Course Project User Guide

Neighborhood Property Value Analysis – Analyze taxable property values and trends between 2015 and 2022.

Introduction

In the context of urban development, it is crucial for stakeholders to comprehend the variations and patterns in property rates. In this study, the valuations of taxable real estate in St. Petersburg neighborhoods in 2015 and 2022 are thoroughly examined. The objective is to analyze these datasets in order to get insights into how the real estate market is changing, spot important patterns, and offer useful advice to those involved in the city's growth.

By utilizing a combination of data analysis and visualization methods, this project aims to provide stakeholders with a comprehensive understanding of the fluctuations of property values in St. Petersburg neighborhoods. Through the analysis of property value fluctuations over time and the comparison of growth rates among various property categories, stakeholders can obtain important insights into the variables influencing the city's real estate market.

The main objective of this analysis is to provide stakeholders with useful knowledge so they can take advantage of growth prospects, negotiate the challenges of urban development, and promote balanced and long-term economic development throughout St. Petersburg neighborhoods.

Methodology

Data Source:
The South St. Petersburg Community Redevelopment Area (CRA) review data for the years 2015 and 2022 for the city of St. Petersburg, which we obtained directly from the data source, are the data sets that were used. These Excel-formatted data sets were provided to us along with other datasets in a bigger shared Box site folder. The document included a description of each column and the names of the pertinent columns that were needed for the analysis. The following is a list of links to the data:

https://usf.app.box.com/s/wjte1ugh0vmg062epf113ipfx5vxek9i
https://usf.app.box.com/s/ntdkkzpphgfeb8hhvh0b7ulgw2692inl
https://usf.app.box.com/s/eajomb28wzy3umdxnrbejmahll2uc9ug
https://usf.app.box.com/s/4l7976cfwyxcgun7fqm6s86jmlbfoihi

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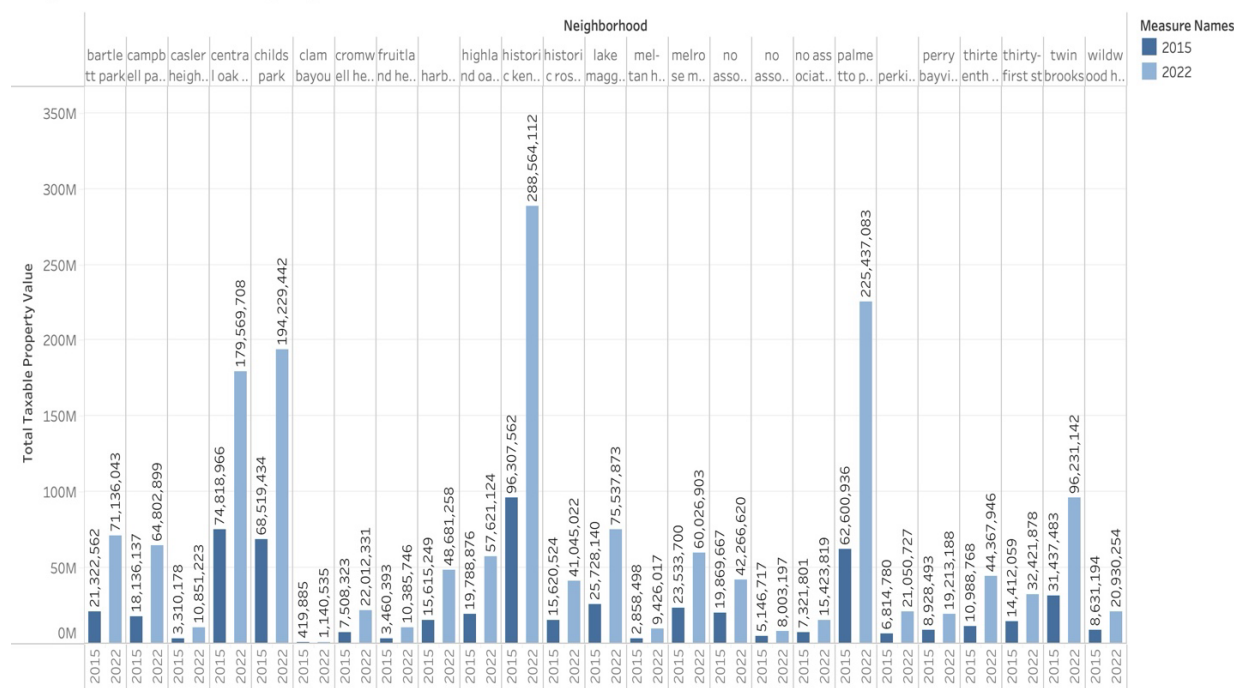
Data Cleaning:

