RE370/GEOG495: Affordable Housing Project

Alasdair Watson, Ben Lucking, Bryce Fausset, Jean Areecharoenlert, Jina Wang Huang

Project Description

We're currently working with Square Peg Development to help them find a suitable location for new construction of affordable housing in the greater Seattle region. Square Peg Development is a for-profit company with goals of creating affordable housing for people. The intent is to find land within our study area, defined by Square Peg Development, that would be ideal for new construction projects.

Methods and Procedures

Our procedure so far has involved using ArcGIS Pro to help us construct the suitability model for this affordable housing project. We talked with Square Peg Development to find out more about what they are looking for, and narrowed down criteria which we then operationalized into variables. We used sources such as the American Community Survey, Simply Analytics and King County GIS to gather our data.

Next we will build our suitability model to narrow down potential areas based on our variables.

Desired Results

Our desired results are to find the best suitable area to construct an affordable housing project for Square Peg Development. We will use all of the variables that are shown on this poster to determine which locations are most suitable. Then, the suitability model constructed through ArcGIS Pro will help us rank about ten locations for Square Peg Development to consider for new construction projects. We will then present these sites to Square Peg Development and they will decide which site would work best for their new affordable housing construction project.

Variables

Median Gross Rent
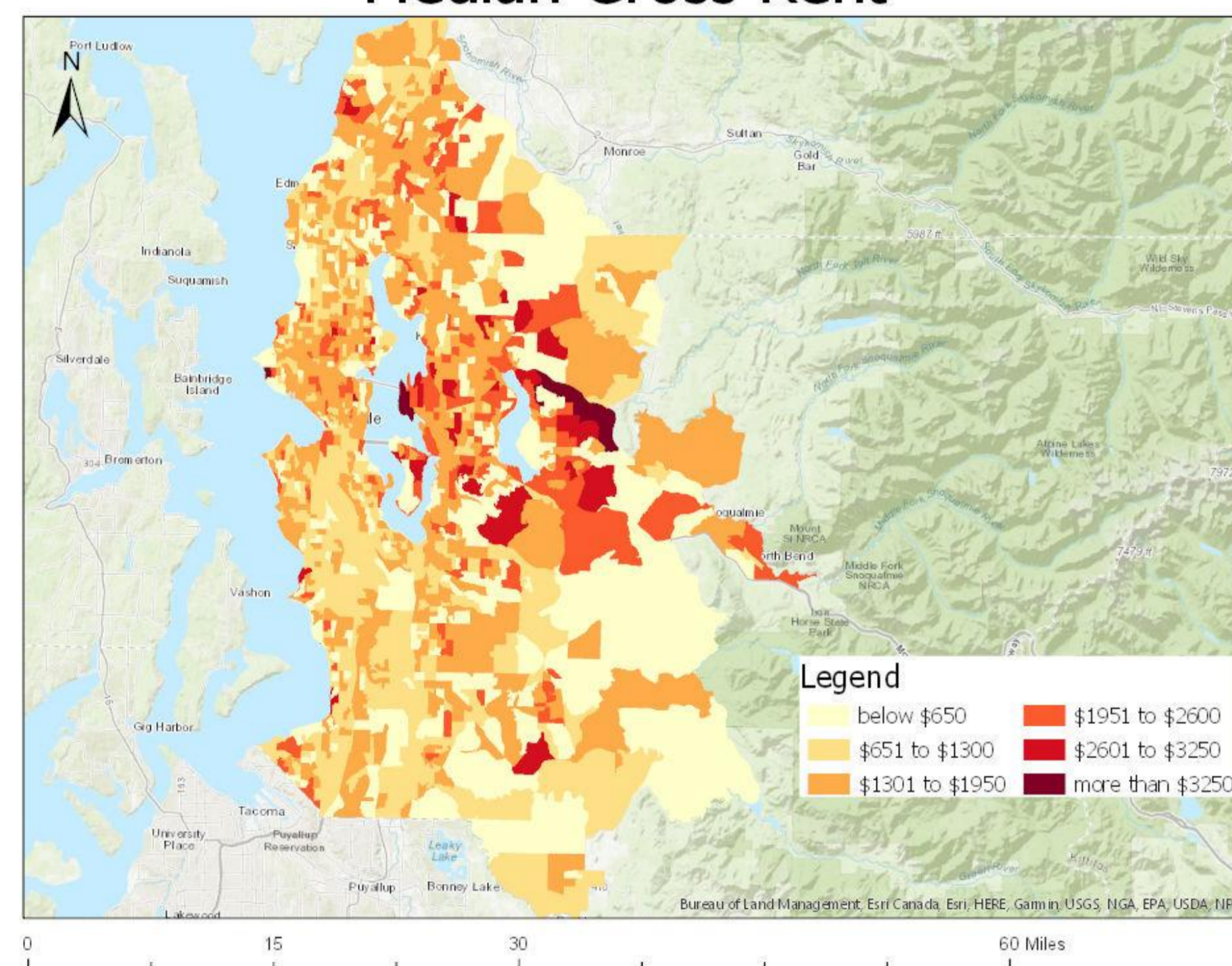
MEDIAN GROSS RENT

This variable measures the median gross rent, or the total expenses that goes toward paying the rent and the monthly utility fees. Median gross rent helps a developer calculate the expected returns from constructing a new project on the land. Since this project will include market rate units to help subsidize the affordable units, knowing median rent is crucial for site selection.

Source: American Community Survey 2013-2017

Percentage of Housing Cost Burden
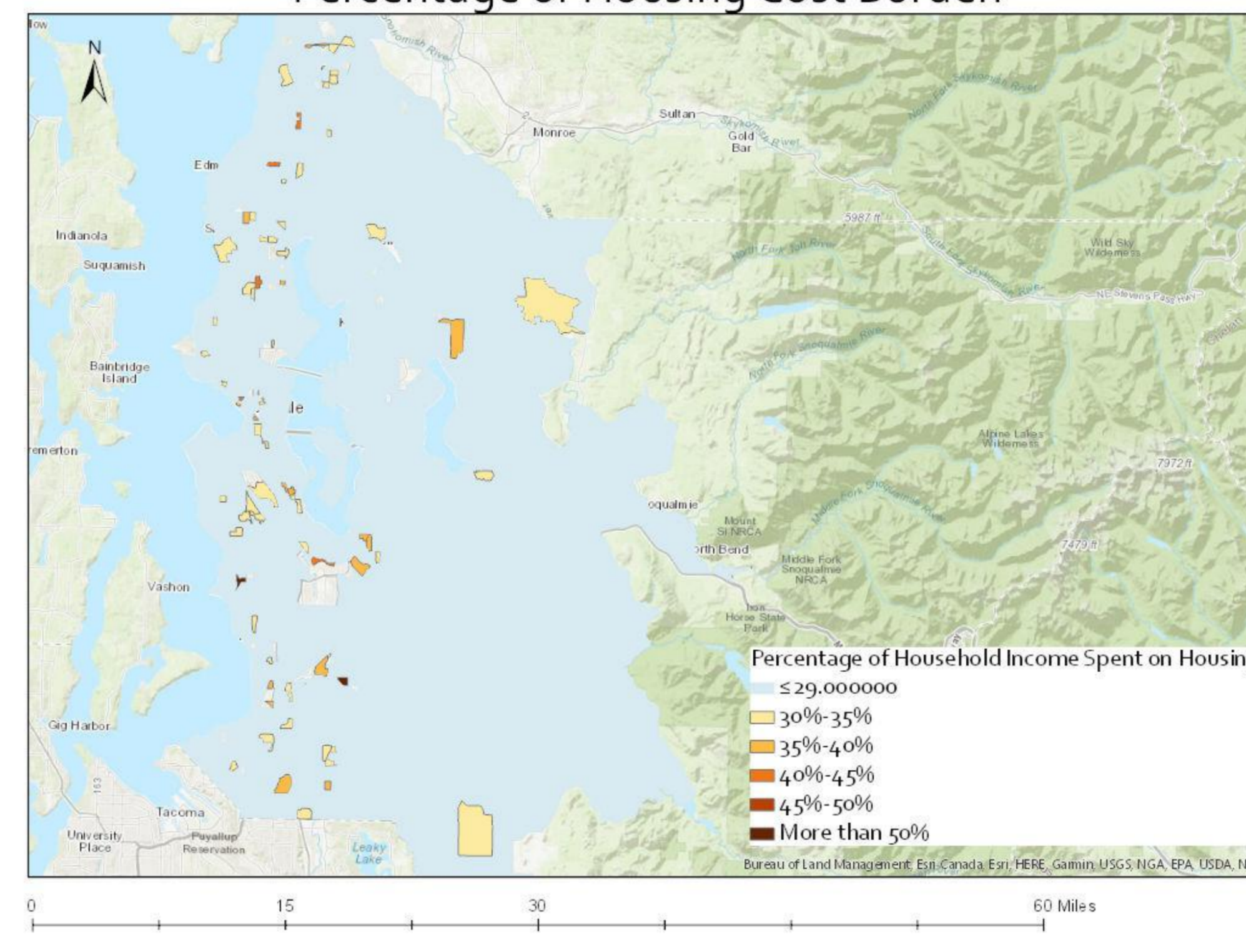
MEDIAN COST BURDEN

