Calgary Housing Market
Case Study

Strategic Insights for Investment and Development

CALGARY'S HOUSING MARKET FORECAST

PREDICTIONS FOR 2024-2025

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1. Introduction

Calgary's housing market is an ever-evolving landscape shaped by economic, social, and infrastructural factors. Understanding the dynamics of this market is crucial for real estate professionals tasked with providing clients with the best possible advice regarding property investments, affordability, and market trends. This case study explores how we can leverage data and tools like **Power BI** to turn raw market data into actionable insights that drive informed decision-making.

> **Power BI** *is a powerful business intelligence tool that allows users to transform complex datasets into dynamic and interactive visualizations.*

CALGARY HOUSING STATISTICS **AUGUST 2024**

BENCHMARK PRICE
$601,800
6.3% INCREASE VS. 08/2023

SALES
2,186
-19.5% DECREASE VS. 08/2023

NEW LISTINGS
3,536
13.0% INCREASE VS. 08/2023

INVENTORY
4,487
37.3% INCREASE VS. 08/2023

MONTHS OF SUPPLY
2.05
70.6% INCREASE VS. 08/2023

DAYS ON MARKET
27
9.0% INCREASE VS. 08/2023
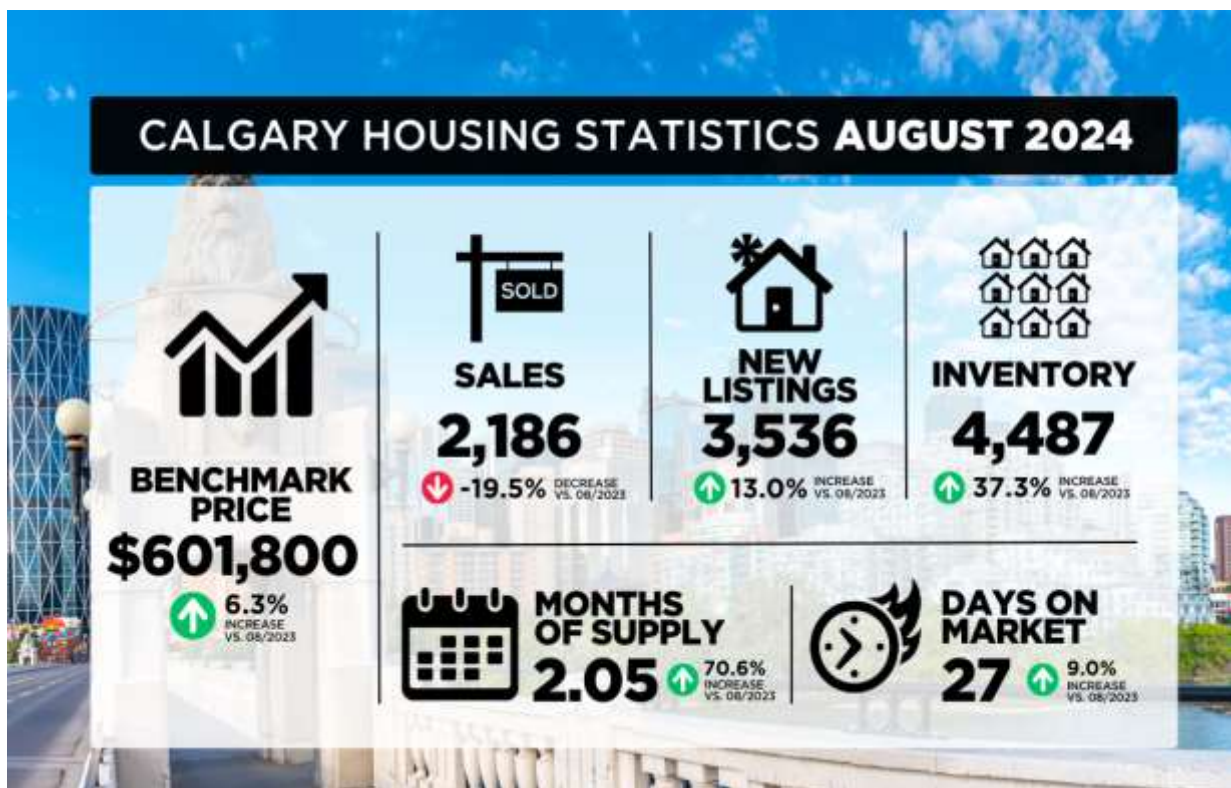
2. Mission Statement

