

To: Barry Waite and Bonnie Shrewsbury, PPD 631
Subject: Housing affordability in Los Angeles
Prepared by: Scott M. Chung
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INTRODUCTION

The recent report which was released by real estate website Zillow show that Los Angeles has the least affordable housing market among all metropolitans fueled by stagnant wages and a real estate market that favored the wealthy. The report also shows that Los Angeles has the greatest increase in the percentage of income spent on housing expenses as known as “cost burden”, during the last decade among major cities in the U.S. For the last two decades, housing prices in Los Angeles have increased four times faster than median household income. In the following analysis, the housing affordability will presented by different districts in the City of Los Angeles. The housing affordability will be measured in the percentage of average monthly median household income divided by average monthly rent costs. The need for affordable housings in Los Angeles is greater than ever before. The real question is not whether Los Angeles needs to develop more affordable housing, but how we can efficiently approach the housing market problem. In our analysis of housing affordability in Los Angeles, the main objectivity is to identify the specific areas (districts) within the City for potential development of affordable housing with the limited resources available to the City. We chose the City districts to identify geographic areas to develop an affordable housing since the most major real estate development projects has to be approved at the City’s district level initially.

DATA ANALYSIS

Data Selection:

- The Census Tracts 2010 Los Angeles County
- The Census Tracts 2012 Los Angeles City Council Districts

- The World Street Maps, Base map
- 2010 Census Data Table in Excel: ACS_10_5YR_B25008: TOTAL POPULATION IN OCCUPIED HOUSING UNITS BY TENURE, Total population in occupied housing units
- 2010 Census Data Table in Excel: ACS_10_5YR_B25064: MEDIAN GROSS RENT (DOLLARS), Renter-occupied housing units paying cash rent
- 2010 Census Data Table in Excel: ACS_10_5YR_B19013: MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2010 INFLATION-ADJUSTED DOLLARS), Households

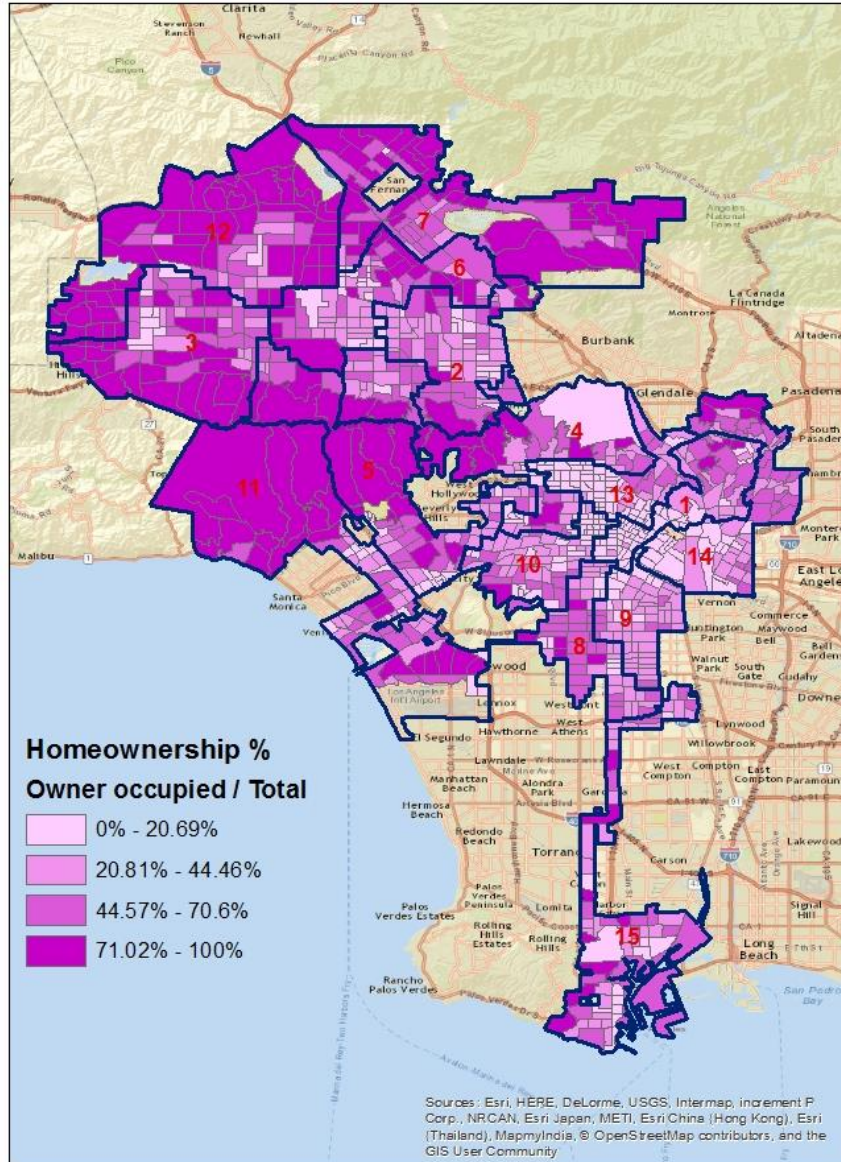
Data Processing:

The main map layer was created from Shapefile obtained through 2010 TIGER/Line Shapefiles for The Census Tracts 2010 Los Angeles County. The Census data was obtained directly from the U.S. Census Bureau website, <http://factfinder.census.gov>. The obtained data such as total population in occupied housing units, Median Gross Rent (MGR), and Median Household Income (MHI) and annual figure adjusted by inflation were based on 2006-2010 American Community Survey. First, data sets were clipped so that the scope for our analysis are limited to the Los Angeles City, not the entire Los Angeles County. Using the Joins and relate features, the above mentioned data sets were added into the existing county map by matching the geocode IDs. Once we imported the data into the geodatabase steps and it was completed, we opened up the attribute tables to verify all data attributes were successfully imported. We wanted to make sure all the key figures data, such as, occupancy rates, median gross rent, and median gross income were recognized as values in the attribute table. In doing so, we converted text data into value data using 'Field Calculator', 'ABS ()' command, and 'Number' type. The median gross rent was based on monthly figures, whereas median household income was annual figures. We created an additional attribute column as monthly median household income by dividing annual figures by twelve using the 'Field Calculator' command.

Thereafter, we created four different layers using copy and paste function. Each of four layers were used to analyze 1) Homeownership percentage (Estimated number of homeowner occupied units/ estimated number of total housing units), 2) Monthly median gross rent among renter-occupied housing units paying cash rent, 3) Monthly median household income among all households, and 4) “Cost burden” percentage (Median gross rent/ Median household income), respectively. On the top of each of these four layers, the Census Tracts 2012 Los Angeles City Council Districts were inserted to show the different city districts in our analysis. The World Street Map was added to the project map at last for the base map.

Outcome:

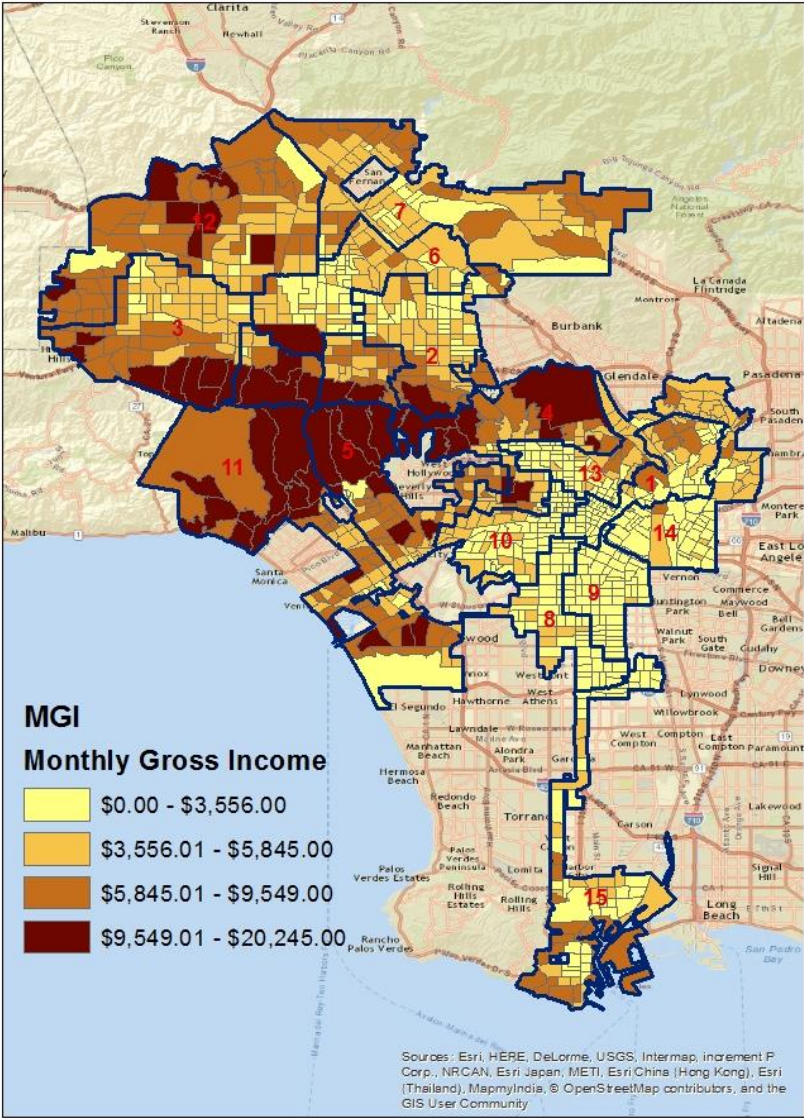
Figure 1. Home Ownership Occupancy Ratio



Home Ownership Percentage	First Quartile	Second Quartile	Third Quartile	Upper Limit
	20.69%	44.46%	70.60%	100.00%

Central and South Los Angeles such as District 1, 2, 4, 8, 9, 10, 13, 14, & 15 shows the lower homeowner percentages compared to the rest of Los Angeles city.