The Data was cleaned and preprocessed using JUPYTER notebook as explained below:
1. Loading the Datasets: Tw datasets with the data for 2015 and 2022 are loaded using the pd.read_excel function. These datasets contain information about properties, corresponding neighborhood, property use etc.
2. Cleaning Neighborhood Values: To clean the neighborhood values in both datasets, a function called clean_neighborhood is defined. This function removes any preceding or trailing spaces, lowercases neighborhood names, and strips them of the 'nbrhd assn' prefix. The 'Neighborhood' column in both datasets is subjected to the function, and the resulting cleaned values are recorded in a new column named 'Cleaned Neighborhood'.
3. Addressing Null Values: Depending on the specific requirements of the study, null values in the datasets are handled by removing rows containing null values.

Results

A. Calculate the total taxable property values for 2015 and 2022 in each neighborhood. Create a visualization to demonstrate how much this value has increased over time.

Neighborhood Taxable Property Values Over Time: 2015 vs. 2022

2015 and 2022 for each Neighborhood. Color shows details about 2015 and 2022.

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The information presented indicates notable rises in the values of taxable real estate in a number of the South St. Petersburg Community Redevelopment Area (CRA) communities between 2015 and 2022. The main trends and implications for the redevelopment plan of the City of St. Petersburg are highlighted in below:

1. **Overall Growth:** In most neighborhoods, there has been a noticeable increase in the total taxable property values, which suggests general economic development and higher property investments in the CRA.

2. **Top Performers:** There have been remarkable growth rates in neighborhoods including "Campbell Park," "Palmetto Park," and "Thirteenth St Heights," with percentage increases of over 200%. These regions might be very appealing for upcoming development initiatives and investments.

3. **Moderate Growth:** Certain neighborhoods, such as "Central Oak Park" and "Historic Kenwood," have also shown notable growth, but at a slower rate than the Top-performing areas. There are still chances for these neighborhoods to expand and undergo revitalization.

4. **Stable Growth**: A number of neighborhoods, such as "Bartlett Park," "Lake Maggiore Shores," and "Highland Oaks," have demonstrated steady growth rates over time, pointing to dependable patterns in investment and development.

5. **Challenges**: Certain communities, including "No Association: 26th - 30th Ave S," have shown comparatively slower growth rates despite the general upward trends. Recognizing the causes of these differences may facilitate more equitable growth throughout the CRA and aid in resolving issues.

6. **Future Strategy:** The City of St. Petersburg can effectively allocate resources and prioritize its redevelopment activities by utilizing this research as a useful tool. Residents' quality of life and property prices in the CRA can be further improved by the city by concentrating on neighborhoods with strong growth potential.

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B. **Compare the property value growth rate (%) for single-family residential properties to other residential properties in each neighborhood.**