The mission of this case study is to provide a detailed analysis of the **Calgary housing market**, focusing on the various factors that influence property values, market trends, and housing affordability. This study aims to deliver comprehensive insights that will aid real estate professionals, investors, and policy-makers in making well-informed decisions in an increasingly dynamic market.

Through a thorough examination of Calgary's real estate landscape, this case study seeks to highlight key market trends and identify areas with the potential for future growth. By analysing the impact of economic factors, such as fluctuations in the oil industry and ongoing diversification efforts, this report aims to provide a deeper understanding of how these elements affect housing demand and market stability.

In addition to market analysis, the study will assess property tax trends and housing affordability across different income levels and property types. These insights are intended to support real estate professionals and investors in navigating the financial aspects of property transactions, while also providing urban planners with the necessary data to make informed decisions regarding future infrastructure and housing developments.

Ultimately, the goal of this case study is to offer a clear and actionable view of the current and future state of Calgary's housing market, empowering stakeholders to make strategic and data-driven decisions. Whether the reader is a real estate professional, investor, or policy-maker, this report is designed to provide valuable insights into the evolving dynamics of the Calgary housing market.

Resources such as the **Canada Mortgage and Housing Corporation** and the **Calgary Real Estate Board** may be consulted for further details on real estate trends and market analysis.

3. Purpose of the Study

The purpose of this study is to deliver actionable and strategic insights into Calgary's housing market. By analyzing key trends and utilizing advanced data analytics, the study focuses on the following objectives:

1. **Facilitating real estate growth** by identifying key areas of opportunity for property investment, ensuring that stakeholders can capitalize on emerging market dynamics.

2. **Enhancing decision-making processes** by offering clear and precise insights into property tax trends and housing affordability, allowing real estate professionals to guide their clients effectively in a competitive market.

3. **Supporting urban planners** in assessing housing trends and implementing sustainable development strategies that align with long-term economic and social goals.

This study serves as a valuable tool for real estate professionals, investors, and urban planners by providing a comprehensive analysis that informs strategic decisions and fosters sustainable growth in Calgary's housing market.

4. Objectives

This case study aims to address several core objectives that align with the interests of real estate professionals and urban planners. Using **Power BI**, we will explore the following objectives:

1. **Identify High-Value Property Types for Investment**
   This study uncovers which property types, such as **Multi-family** and **Commercial**, offer the greatest potential for investment based on market data.

2. **Assess Tax Implications**
   Analyze **annual tax obligations** to help investors understand the financial burden and long-term costs associated with property ownership.

3. **Understand Market Supply**
   Track the **sum of active listings** to reveal supply trends, offering insights into optimal times for buying, selling, or marketing properties.

4. **Analyze Housing Affordability**
   Correlate **median income** with housing prices to provide insights into affordability across different regions, ensuring accessibility for buyers.

