

Metro Vancouver Housing and Immigration Trends (1990–2024)



Alexandre Johann

1. Executive Summary

This report explores the relationship between housing trends and immigration flows in Metro Vancouver from 1990 to 2024. Utilizing multiple datasets and Tableau dashboards, the project identifies a strong relation between increasing immigration and rising housing prices, as well as notable gaps in housing supply relative to demand. Three interactive dashboards were developed to support this analysis

Key Findings:

- **Housing Costs:** Average rents in Metro Vancouver have nearly tripled since 1990, with consistent growth across all bedroom types. Dwelling values also experienced significant appreciation, especially after 2015. In Richmond, the average value of owner-occupied dwellings rose sharply in parallel with its high immigrant population.
- **Construction Trends:** Construction starts have surged post-2015, particularly for apartments. Surrey and Langley saw a notable shift toward multi-family housing. Despite these increases, the supply has not kept pace with population growth.
- **Vacancy Rates:** These have remained critically low, below 2%, in most regions since 2015, which shows an ongoing housing crunch.
- **Immigration Distribution:** Richmond leads with over 60% of its population being immigrants, followed by Surrey and Vancouver. Immigration has continued to grow steadily, peaking in 2023 before a dip in 2024.
- **City-Level Dynamics:** City-specific dashboards reveal that areas with higher immigrant populations tend to have higher dwelling costs and more housing development, but also suffer from persistently low vacancy rates.

2. Introduction

My name is Alexandre Johann, and I am a student in Data Analytics. This project analyzes the relationship between immigration and housing dynamics in Metro Vancouver from 1990 to 2024. The goal was to combine statistical data with interactive visuals to demonstrate how immigration trends might influence housing availability, pricing, and development across the region.

The target audience includes:

- Urban planners
- Policymakers interested in understanding demographic pressures.
- Economists and data analysts researching urban growth.
- General public and community stakeholders concerned about affordability and immigration.

The project began with the following initial questions:

- How does immigration affect housing affordability across Metro Vancouver?
- Are certain cities seeing faster housing development due to higher immigrant populations?
- Can we use data visualization to reveal patterns and inform smarter planning?

This analysis was conducted using Tableau, using multiple datasets to provide insights at both the regional and municipal levels, with an emphasis on clarity, interactivity, and real-world relevance.

3. Project Description

I chose this project because housing and immigration are two of the biggest topics affecting Metro Vancouver right now. As someone transitioning into data analytics, I was interested in using real data to explore how these two areas are connected. Every year, we hear about rising housing prices and a growing population, but I wanted to dig deeper and see if immigration growth was actually influencing things like rent, construction, and home values.

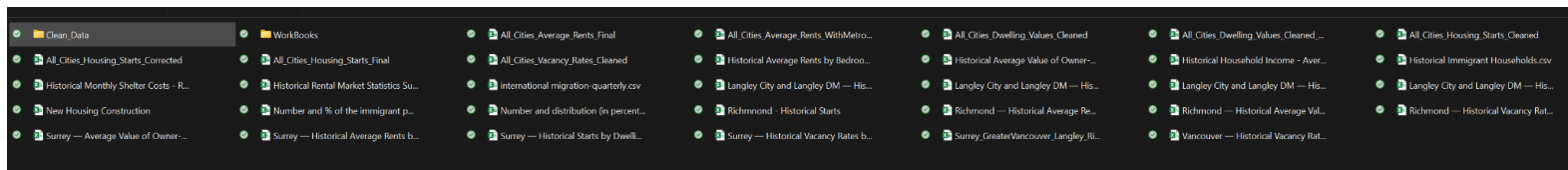
My goal was to make something both insightful and easy to understand, especially for people like city planners, students, or even residents who are just curious about how their city is changing.

4. Data Source and Preparation

This project involved working with a large amount of scattered data across many different sources, formats, and levels of detail. Much of the information came from CMHC and Statistics Canada, but it was not ready for immediate use in Tableau. The biggest challenge of the entire project was the data preparation, which included:

- Cleaning files with extra headers, footnotes, and inconsistent labels
- Pivoting Tables
- Merging data from separate files into unified formats by city and year
- Standardizing terms like "Metro Vancouver" vs. "Greater Vancouver"
- Dealing with missing or incomplete values, and adding calculated columns

Some of the data used:

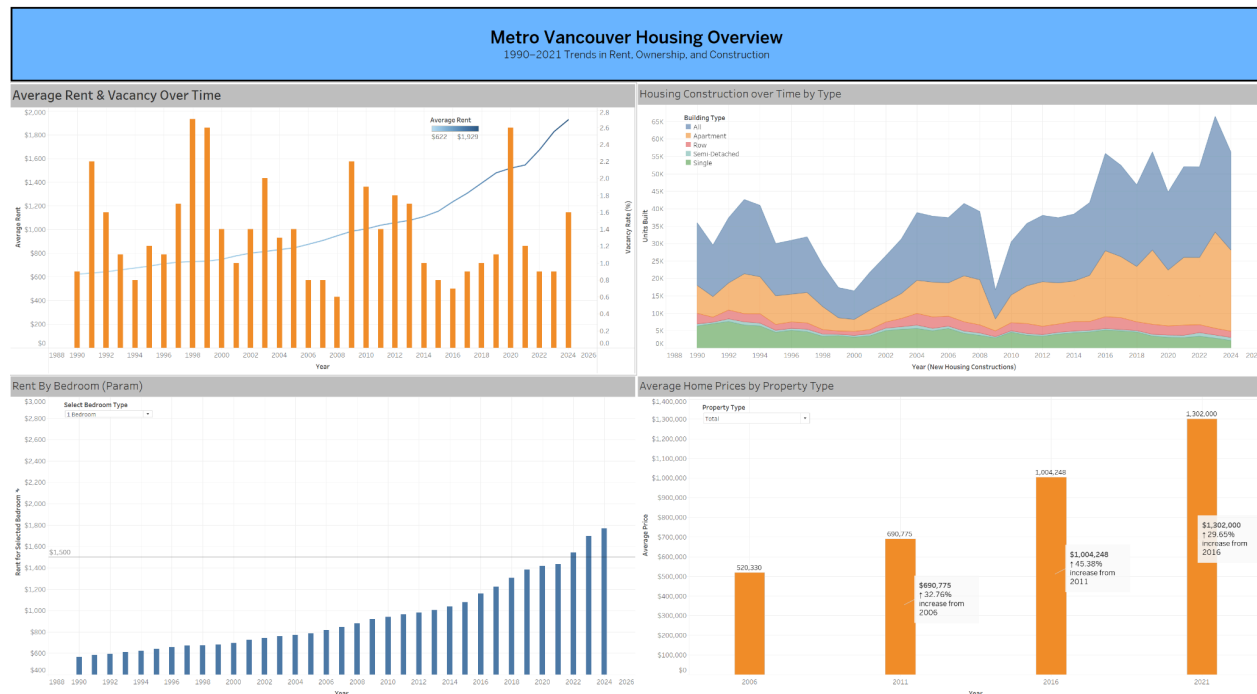


This was an ongoing task throughout the entire project and often required rechecking and adjusting the structure of each dataset before it could be visualized. Every file needed to be reshaped from wide format to long format, and fields like “Average Rent” or “Construction Starts” had to be aligned across all files.

Even though it took time, this process was essential to ensure that all filters, parameters, and city-level breakdowns would work in Tableau. It also helped identify which metrics could be directly compared, such as matching immigration counts with housing trends by year and city.