Comparative Growth Rates of Single Family and Other Residential Properties Across Neighborhoods
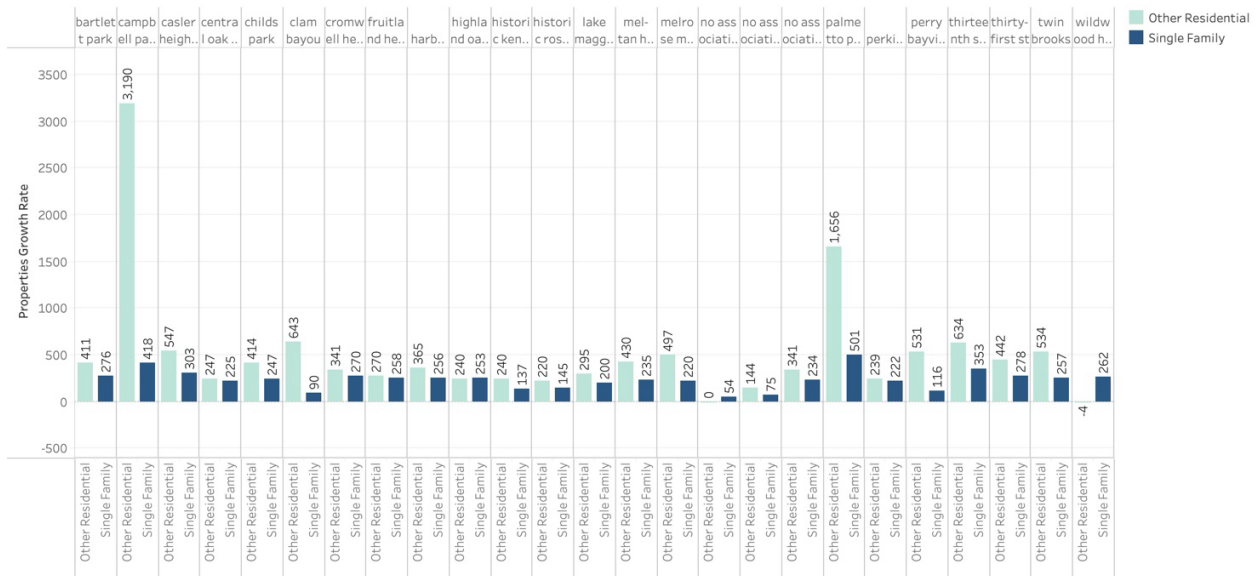
Other Residential and Single Family for each Neighborhood. Color shows details about Other Residential and Single Family.
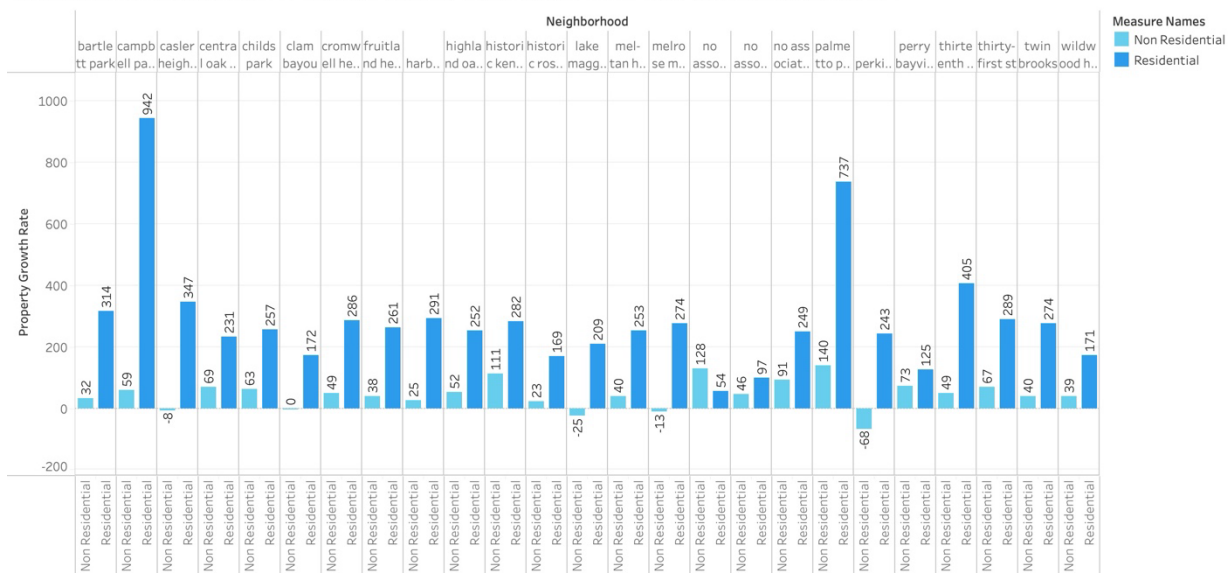
The comparison between the growth rates of single-family residential properties and other residential properties in each neighborhood provides valuable insights into the real estate dynamics within the South St. Petersburg Community Redevelopment Area (CRA). Trends and possible areas for targeted measures or investments are identified with the use of this analysis and below are the insights drawn with this comparison:

