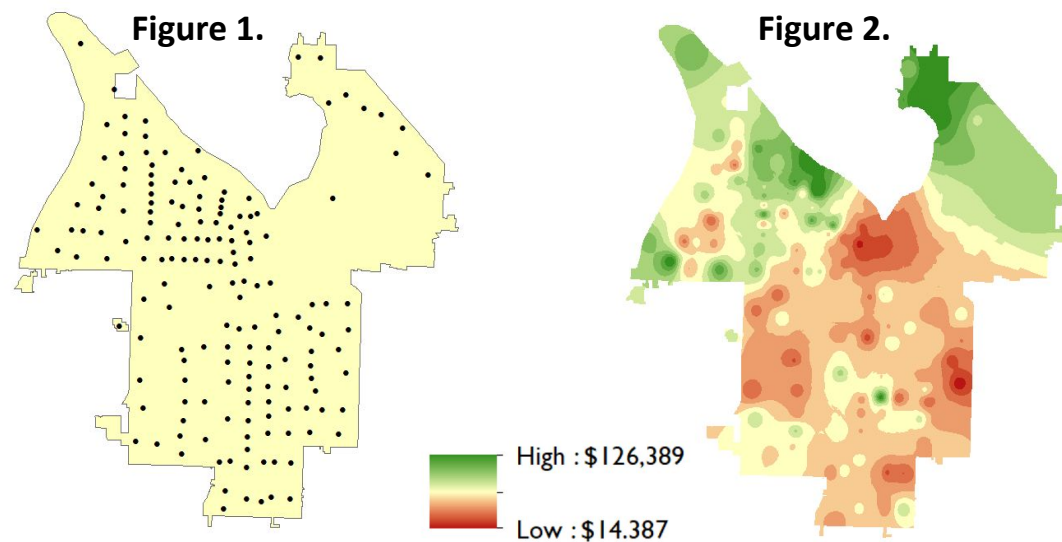# Three Dimensional Spatial Analysis of Incomes Across Tacoma, WA

## Introduction

Using American Community Survey and U.S. Census data, we analyzed incomes across the City of Tacoma. By coupling the ACS demographic data pertaining to incomes with Census Block data, we visualized income discrepancies throughout Tacoma's landscape.

## Methods

**Figure 1.**

**Figure 2.**



High : $126,389
Low : $14.387

Using American Fact Finder, we retrieved median income data for block groups in Tacoma, WA. Block group features were then converted to points (fig. 1.) Using the Inverse Distance Weighting interpolation method, we created a raster representing a continuous surface of median income across Tacoma (fig. 2.) The raster was then classified using the ½ standard deviation method and symbolized using a red green gradient.

Within ArcScene, the median income raster was added to the scene. The base height was set to float on the Median income raster. Raster resolution, base surface cell size and vertical exaggeration were all adjusted to produce the final 3D image.