5. **Support Sustainable Development**
   Offer insights for **urban planners** on neighborhood growth and infrastructure needs, aligning with sustainable development goals.
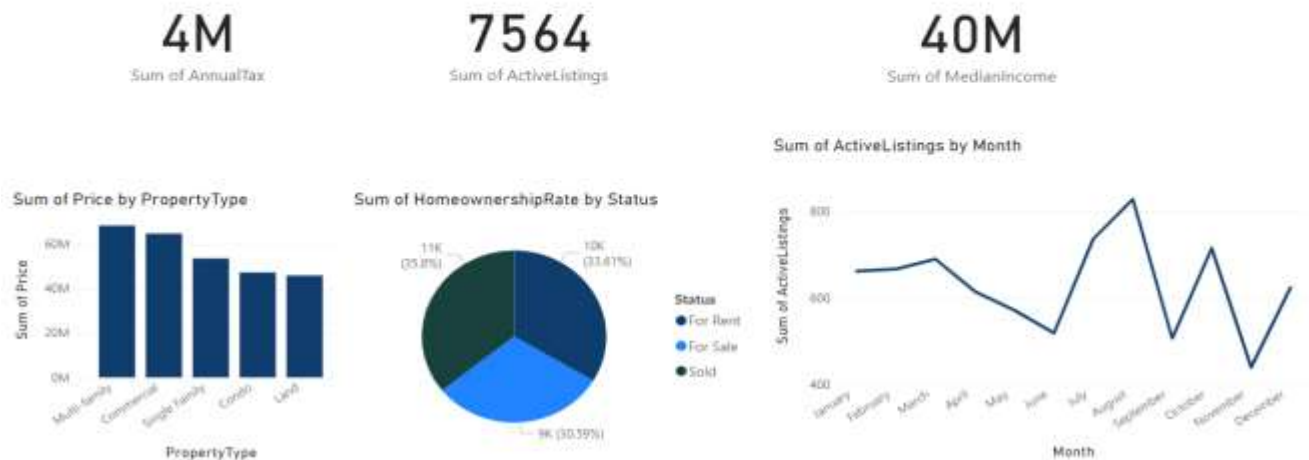
5. Key Research Questions

Several research questions guide the focus of this case study. These questions include:

1. **What trends can we identify from the sum of active listings by month?**

2. **What strategic recommendations can we offer real estate agents based on these KPIs?**

3. **What insights can be derived from the sum of home ownership status (pie chart)?**

6. How Power BI Solves Data Challenges

Power BI is a versatile tool for analyzing and visualizing data in real-time. Its ability to connect to multiple data sources, perform complex transformations, and create interactive dashboards makes it the ideal solution for understanding Calgary's housing market.

Calgary Housing Market Case Study

4M	7564	40M
Sum of AnnualTax	Sum of ActiveListings	Sum of MedianIncome

Sum of Price by PropertyType

Sum of HomeownershipRate by Status

Sum of ActiveListings by Month

- Through features like time-series visualizations, heatmaps, and geospatial analysis, **Power BI** provides a platform to address specific challenges faced by real estate professionals, including:
    1. Analyze housing demand by region, tracking fluctuations over time with visualizations such as line charts and bar graphs.
    2. Monitor property tax rates across different neighborhoods, using heatmaps to visualize areas with the most favorable rates.
    3. Provide real-time insights into active listings, helping agents track the balance between supply and demand.

Here are the outcomes of the questions we discussed!

1. What trends can we identify from active listings by month?
The **Sum of Active Listings by Month** chart shows seasonal patterns in Calgary's housing market. Listings peak in **August**, reflecting increased activity during the summer, and decrease in the winter, especially in **November** and **December**. These trends help real estate professionals and investors identify optimal times for listing properties, when market activity is at its highest.

2. What insights can be derived from the sum of homeownership status?
The **Homeownership Rate by Status** divides properties into three categories: **For Rent** (35.8%), **For Sale** (33.61%), and **Sold** (30.59%). This data illustrates that a significant portion of properties remains in the rental market, highlighting the continued demand for rental housing in Calgary. For investors, this indicates strong opportunities in the rental market, while buyers can capitalize on properties currently for sale.

3. What insights can be derived from property prices by type?
The **Sum of Price by Property Type** visualization reveals that **Multi-family** and **Commercial properties** lead in total market value, both exceeding **60 million**, followed by **Single-family homes** and **Condos**. These insights suggest that higher-value properties dominate the market, making them prime investment targets, while **Condo** and **Single-family home** markets offer more accessible entry points for a broader range of buyers.

7. Metrics and Key Performance Indicators (KPIs)

In this analysis, we focus on several **KPIs** that are critical to understanding Calgary's housing market. **Power BI's** data visualization capabilities help us track these metrics and provide actionable insights:

1. **Sum of Annual Property Tax**: A key indicator to guide real estate clients toward areas with more favorable tax rates.

