BROADCAST

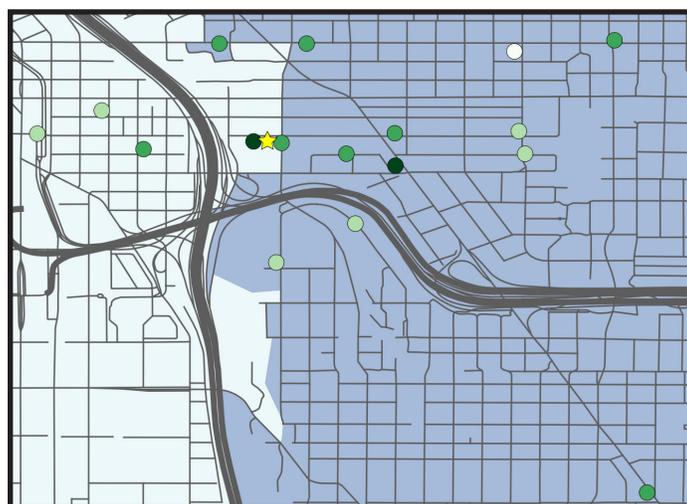
Geographic Information Systems (GIS) and mapping tools are becoming increasingly common tools in the health field. Maps are powerful, especially in research, but the tools and training to complete mapping projects are expensive. Last year, the Urban Indian Health Institute (UIHI) completed a pilot study using low-cost GIS options to determine if they were feasible for use at Urban Indian Health Organizations (UIHOs), whose capacities for research and training, as well as discretionary budgets, are generally limited.

The UIHI chose to study noise pollution in the neighborhood of the Seattle Indian Health Board (SIHB) because of the detrimental effects of excess noise in the environment,<sup>1</sup> and the ease of data collection using portable devices. SIHB staff served as participants

and were trained to collect data using an iPad and two apps. The apps, Decibel 10th and GISPro, were used to record sound levels and input geographic data, respectively. Project staff from the UIHI combined all collected data and created a map using the free desktop software QGIS (Figure 1). Based on participant feedback surveys, the UIHI concluded that these programs and the workflow are feasible for UIHOs who are interested in undertaking their own GIS project. Read the [project brief](#) for more information. The UIHI is available to provide technical assistance to UIHOs interested in conducting their own GIS studies.



**Figure 1: Average decibel\* reading at each data collection site and per capita income of zip codes**



- 55.23 - 55.23
- 55.23 - 63.91
- 63.91 - 70.58
- 70.58 - 74.73
- ★ Seattle Indian Health Board
- \$0 - \$31,169
- \$31,169 - \$42,914

#### References

1. Noise Pollution. (2012). Retrieved August 11, 2014, from <http://www.epa.gov/air/noise.html>.
2. How do we measure sound waves? (n.d.). Retrieved August 20, 2014, from <http://www.dangerousdecibels.org/virtualexhibit/6measuringsound.html>.

\* Decibel range corresponds to typical speech (low) and a washing machine (high)<sup>2</sup>