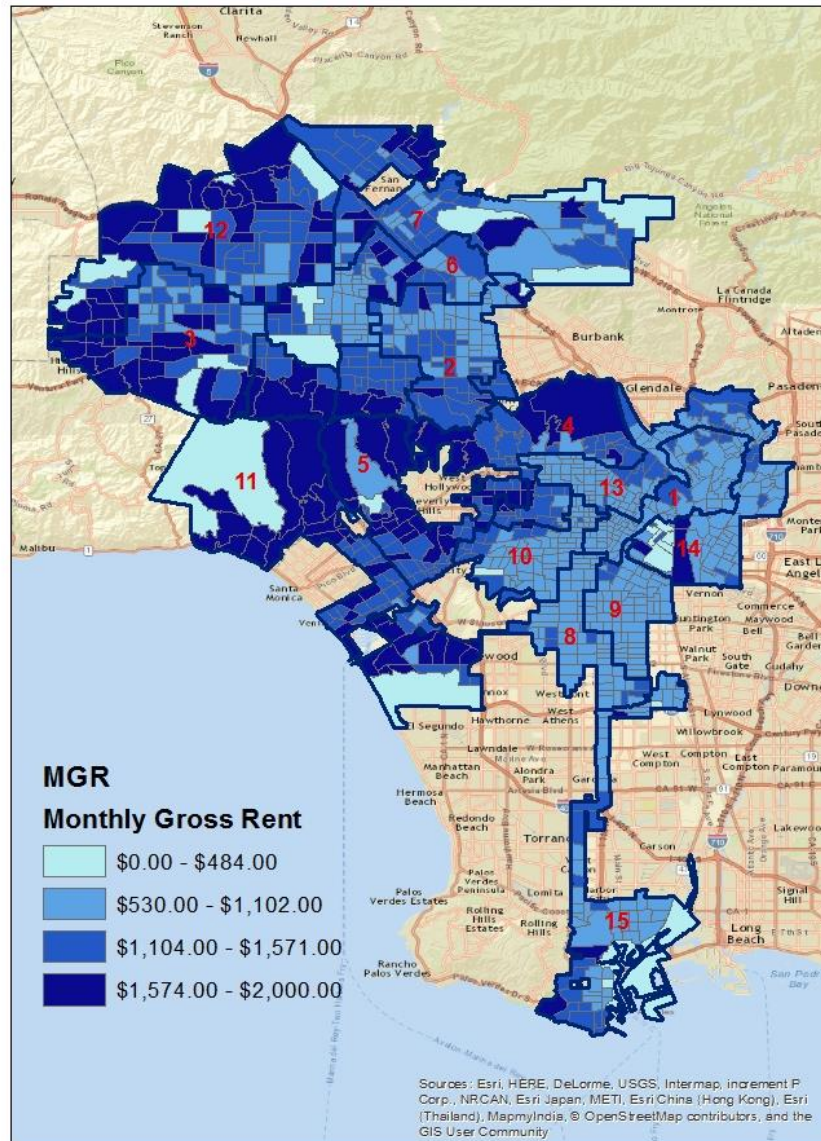
Figure 2. Monthly Gross Income



Monthly MGI	First Quartile	Second Quartile	Third Quartile	Upper Limit
Dollar	\$3,556	\$5,845	\$9,549	\$20,245

Income disparity are clearly shown over the Los Angeles County. District 3, 4, 5, & 11 show the higher median gross income level than the rest of Los Angeles city.