1. **Bartlett Park and Palmetto Park Stand Out:** Both single-family homes and other types of residential real estate are growing at significant rates in these neighborhoods. Particularly in Palmetto Park, the growth rate for other residential properties is very high, showing a high level of investment and development in the area.

2. **Campbell Park's Unique Growth Pattern:** The growth rates of other residential properties and single-family homes in Campbell Park are remarkably different from one another. The growth rate of other residential properties is very high, indicating a change in the neighborhood's housing environment, even while the growth rate of single-family properties is still large.

3. **Consistent Growth in Many Neighborhoods**: A number of neighborhoods show slightly steady growth rates for both types of properties, including Casler Heights, Central Oak Park, Childs Park, and Cromwell Heights. This suggests that these locations are still receiving development and investment attention.

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4. **Diverse Growth Patterns**: The data shows that different neighborhoods have different growth tendencies. As an illustration, different market demands and investment trends are suggested by the noticeable growth rates observed in specific neighborhoods, such as Clam Bayou and Historic Kenwood, for the two types of properties.

5. **Challenges in Wildwood Heights**: The growth rate of other residential properties is negative (-4.49%) only in Wildwood Heights neighborhood. In order to address issues and revitalize the area, it is essential to understand the factors contributing to this decline.

6. **Opportunities for Targeted Interventions**: Through an analysis of single-family and other residential property growth rates, policymakers and city planners can pinpoint communities that have unused potential or require targeted interventions to encourage development.

C. Compare the residential property growth rate (%) to commercial properties (all non-residential) in each neighborhood.

Comparative Growth Rates of Commercial and Residential Properties Across Neighborhoods

Non Residential and Residential for each Neighborhood. Color shows details about Non Residential and Residential.

The comparison between the growth rates of residential properties and commercial properties (all non-residential) provides insights into the real estate dynamics within the South St. Petersburg Community Redevelopment Area (CRA) and below are the insights drawn with this comparison:

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1. **Varied Growth Patterns**: Neighborhood growth patterns vary, according to the data. Certain locations, such as Campbell Park and Palmetto Park, show rapid increases in both residential and non-residential property values, suggesting general economic expansion and investment in these sectors.

2. **Consistent Growth in Residential Properties**: Consistent growth rates for residential properties are evident in many neighborhoods, signifying ongoing development and interest from investors in housing. Highland Oaks, Central Oak Park, and Bartlett Park are a few examples.

3. **Challenges in Commercial Property Growth:** Negative growth rates for commercial properties are seen in a number of neighborhoods, which suggests difficulties or a lack of investment in non-residential real estate. Perkins and Lake Maggiore Shores, for instance, show negative growth rates for non-residential real estate.

4. **Opportunities for Commercial Development:** Casler Heights and Melrose Mercy are two neighborhoods where commercial property growth rates are quite low. These neighborhoods might be ideal locations for focused interventions or financial incentives to promote commercial development.

5. **Balancing Residential and Commercial Growth:** A balanced and sustainable development strategy must take into account the dynamics between the development of residential and commercial real estate. The city can establish thriving and diversified communities by choosing neighborhoods with potential for growth in both residential and commercial domains.

6. **Potential Impact on City Strategy:** By concentrating on regions that need particular interventions to encourage balanced growth and optimize the potential of the residential and commercial real estate sectors, the research can assist the City of St. Petersburg in fine-tuning its redevelopment strategy.