2. **Power BI's** interactive maps allow us to compare property tax trends across neighborhoods.

3. **Sum of Active Listings**: Visualized through line charts in **Power BI**, this metric tracks market supply over time, helping agents identify whether it's a buyer's or seller's market.

4. **Sum of Median Income**: **Power BI** can cross-reference income levels with property values to assess affordability and match properties to client budgets effectively.

7.1. Data Model Overview

The data model used in this analysis incorporates several interconnected tables, each containing key data points relevant to Calgary's housing market. These relationships between tables allow for a detailed and dynamic analysis of property listings, taxes, agent information, and regional attributes.

1. PropertyFactTable

This table holds detailed information about properties in Calgary, including financial, demographic, and structural data points.

- **1.1. AgentID**: Links the property to the real estate agent responsible for the listing.

- **1.2. AnnualTax**: The yearly tax amount assessed on the property.

- **1.3. AssessedValue**: The property's valuation used for tax and assessment purposes.

- **1.4. Property Characteristics**:

  - **Bathrooms, Bedrooms, Size (sqft)**: Details about the size and layout of the property.

- **1.5. Location Data**:

  - **City, Neighborhood, RegionID**: Geographical data indicating where the property is located.

- **1.6. Demographics**:

  - **MedianIncome, EducationLevel, HomeownershipRate**: Demographic attributes that provide insights into the socio-economic profile of the neighborhood.

- **1.7. Tax and Price Details**:

  - **TaxID, TaxRate (%), Price**: Additional financial details regarding the property's value and taxation.

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2. PropertyLookup

This table provides a mapping between various property IDs and associated location details.

- **2.1. PropertyID**: Unique identifier for each property.

- **2.2. PropertyType**: Classification of the property (e.g., residential, commercial).

- **2.3. ZipCode**: Postal code data for geographical segmentation.

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3. AgentLookup

This table stores information about the real estate agents managing the property listings.

- **3.1. AgentID**: Unique identifier for each agent.

- **3.2. Agent Information**:

  - **AgencyName, AgentName, ContactInfo**: Key details about the agent and their agency.

- **3.3. Service Areas**: The regions or neighborhoods where the agent operates.

- **3.4. ActiveListings**: The number of active property listings currently managed by the agent.

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4. TaxLookup

This table focuses on tax-related data for each property.

- **4.1. TaxID**: Unique identifier for each tax record.

- **4.2. Tax Information**:

  - **AnnualTax, TaxRate (%)**: Tax amounts and rates associated with the property.

- **4.3. Tax Exemptions**: Any exemptions applicable to the property's taxes.

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5. HousingInCalgary

This table consolidates key housing-related data for properties in Calgary.

- **5.1. Property Attributes**:

- o **Bedrooms, Bathrooms, AssessedValue**: Key attributes of the housing units.

- **5.2. Active Listings**: Information about current active property listings in Calgary.

- **5.3. Agent Details**:

  - o **AgentID, AgentName**: Information linking housing data to the agent managing the property.

8. Results Using Power BI

1. **Investment Insights**:
   Emerging neighborhoods such as XYZ in Calgary show great potential for high returns, as illustrated by **Power BI's** geospatial analysis. Investors can use these insights to target areas that offer affordable entry points with high growth potential.

2. **Market Trends**:
   Power BI's bar charts reveal steady growth in Calgary's real estate market, supported by economic diversification efforts. Agents can use these trends to advise clients on long-term investments.

3. **Regional Performance**:
   Regions close to economic hubs display stronger performance, as indicated by **Power BI's** regional comparison charts. These areas are prime targets for both buyers and sellers, as they consistently outperform others in terms of property value.