5. Visualizations and Analysis

Dashboard 1: Metro Vancouver Housing Overview



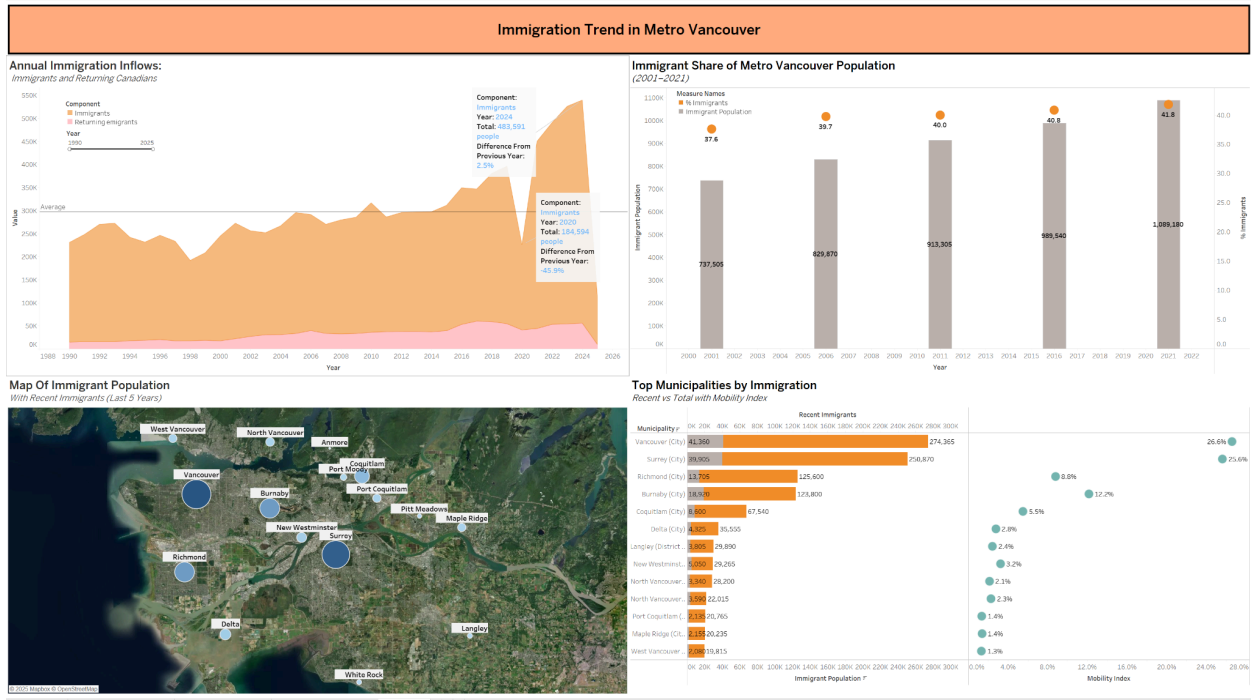
Key Findings:

This dashboard shows long-term trends in average rent, vacancy rates, construction starts, and housing prices.

- **Rent Trends:** Rent has steadily increased across all bedroom types, especially after 2015. The average rent has nearly tripled since 1990.
- **Construction Activity:** We saw a big jump in construction starts after 2016, but not enough to fully match the growing demand.
- **Vacancy Rates:** These have stayed below 2% since 2015, showing how tight the rental market really is.
- **Dwelling Prices:** Average dwelling values shot up dramatically, by almost 93% between 2006 and 2021. This was especially noticeable in cities with high immigration.

One thing to keep in mind is that the data only shows what was built, not what was actually affordable or accessible. So while more housing is being built, affordability still remains a big issue.

Dashboard 2: Immigration in Metro Vancouver



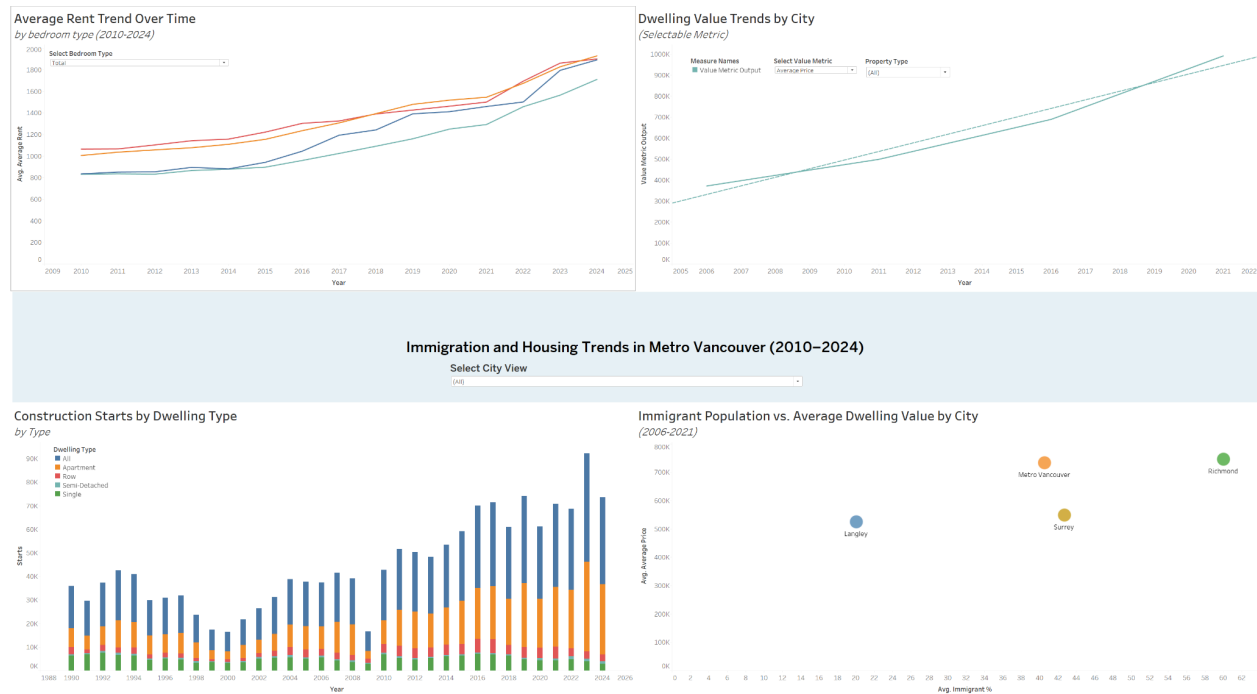
Key Findings:

This dashboard focuses on how immigration has changed over time and how it looks across different cities.