D. **Identify and summarize three unique findings for the project stakeholders from your analysis and consider what areas they should review more closely to make decisions.**

Three Unique Findings:

1. **Diverse Neighborhood Growth Patterns:** According to the analysis, the South St. Petersburg CRA's many neighborhoods each show a varied growth tendency. Certain neighborhoods exhibit uniform growth in terms of both residential and commercial properties, while others exhibit discrepancies that call for neighborhood-specific development methods.
2. **Residential vs. Commercial Property Dynamics:** The significance of striking a balance between these two sectors is underscored by the comparison of growth rates for residential and commercial property. While most neighborhoods see continuous

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growth in residential properties, there are particular regions where commercial properties struggle. In order to comprehend the underlying causes of these differences and spot chances for focused solutions, stakeholders should carefully examine these disparities.

3. **Opportunities for Targeted Investments:** Particular neighborhoods with strong growth potential for both residential and commercial assets are identified by the analysis. Using this data, stakeholders can set priorities for these places' investments, emphasizing community reconstruction, infrastructure development, and amenities to further promote growth and draw in investors.

Areas for Closer Review:

1. **Non-Residential Property Challenges:** In neighborhoods like Perkins and Lake Maggiore Shores, where commercial property growth rates are negative or low, stakeholders should pay particular attention to these areas. Knowing the causes of these patterns can assist in identifying obstacles to business growth and informing initiatives that draw in new clients.

2. **Neighborhood-Specific Strategies:** In light of the various ways that neighborhoods are growing, stakeholders ought to examine the features, market demands, and current development plans of each neighborhood in order to customize strategies that meet their particular requirements and maximize their potential for growth.

3. **Long-Term Sustainability:** Stakeholders should assess the long-term sustainability of development patterns even though the current analysis sheds light on short-term growth trends. In order to guarantee that growth is balanced and sustainable over time, this entails taking into account elements including infrastructure capacity, environmental effects, and community resilience.

Conclusions

A. **Calculate the total taxable property values for 2015 and 2022 in each neighborhood. Create a visualization to demonstrate how much this value has increased over time.**

In conclusion, a favorable trend in economic development and investment is indicated by the notable increase in taxable property values throughout a number of communities in the South St. Petersburg CRA between 2015 and 2022. The City of St. Petersburg may continue promote development and build long-lasting communities inside the CRA by utilizing the highlighted insights.

B. **Compare the property value growth rate (%) for single-family residential properties to other residential properties in each neighborhood.**

In conclusion, the analysis of the rates of increase in property value between single-family and other residential properties provides a spotlight on the South St. Petersburg CRA's

real estate market. The City of St. Petersburg may create focused initiatives to support sustainable development and balanced growth throughout its communities by having a thorough awareness of the highlighted trends.

C. Compare the residential property growth rate (%) to commercial properties (all non-residential) in each neighborhood.

In conclusion, the South St. Petersburg CRA's residential and commercial property growth rates compare to provide a complex picture of the dynamics of the real estate market. The City of St. Petersburg can create focused initiatives to promote sustainable and balanced growth throughout its neighborhoods by utilizing the provided data.

D. Identify and summarize three unique findings for the project stakeholders from your analysis and consider what areas they should review more closely to make decisions.

The analysis of property value trends in the Community Redevelopment Area (CRA) of South St. Petersburg concludes by highlighting the various dynamics and growth patterns between residential and commercial properties. The results highlight the significance of customized development plans for every area, taking into account its unique features and room for expansion. To promote balanced and sustainable growth in the CRA, stakeholders should concentrate on resolving issues with commercial real estate development, taking advantage of possibilities for focused investments, and guaranteeing long-term sustainability.