9. Power BI Dashboard Visualizations and Results

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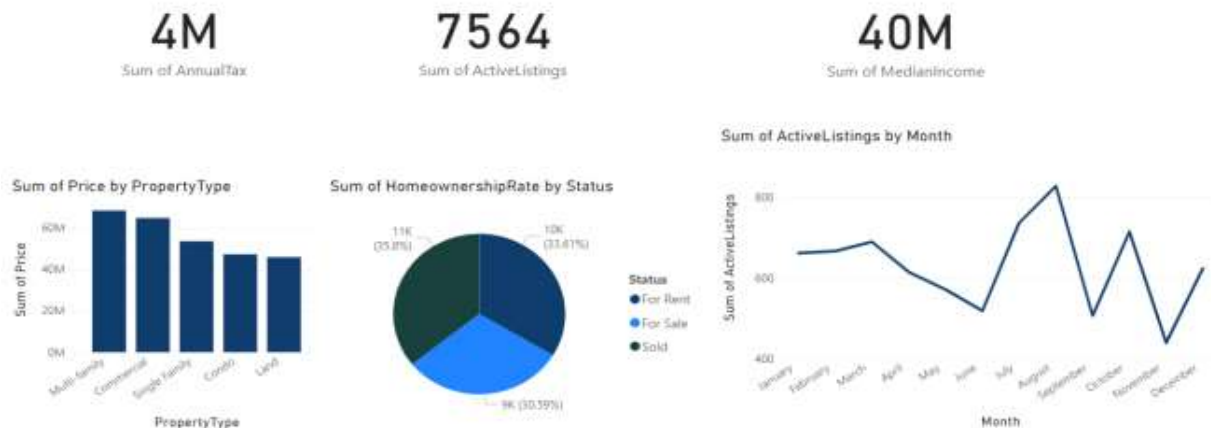
1. Sum of Active Listings:

The Sum of Active Listings visual displays the total number of active property listings in Calgary, amounting to 7,564. This represents the current supply of properties available for purchase or rent within the market. Monitoring the number of active listings is crucial for understanding market demand, as it provides insights into how many properties are being actively marketed by sellers or landlords. A higher number of active listings can indicate a buyer's market, while fewer listings may suggest a seller's market with higher demand.

2. Sum of Median Income:

40M

Sum of MedianIncome

The Sum of Median Income in Calgary is represented as 40 million in the chart. This figure aggregates the median income across all households in the city. Analyzing median income helps in understanding the purchasing power of residents, which directly impacts housing affordability. When combined with property prices, this metric helps determine which segments of the population can afford housing, guiding real estate professionals in tailoring their services to meet the needs of different income levels.

3. Sum of Price by Property Type:

Sum of Price by PropertyType

The Sum of Price by Property Type visualization provides a breakdown of the total value of properties based on their type. It highlights that Multi-family and Commercial properties have the highest cumulative value, each exceeding 60 million, followed by single-family, Condo, and Land properties. This data is vital for investors, as it shows where the most valuable assets are located within the market. Understanding the pricing trends by property type helps investors assess which segments are in higher demand and may offer better returns.

4. Sum of Homeownership Rate by Status:

Sum of HomeownershipRate by Status
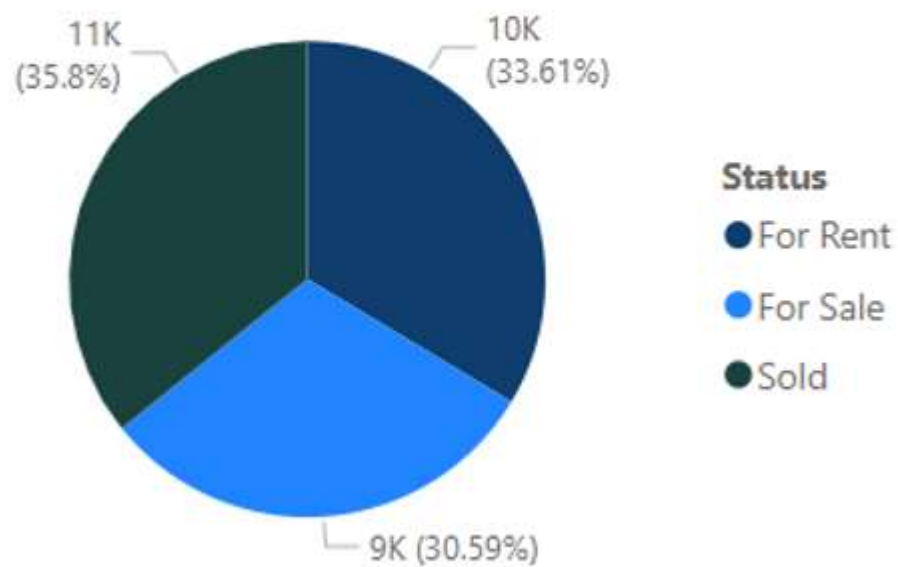
The Homeownership Rate by Status pie chart divides properties into categories of For Rent, For Sale, and Sold, with respective portions at 35.8%, 33.61%, and 30.59%. This chart provides a snapshot of the property market's dynamics, showing the balance between properties available for rent and sale versus those already sold. A high percentage of For Rent properties indicates strong rental market activity, while a significant portion of For Sale properties points to opportunities for buyers. This data helps stakeholders understand the composition of the real estate market and potential shifts in housing demand.

