

Predicting Gentrification: Seattle-Tacoma Metro Region

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Purpose/Objective:

The goal of this project is to pinpoint sites of future gentrification in the Seattle-Tacoma metropolitan region (see Fig. 1 & 2). The term gentrification refers to the socio-cultural displacement that occurs as a result of the influx of wealthier people into low income and working class communities. A combination of factors such as low property values, proximity to cultural and natural attractions, walkability, and historic buildings can spur gentrification. The purpose is to determine which areas in this region are likely to be affected by gentrification in the future in order to plan for potential negative consequences for the original inhabitants (e.g. low-income displacement, decreasing racial heterogeneity). The objective of the analysis is to identify individual parcels, as well as clusters of parcels, that may undergo gentrification in the future. The hypothesis is that high risk of gentrification parcel clusters are located in inner-city neighborhoods.

Methods:

Factors that contribute to gentrification were identified in Pierce and King tax parcel attributes. The attributes selected from Pierce and King parcels were: year built, taxable value, land use, and property type. The year built attribute was used to select out all King and Pierce parcels built pre 1960, which were designated as historic. Once the parcels were narrowed to historic parcels, areas with high densities of historic parcels were identified using the Point Density tool in ArcMap's Spatial Analyst tools. The results were classified according to high and low densities; the clusters with high densities of historic parcels were isolated and designated as historic districts. Parcels that fell within these districts were selected out using Select by Location. Views were also considered for this study. Using Viewshed Analysis, Pierce and King elevation data (USGS) and points along the waterfront (major lakes and the Puget Sound) were utilized in order to identify parcels with views of the water. Then the historic parcels were narrowed by selecting all parcels that intersect the view zones. The output was historic parcels with views. Another process in this study is service area analyses for parks, museums, and farmers markets, three major points of interest.

Methods cont.:

These factors are considered demand side influences, which increase the desirability of neighborhoods. Walking distance service areas were run on King and Pierce historic parcels with views in relation to the points of interest, which were geocoded using addresses. The following service areas were run: five minutes walking distance to parks, ten minutes walking distance to museums, and fifteen minutes walking distance to farmers markets. Because many service areas overlapped, those with the most overlap were given higher magnitude than those with less overlap. Finally, all three service areas were spatially joined to Pierce and King historic parcels with views within high poverty rate areas, by matching the service areas to the closest parcels. This output included the following gentrification factors: taxable value and walkability (determined by combining points of interest service areas). Classified values of taxable value and walkability were indexed by assigning values 1-5 (e.g. 1 = high taxable value, 1 = low walkability). A total index was determined by adding the two factors together. This value was used as the Z value (height) for the gentrifiable parcels (see Fig. 1 & 2).

Results:

The final parcel count for Pierce came to 3,041 out of the original 302,082, while King's final parcels came to 17,388 out of the original 590,819. The final parcels were significantly narrowed from the original counts. The parcels are located within primarily urban areas in the Seattle-Tacoma metro region. This result was expected because the variables considered (e.g. historic parcels & farmers markets) are primarily located in urbanized areas. The most significant clusters of gentrifiable parcels are located in Seattle and Tacoma. These clusters yielded the most points on the high end of the gentrification index. (see Fig. 3 & 4).