"Cost burden" is the percentage of a household's income that is spent on housing. In US government policy and academic literature, 30% is the most common maximum on what's considered "affordable". If a household spends more than 30% of their income on housing, it's considered unaffordable. Square Peg Development said they wanted to build affordable housing in an area that needed affordable housing. This map shows the median cost burden of each block group, which can help Square Peg Development pin down which areas they would want to build in based on how much affordable housing is needed.

Median Income (per household)
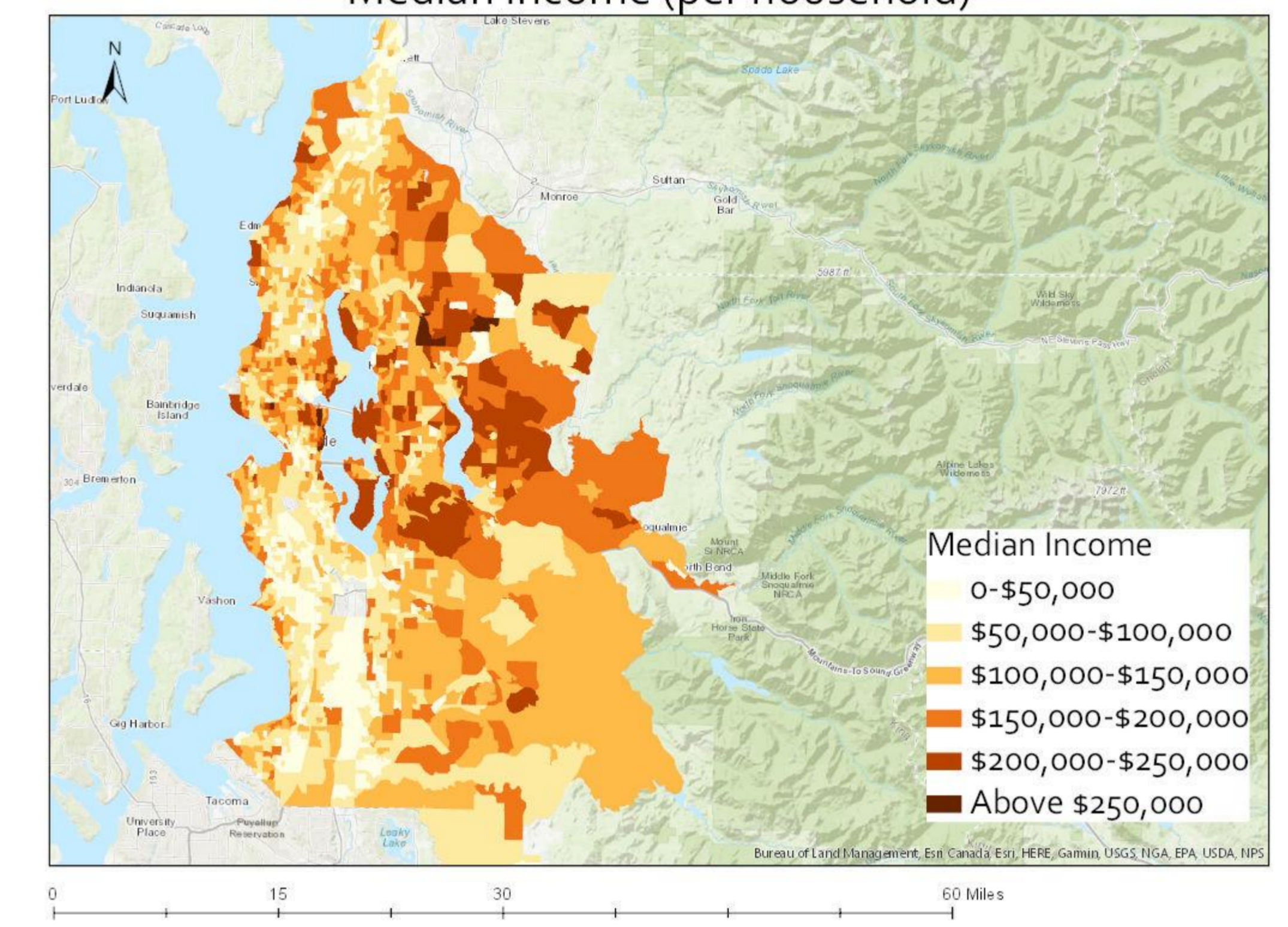
MEDIAN HOUSEHOLD INCOME

One of the top criteria given to us was finding cheap land. We're using median household income to help estimate which areas have the highest potential of having cheap land. Usually, there is high correlation between an area's average income and it's average land value.