Link to Visualizations

1. **Calculate the total taxable property values for 2015 and 2022 in each neighborhood. Create a visualization to demonstrate how much this value has increased over time.**

   - *Neighborhood Taxable Property Values Over Time: 2015 vs. 2022*
   - *Neighborhood Taxable Property Growth Rate Over Time: 2015 vs. 2022*

2. **Compare the property value growth rate (%) for single-family residential properties to other residential properties in each neighborhood.**

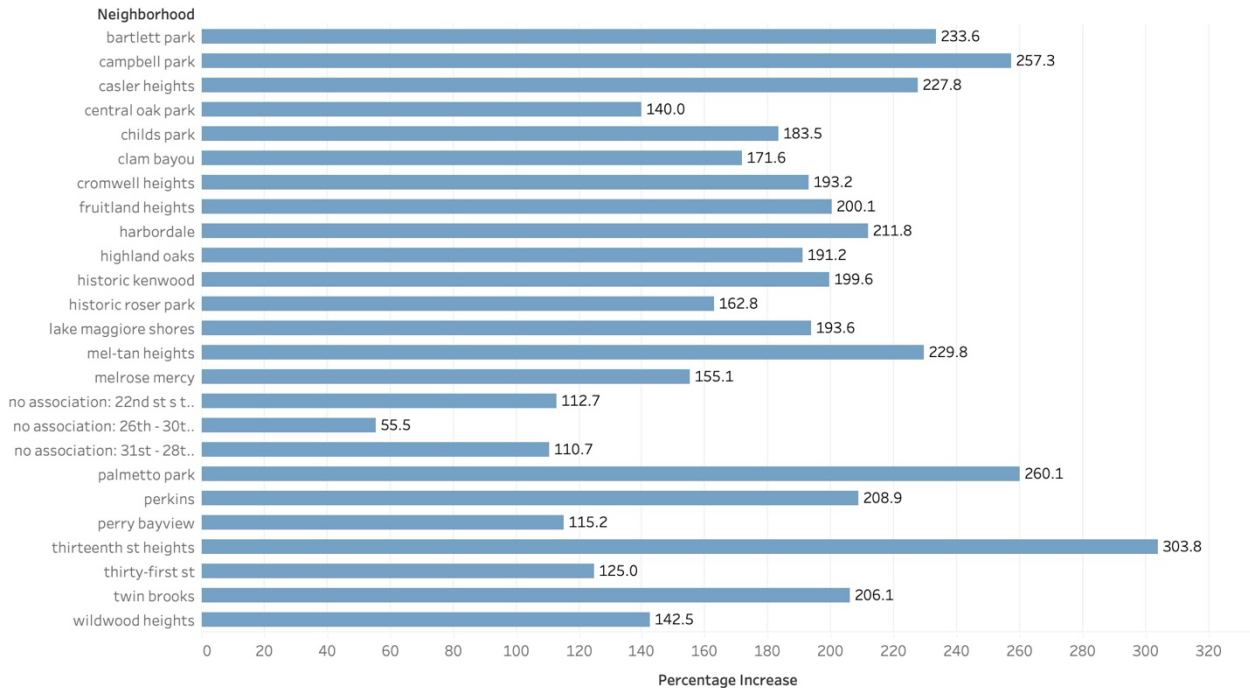   - *Growth Rates of Single Family and Other Residential Properties Across Neighborhoods*

3. **Compare the residential property growth rate (%) to commercial properties (all non-residential) in each neighborhood.**

   - *Growth Rates of Commercial and Residential Properties Across Neighborhoods*

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1. Calculate the total taxable property values for 2015 and 2022 in each neighborhood. Create a visualization to demonstrate how much this value has increased over time.

Neighborhood Taxable Property Growth Rate Over Time: 2015 vs. 2022

Neighborhood	Percentage Increase
bartlett park	233.6
campbell park	257.3
casler heights	227.8
central oak park	140.0
childs park	183.5
clam bayou	171.6
cromwell heights	193.2
fruitland heights	200.1
harbordale	211.8
highland oaks	191.2
historic kenwood	199.6
historic roser park	162.8
lake maggiore shores	193.6
mel-tan heights	229.8
melrose mercy	155.1
no association: 22nd st s t..	112.7
no association: 26th - 30t..	55.5
no association: 31st - 28t..	110.7
palmetto park	260.1
perkins	208.9
perry bayview	115.2
thirteenth st heights	303.8
thirty-first st	125.0
twin brooks	206.1
wildwood heights	142.5

Sum of Percentage Increase for each Neighborhood.

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