Fig. 1 (top) locator map for King parcels with gentrification risk

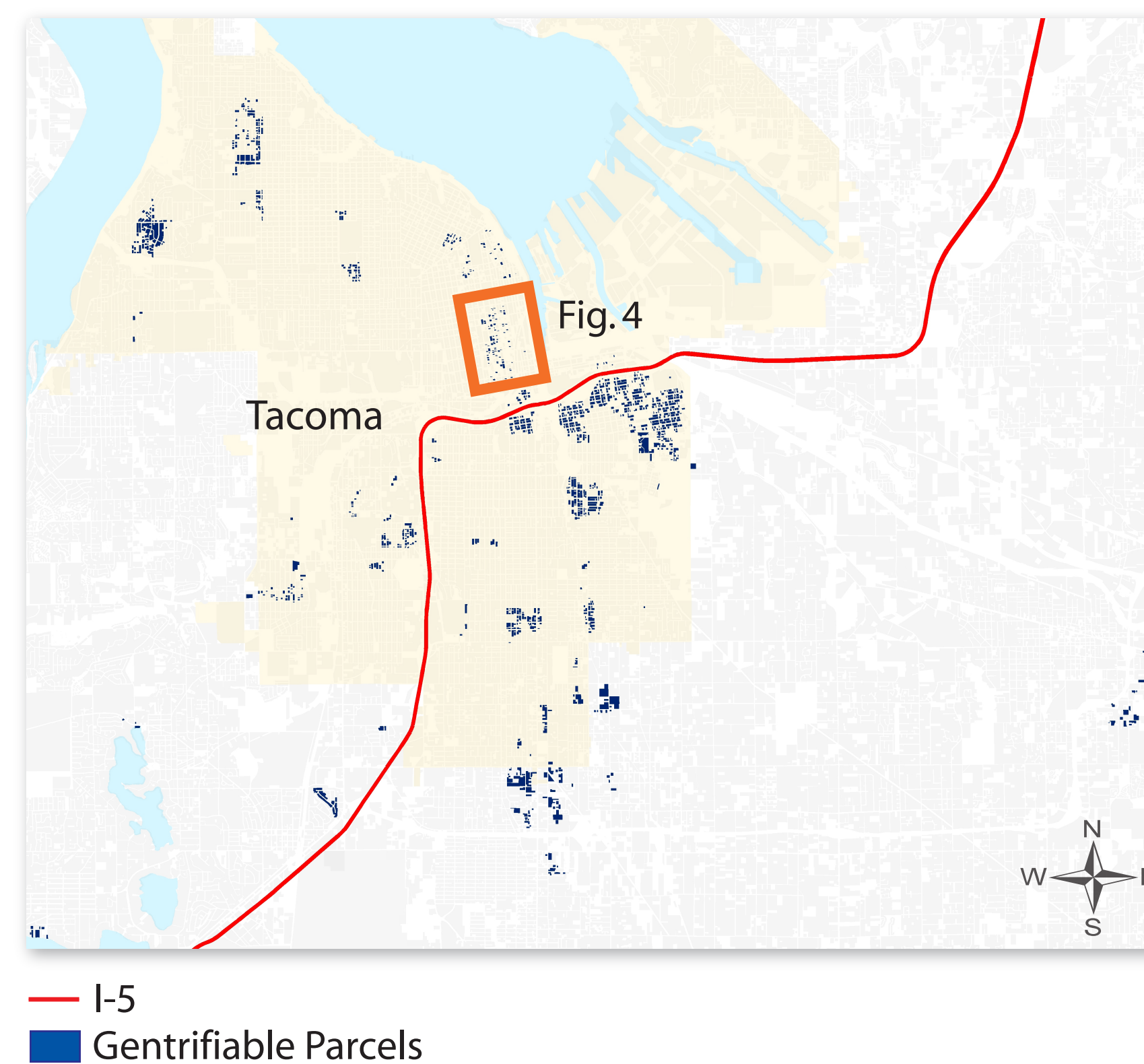


Fig. 2 (top) locator map for Pierce parcels with gentrification risk