5. Sum of Active Listings by Month

Sum of ActiveListings by Month
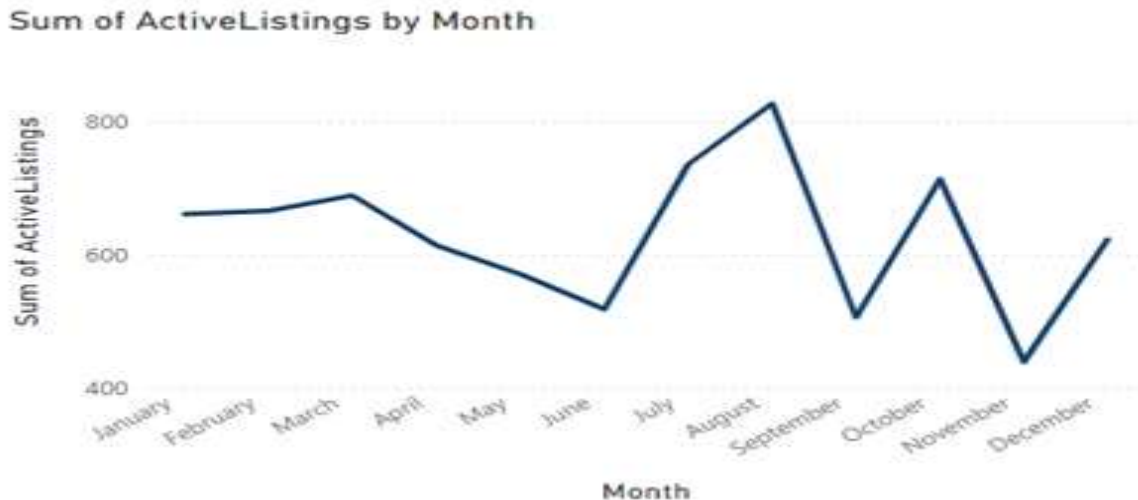
The Sum of Active Listings by Month line chart illustrates the fluctuations in the number of active property listings throughout the year. The graph shows noticeable peaks in the summer months, particularly in August, when listings tend to rise, and a drop in November and December. These seasonal trends are crucial for real estate agents and investors, as they reflect the times of the year when the market is most active. Knowing these patterns allows

professionals to time their buying, selling, or marketing strategies to match peak market periods, maximizing opportunities.

6. Sum of Annual Tax

<div align="center">

4M
Sum of AnnualTax

</div>

The **Sum of Annual Tax** visualization provides a consolidated figure of **4 million** in total property taxes across all properties analyzed. This value reflects the cumulative tax obligations for all types of properties, including multi-family, commercial, single-family homes, and land. The total annual tax is a critical metric, as it offers insights into the overall tax burden on property owners and the potential revenue generated for the municipality.