Source: American Community Survey 2013-2017

Opportunity Zones
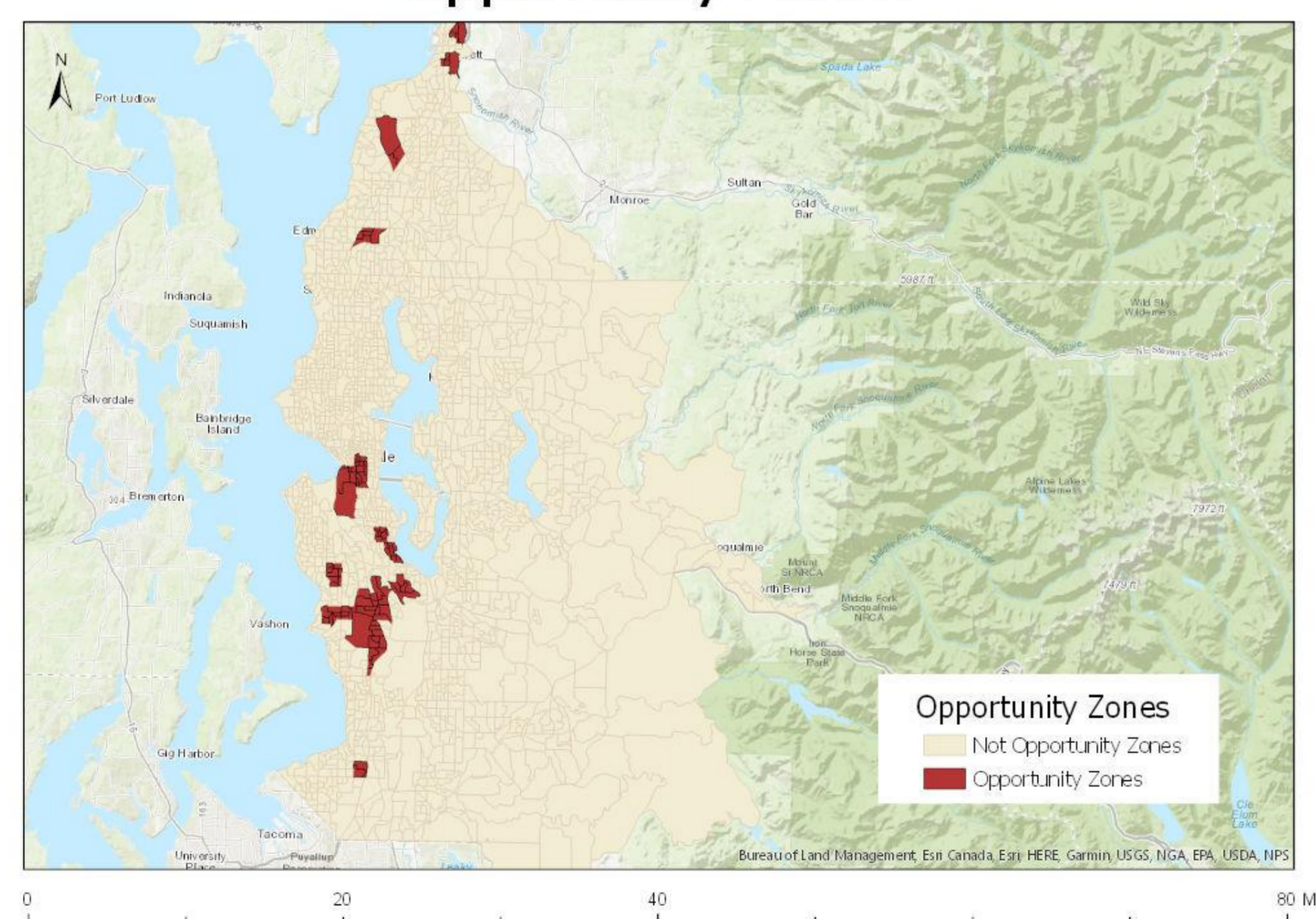
OPPORTUNITY ZONES

Opportunity Zones are areas where businesses are encouraged to develop through a federal tax incentive for building there. Square Peg Development expressed an interest in potentially building in these zones to receive the tax incentive.
Source: https://www.commerce.wa.gov/growing-the-economy/opportunity-zones/