- **Total Immigration:** Immigration reached a peak in 2024 with almost 500,000 new arrivals.
- **Population Impact:** Immigrants made up almost 42% of the Metro Vancouver population in 2021.
- **Mobility and Resettlement:** Surrey and Vancouver showed the highest mobility indexes, which could mean more short-term movement or housing shifts within those cities.

An unexpected insight was how different cities absorb immigration differently. Richmond, for example, has a very high immigrant percentage but relatively slow growth in new housing starts compared to places like Langley.

Dashboard 3: City-by-City Deep Dive



Key Findings:

This dashboard allows users to pick a city and see its trends side-by-side.

- **Richmond** stands out for having the highest immigrant population percentage (over 60%) and some of the highest dwelling prices.
- **Langley** surprised me by showing large growth in construction despite lower immigration numbers.
- **Surrey and Vancouver** had a balanced mix of both: steady immigration and solid housing growth, although affordability remains a challenge.

One interesting chart here was the scatter plot showing a strong positive correlation between immigrant population percentage and housing prices. This doesn't prove causation, but it raises good questions about housing demand in areas with growing immigrant communities.

6. Tableau Components

The project used a variety of Tableau features to enhance interactivity and provide deeper insights:

- **Parameters:** Used to allow users to switch between bedroom types (1BR, 2BR, 3BR, Total) and housing types (apartment, row, single-detached). Found in the housing and city dashboards.
- **Filters:** City and year filters are available on each dashboard and synchronized across sheets for consistent comparisons.
- **Dual-Axis Charts:** Used in rent vs. vacancy and immigrant % vs. dwelling price graphs to show two related metrics with different scales.
- **Calculated Fields:** Used to show percent increases, growth rates, immigrant share of total population, and metrics like Net Migration.
- **Maps:** A geographic visualization to show distribution of recent immigrants across Metro Vancouver cities.
- **Dashboard Actions:** Interactivity between graphs, filters, and highlight actions. For example, selecting a city updates all related charts.
- **Scatter Plots and Trend Lines:** Showed correlations, like between immigration percentage and dwelling prices.
- **Customized Tooltips:** Included formatted values (percent signs, currency) and dynamic information per data point.

7. Recommendations/Conclusions

After going through all the data, a few things really stood out, and they point to some useful takeaways for cities, planners, and anyone trying to make sense of Metro Vancouver's growth.

- **Immigration and Housing Are Closely Linked**
In cities like Richmond and Surrey, where there's been steady immigration growth, housing demand is clearly rising. It's important for these cities to keep immigration trends in mind when making housing plans.
- **We Need More Apartments and Multi-Family Units**
Construction has picked up since 2015, but a lot of it is still not enough to meet the demand, especially in fast-growing cities. More focus on apartments and row housing could help balance things out.
- **Keep an Eye on Affordability**
It's not just about building more, it's about making sure people can actually afford to live there. Even in places with higher vacancy or construction, costs are still going up. That's something future dashboards could dig into even more.
- **Work Together Across Cities**
Since immigration affects the whole region, not just one city, it would make sense for cities to share info and work on plans together, instead of in silos.

Overall, this project shows that there's a strong connection between population growth and housing pressure. Having the right data, and being able to see it clearly, is key to making smart decisions.

8. Citations

- Canada Mortgage and Housing Corporation (CMHC). “Rental Market Statistics,” various years. Accessed via official CMHC data tables and reports.
- Statistics Canada. “Census Profile, 2001–2021,” and “Annual Demographic Estimates.” Accessed via <https://www.statcan.gc.ca>.
- City of Surrey. “Population and Immigration Trends,” internal planning documents and published summaries.
- Metro Vancouver Regional District. “Metro Vancouver Housing Data Book.” Accessed via metrovancover.org.
- City of Richmond. “Population and Housing Highlights,” planning reports and census extracts.
- City of Langley. “Community Profile and Population Reports,” various years.