Can Seattle avoid Bay Area problems? Researchers using data to predict how neighborhoods will evolve

by Monica Nickelsburg on   August 19, 2017 at 9:00 am

(From Left) DSSG Fellow Jacob Rich, Assistant Professor Rachel Berney, Data Scientist Bernease Herman, Fellow Hillary Dawkins, and Associate Professor Gundula Proksch worked together to build the Equity Modeler. Data Scientist Amanda Tan and Fellow Yahui Ma who also worked on the project are not pictured. (University of Washington Photo)

Seattle is experiencing unrelenting population growth, driven largely by its booming technology industry. If policymakers are to avoid some of the problems that San Francisco is experiencing due to its own tech boom, they will need to make data-driven decisions.

A team of researchers at the University of Washington want to make it easier for Seattle to do just that. They are developing a tool to analyze Seattle neighborhoods to investigate gentrification and access to opportunity as part of the Data Science for Social Good (DSSG) initiative. They presented their Equity Modeler during an event at the UW on Thursday.

"Our goals are to better understand the distribution of resources across the city, the process that leads to the growing inequity in the city, and also to speculate about ways to move toward a more equitable future," DSSG fellow Yahui Ma said during the presentation.
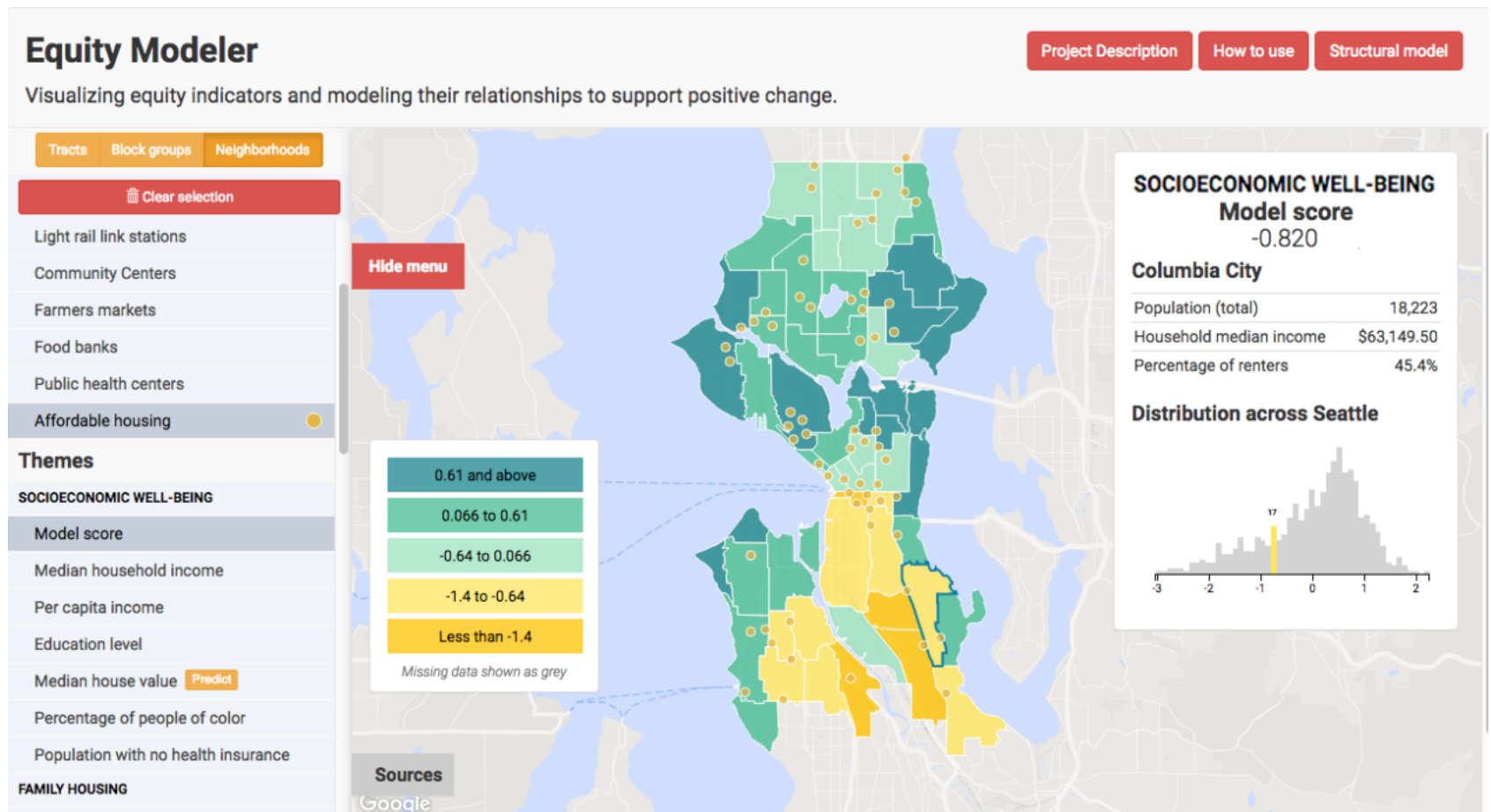

Dawkins, Ma, and Rich present their Equity Modeler at the UW. (GeekWire Photo / Monica Nickelsburg)

The tool uses U.S. Census data, regional statistics, and manually gathered information to display each neighborhood's well-being and opportunity visually on a map. It includes factors like school well-being, connectivity,

transportation and mobility infrastructure, family-friendly housing, and public health. The team is also building a prediction feature that gauges the likelihood of those factors increasing or decreasing if the neighborhood's median home value changes.

"We believe that this will be a very valuable tool within the larger tool," said DSSG fellow Jacob Rich.

The Equitable Futures team used its prototype tool to create this image of Seattle's economic well–being score mapped by affordable housing locations. (UW DSSG image).

The team believes the Equity Modeler can help lawmakers and stakeholders better analyze and predict potential changes the city could undergo. The project is still in the prototype phase and researchers plan to conduct additional testing and build more statistical analysis features into the tool.

The DSSG program pairs UW graduate students with other data and domain scientists to build products that benefit society using data. The program is a collaboration with the UW's eScience Institute, Urban@UW, and Microsoft.

More information about the Equity Modeler and other projects in the DSSG program is available here.