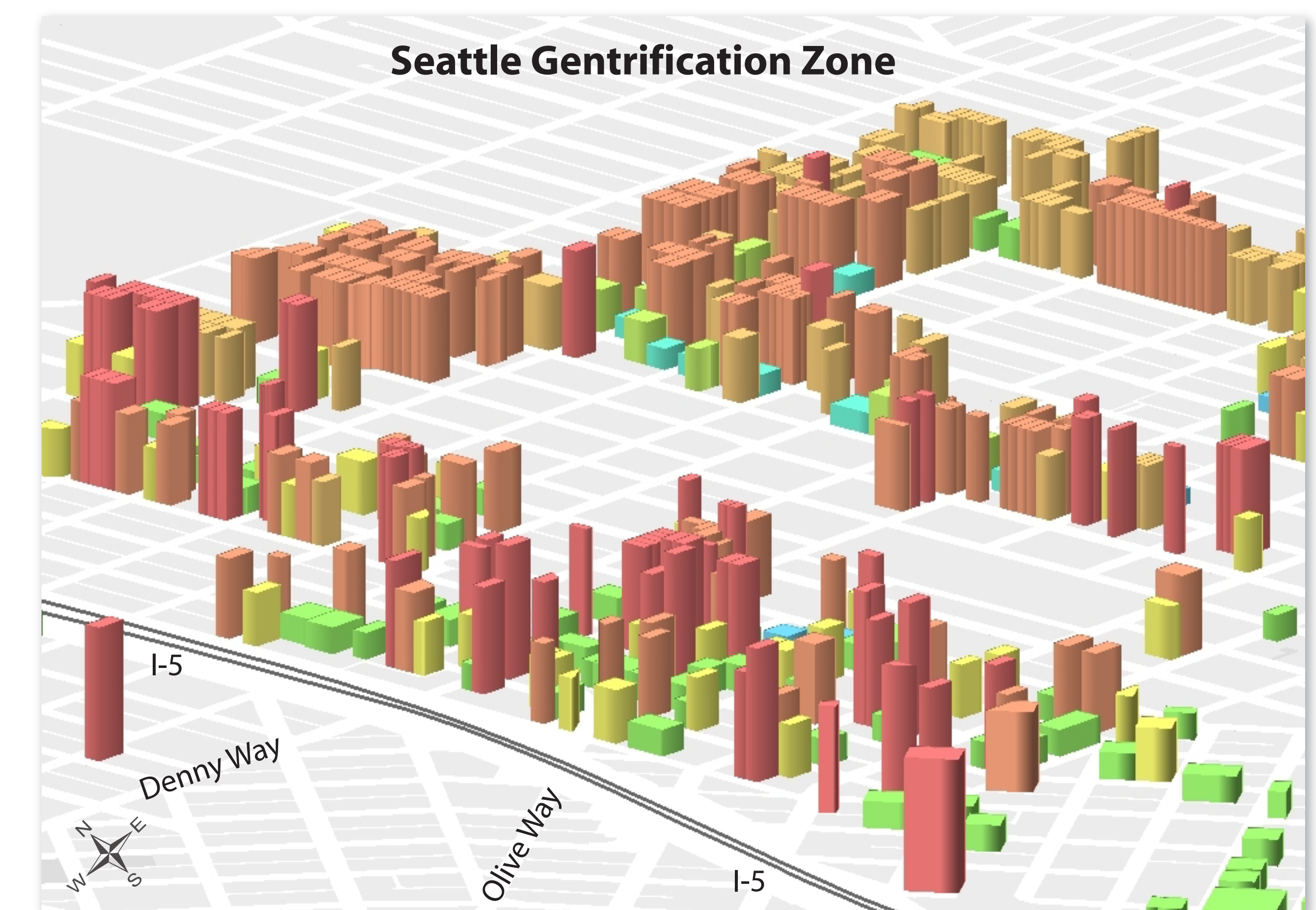


Fig. 3 (right) Capitol Hill neighborhood housing & apartment parcels extruded by gentrification index