### Number of Bus Stops in Block Groups
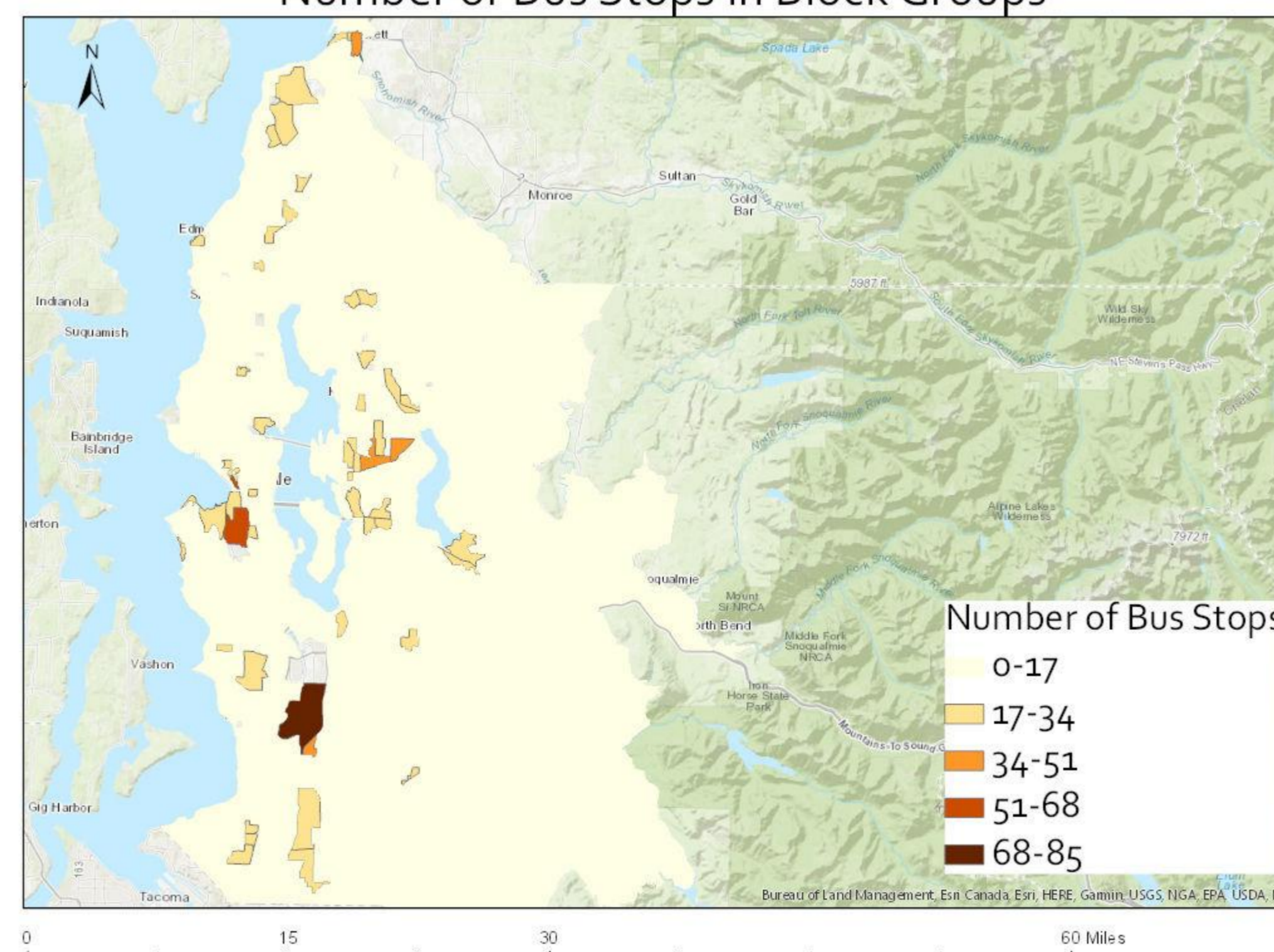
TRANSIT

As identified by the owner of Square Peg Development, her new project requires that new residents in these affordable housing areas have access to public transportation. This map shows how many transit stops are in each block group. Areas that have access to more transit stops will be ranked higher on the suitability scale in our project.