## Results

Our analysis shows that their are stark income variations amongst different neighborhoods. Low incomes are concentrated in South and Central Tacoma. While West, North, and Northeast Tacoma have significantly higher income concentrations.
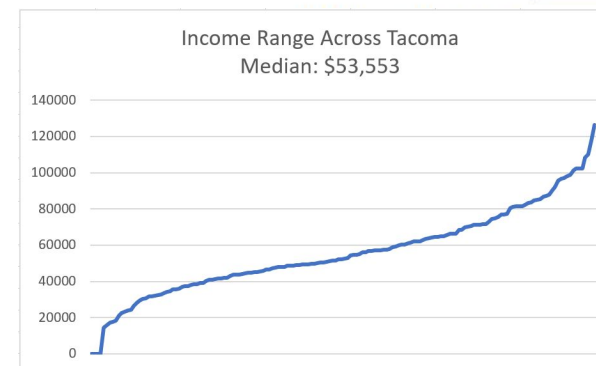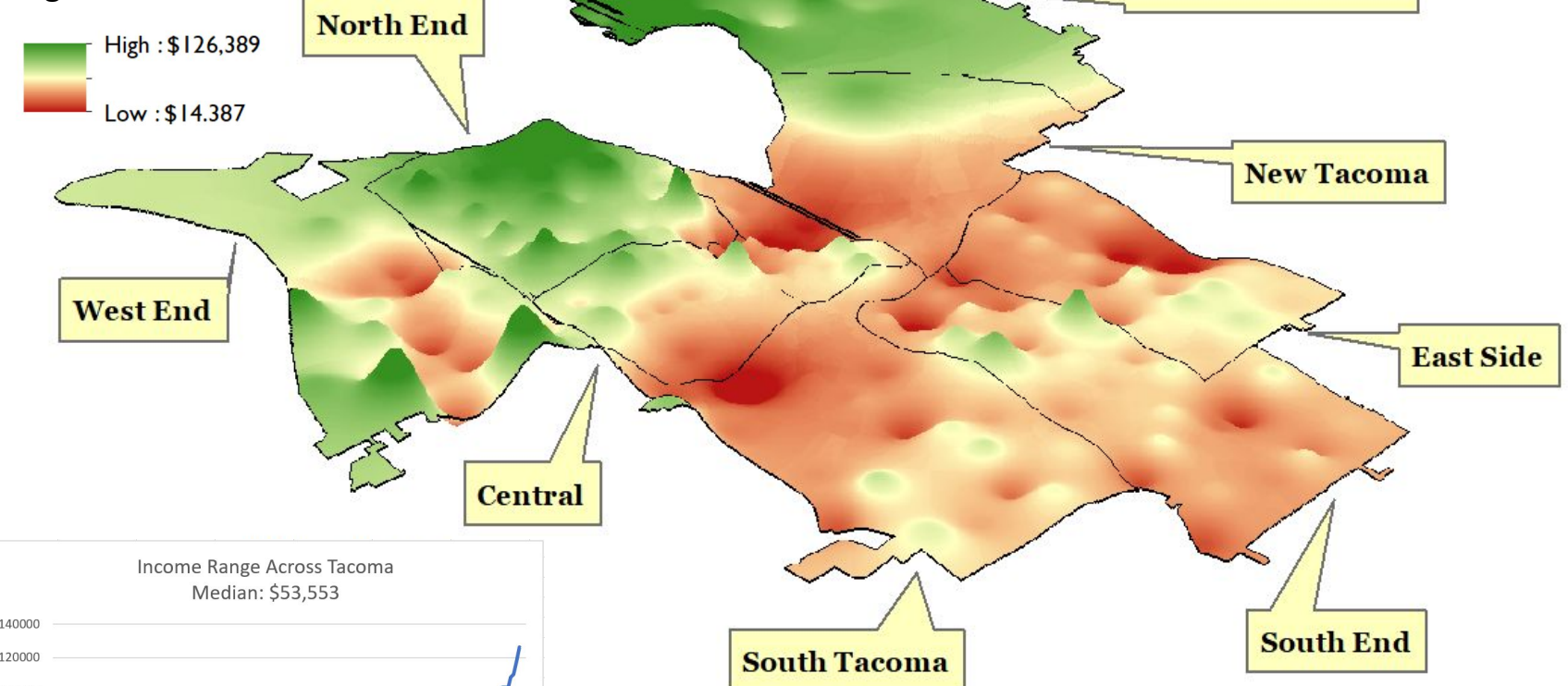
**Figure 3.**



High : $126,389
Low : $14.387

Northeast Tacoma
North End
New Tacoma
West End
East Side
Central
South Tacoma
South End



Income Range Across Tacoma
Median: $53,553

**Figure 4.**

**Figure 5. Central & South Tacoma**



## Conclusion

3D visualization of median income across the city of Tacoma reveals the variance in incomes across Tacoma. From figure 3. we can see that the neighborhoods with the lowest median income are concentrated in South Tacoma, the South End neighborhood, the East Side neighborhood and New Tacoma. Incomes seem to range from one extreme to another depending on geography. North Tacoma is host to much higher median incomes when compared to South Tacoma.