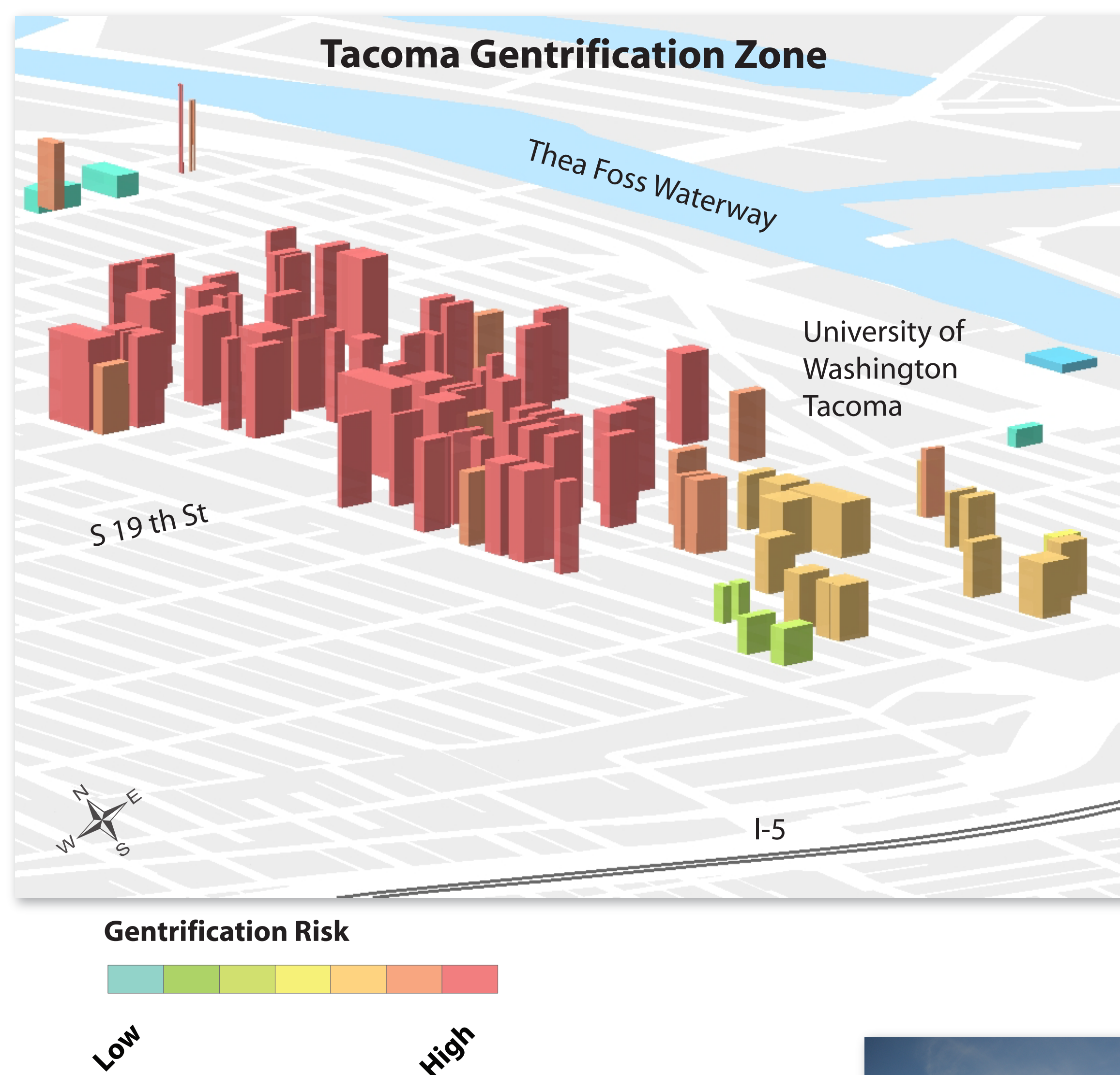


Fig. 4 (left) Hilltop neighborhood housing & apartment parcels extruded by gentrification index



Fig. 5 (right & left) residential parcels in Tacoma's Hilltop neighborhood



Fig. 6 (left) apartment parcel in Seattle's Central Area neighborhood

Key Literature:

Ley, D. (1986). Alternative Explanations for Inner-City Gentrification: A Canadian Assessment. *Annals of the Association of American Geographers*, 76(4), 521-535

Zukin, S. (1987). Gentrification: Culture and Capital in the Urban Core. *Annual Review of Sociology*, 13, 129-147

Projection: NAD_1983_UTM_Zone_10N

Data Sources: WAGDA, U.S. Census, USGS

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