Hypothesis Questions

1. Have rental prices in Vancouver consistently been high, or is this a recent trend?
2. How challenging is it for a minimum wage worker to manage rent payments?
3. Does having a greater number of rental units in a zone lead to lower prices?
4. Is renting a larger home significantly more expensive, or are all housing options hard to afford?
5. Which zone would be the best choice if I want to minimize my rent?

Headings

1. Rental Price Evolution
2. Minimum Wage Challenges
3. Supply and Price Dynamics
4. Bedroom Cost Trends
5. Affordable Zones

Functions used in current project:

SELECT

ORDER BY

MATHEMATICAL OPERATIONS ON SELECT

FILTER USING WHERE

AGGREGATION USING GROUP BY AND MAX

JOIN

PARTITION BY

CTE

TEMP TABLE

VIEW

Changes:

Zone with lowest rent 🡪 Highest and Lowest rent (Check aggregation using group by in project)

Error Code: 1054. Unknown column 'u.Rent\_Level' in 'field list'

**Revised Structure with Suggested Additions**

Background of the Project

Data Sources

Questions to Answer

Hypothesis

Data Analysis

SQL Code

Result Picture

Result

Final Results

Installation / Setup Instructions (if applicable)

How to Use the Analysis

Limitations

Future Work

References (if applicable)

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Question 1: Have rental prices in Vancouver consistently been high, or is this a recent trend?

This analysis focuses on determining whether high rental prices in Vancouver are a recent occurrence or if they have been high over the past 15 years. By examining the annual rent change and percentage growth from 2009 to the present, we can identify significant increases in rent.

SQL Query:

-- Determine the rent increase and percentage increase over the years

SELECT

Year,

Total\_Avg\_Rent AS Avg\_Rent,

Total\_Avg\_Rent - LAG(Total\_Avg\_Rent) OVER (ORDER BY Year) AS Annual\_Rent\_Change, -- Calculate rent increase

FORMAT((Total\_Avg\_Rent - LAG(Total\_Avg\_Rent) OVER (ORDER BY Year)) / LAG(Total\_Avg\_Rent) OVER (ORDER BY Year) \* 100, 2) AS Annual\_Rent\_Growth\_Percentage -- Calculate percentage increase

FROM

his\_ave\_rent

WHERE Year > 2008

ORDER BY Year ;

Query result:

Image file

Interpretation:

The data reveals that rent increases in Vancouver have not been consistent over the past 15 years. There have been fluctuations, with periods of both increases and decreases in rent growth. Notably, following the onset of COVID-19, rental prices dropped sharply. However, as lockdowns lifted, the market rebounded, with rent growth surging from a modest 1.78% to 8.34%. In 2023, rental prices reached an all-time high growth rate of 9.13%, marking the peak in Vancouver’s rental market.

This sharp post-pandemic recovery in rental prices suggests that the high rents Vancouver faces today are part of a more recent trend, driven by factors such as the housing demand surge after the COVID-19 pandemic.

Analysis 2:

This analysis delves into the struggles of minimum wage workers in Vancouver when it comes to affording rent. By examining rental prices across various housing types and comparing them to monthly wages, I aim to reveal the percentage of income that these workers must allocate to housing costs. To ensure a relevant understanding of the current landscape, I have concentrated on the last five years of data.

SQL Query:

To calculate monthly earnings, I assumed that a minimum wage worker works 40 hours a week for 4 weeks.

SQL Query 1, Result

SQL Query 2, Result

SQL Query 3, Result

Interpretation:

On average, minimum wage workers in Vancouver spend about 65% of their income on rent, which significantly strains their finances. The situation is only slightly better for median wage workers, who allocate around 35% of their income to rent.

A deeper analysis comparing the monthly earnings of minimum wage workers to various housing types reveals that they could never afford a 2-bedroom or 3-plus-bedroom rental, as these costs consume 80% and 90% of their monthly earnings, respectively.

Analysis 3:

This analysis investigates whether a higher number of rental units in a specific zone leads to lower rental prices. By examining the relationship between the number of units and average rents, I aim to determine if an increase in supply can influence rental costs.

SQL Query and Result

Final results

A1

the high rents currently experienced in Vancouver are part of a recent trend driven by increased housing demand, post-pandemic recovery.

A2

- minimum wage workers, significantly straining their finances.

- If a family has one earner then they could never afford a \*\*2-bedroom\*\* rental and \*\*3-plus-bedroom\*\* rental, as these costs consume around \*\*85%\*\* of their monthly earnings.

A3

Vancouver zone has a concentration of rental units

The data shows no clear correlation between the number of rental units and rent prices across different zones.

While increased supply can typically lead to lower rents, it appears that in this specific analysis, the relationship is more complex. It highlights that the rental market's dynamics in Vancouver may be influenced by factors such as high demand, economic conditions, and housing policies, which can counteract the typical supply-demand relationship.

A4

rent is a financial burden across all housing types. However, the larger the home, the more challenging it becomes to manage rent payments.

A5

Marpole -> Lowest avg rent of 1396

Data Sources:

CMHC

<https://www03.cmhc-schl.gc.ca/hmip-pimh/en/TableMapChart/Table?TableId=2.1.31.3&GeographyId=2410&GeographyTypeId=3&DisplayAs=Table&GeograghyName=Vancouver>

Statistics Canada

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410006401&pickMembers%5B0%5D=1.11&pickMembers%5B1%5D=2.2&pickMembers%5B2%5D=3.1&pickMembers%5B3%5D=5.1&pickMembers%5B4%5D=6.1&cubeTimeFrame.startYear=2019&cubeTimeFrame.endYear=2023&referencePeriods=20190101%2C20230101>

Minimum wage data

<https://open.canada.ca/data/en/dataset/390ee890-59bb-4f34-a37c-9732781ef8a0/resource/2ddfbfd4-8347-467d-b6d5-797c5421f4fb>