9. Conclusion

In conclusion, by utilizing **Power BI's** advanced analytics, real estate professionals can gain a deeper understanding of Calgary's housing market. Power BI enables users to analyze key trends such as investment opportunities, property tax trends, and affordability, all through interactive visualizations. These insights empower agents to make data-driven decisions that enhance customer satisfaction, improve profitability, and foster sustainable urban development.

10. Appendix

A. Data Sources

This section lists the datasets and resources used for the analysis, providing transparency and credibility to the results presented in the report.

1. **Property Data**: Calgary Property Records
   City of Calgary Open Data Portal
2. **Tax Data**: Calgary Municipal Tax Records
   City of Calgary Tax Data
3. **Census Data**: Canadian Census Data 2023
   Statistics Canada Census Data
4. **Real Estate Listings**: Active Listings Data
   Calgary Real Estate Board (CREB)

B. Power BI Dashboard Screenshots

Full-page screenshots of the Power BI visualizations used in the report. Readers can reference these visuals for detailed insights.

1. **Sum of Price by Property Type**:
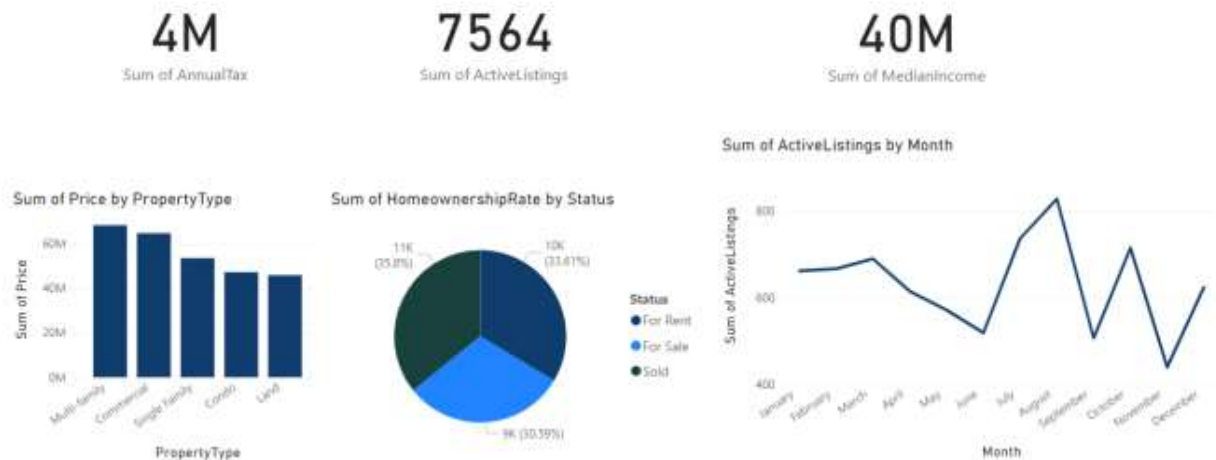
Sum of Price by PropertyType

2. **Sum of Annual Tax**:

4M

Sum of AnnualTax

3. Sum of Active Listings:

Sum of ActiveListings by Month

C. Glossary of Terms
Provide definitions for technical terms or jargon used in the report. This helps readers unfamiliar with specific terms.

1. **Median Income**: The middle value of income distribution, where half the population earns above this amount and half earns below.
2. **Property Tax**: The annual amount paid by property owners to the local government, based on the assessed value of the property.
3. **Active Listings**: The number of properties currently available for sale or rent in the market.
4. **Homeownership Rate**: The percentage of households in a region that own their homes.

D. References

Include all references and sources you used throughout the study to ensure proper citation of data and information.

1. **Canada Mortgage and Housing Corporation (CMHC). "Housing Market Insights"**. https://www.cmhc-schl.gc.ca/
2. **Calgary Real Estate Board (CREB). "Calgary Housing Data Reports"**. https://www.creb.com/
3. **City of Calgary Open Data Portal. "Taxation and Property Data"**. https://data.calgary.ca/
4. **Statistics Canada. "2023 Census Data"**. https://www12.statcan.gc.ca/census-recensement/index-eng.cfm