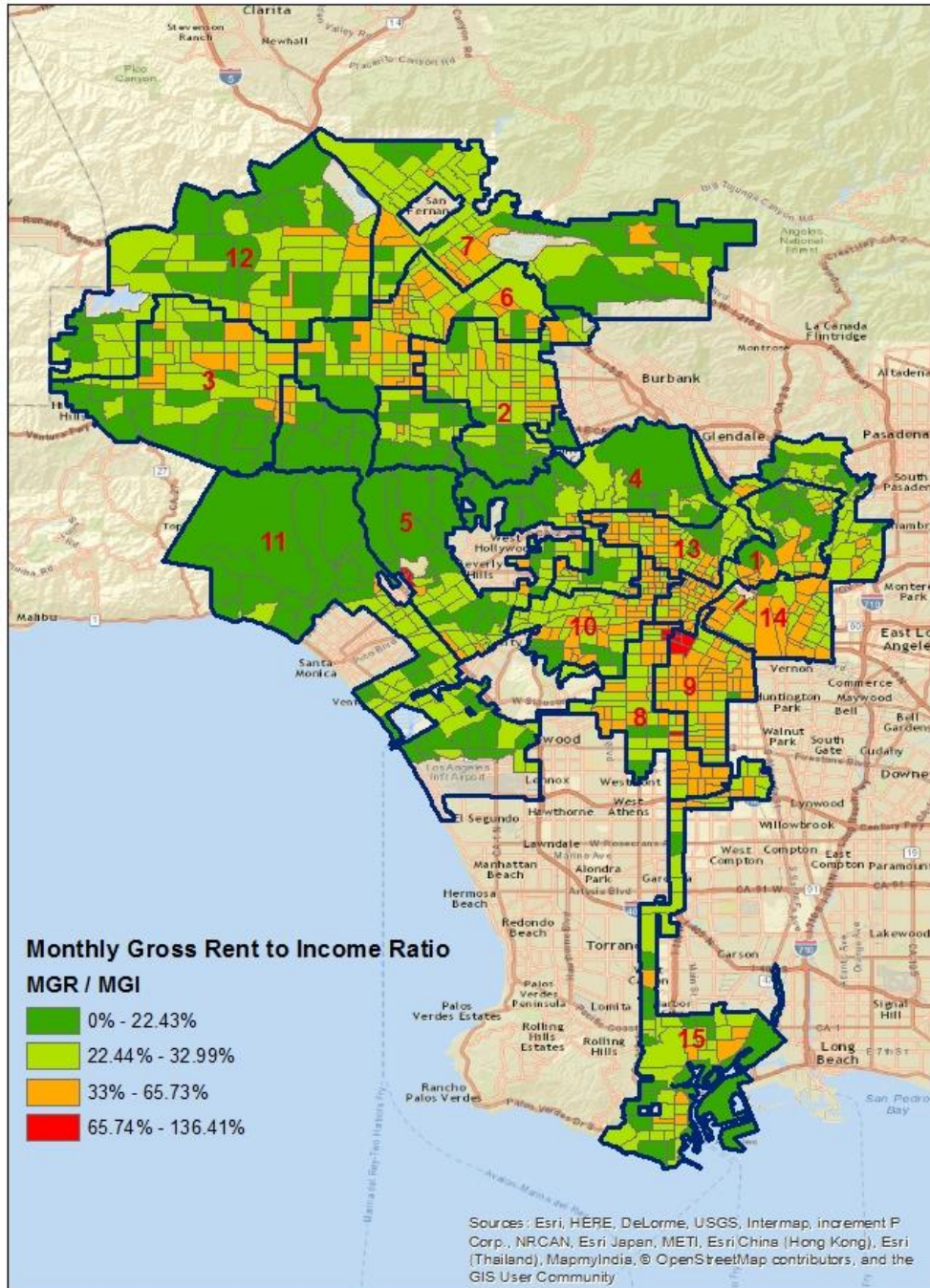
Figure 3. Monthly Gross Rent



MGR	First Quartile	Second Quartile	Third Quartile	Upper Limit
Dollar	\$ 484	\$ 1,102	\$ 1,571	\$ 2,000

Rent costs spread appears to be positively related to income level as District 3, 4, 5, & 11 show the higher median gross rent than the rest of Los Angeles city.

Figure 4. Burden Cost



Burden Cost	First Quartile	Second Quartile	Third Quartile	Upper Limit
Percentage	22.43%	32.99%	65.73%	136.41%

Burden costs were calculated by dividing Median Gross Rent costs by Median Household Income. Even though rent cost appears to be positively related to income, burden costs were high in low income area (similar to Figure 2) and low homeowner occupancy rate area (similar to Figure 1): Central and Southern Los Angeles with District 8, 9, 10, 13, 14, and 15.

DATA LIMITATION

There are several limiting factors that if it was resolved could make this analysis more valuable. First, data used in our analysis was outdated since the most current data we obtained from Census was based on year 2010 survey results. Therefore, the past 5 years' data was not reflected in our analysis. Secondly, our data analysis was done at the city's district level. Since each of city's district contain multiple county tracts and our data obtained from Census were prepared in county tracts, our analysis did not capture the disparity in data among county tracts within the district. Our analysis was done to identify the general areas that needed affordable housings the most and to influence city council members in policy making.

CONCLUSION

In our analysis, we found that there were strong correlations between the median gross income and median gross rent costs: Central and Southern part of the City has the lowest values compared to other areas of the City (Figure #2 & #3). However, we also noticed that the range for the median gross income were far greater than the median gross rents. Interquartile ranges for the monthly median gross income was \$5,993 (\$9,549 less \$3,556) whereas it was \$1,087 (\$1,571 less \$484) for the median gross rent. Interquartile range of the median gross income was about 5.5 times greater than the median gross rent's. In results, the burden costs were substantially higher at the low income areas than the rest of the City (Figure #4).

The recent \$15 per hour minimum wage initiative was proposed mainly to fight for high costs of housing and was approved near unanimously by city legislators. The impact of minimum wages hike on deepening income inequality remain to be seen; however, the minimum wage hike alone wouldn't solve the housing affordability issues in the City. The direct and the more efficient approach to the housing problem, with high burden cost widening between the rich and the poor in the city, should be providing more affordable housing to the areas that needed the most. The area fall under the district 8, 9, 10, 13, 14, and 15 warrants the most resources to be allocated for the housing affordability project according to our analysis. The citywide efforts with the designated funding to increase the numbers of affordable housings should be the next initiative at the City ballot.