Source: King County GIS Data

Total Crime Index in 2018
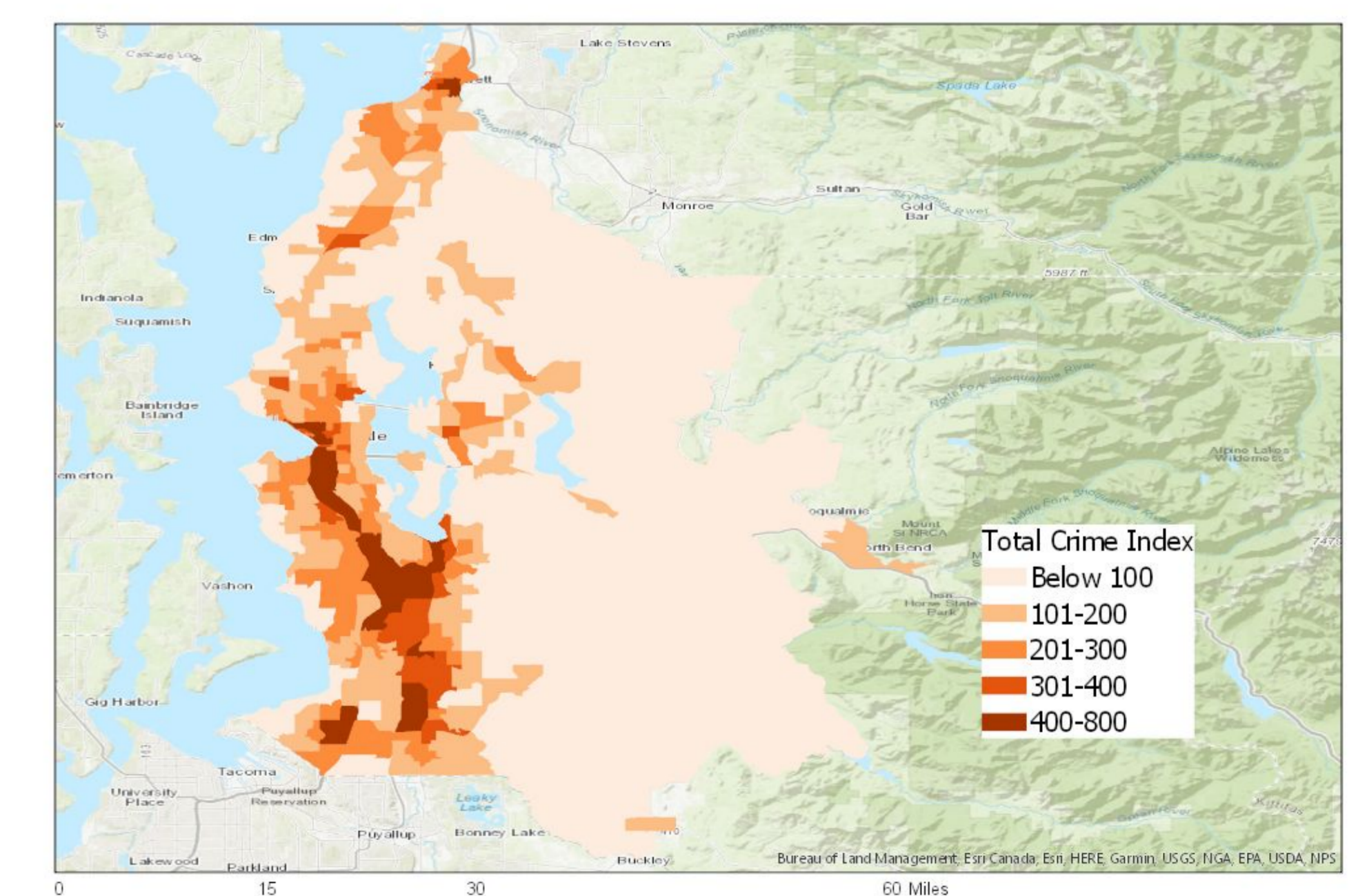
TOTAL CRIME INDEX

We looked at Community Analyst's Total Crime Index for 2018 to get a sense of the overall crime levels in each area. Index values of 100 and below are at or below average. To secure financing, developers sometimes try to avoid high crime areas.

Source: Community Analyst 2018