

# DATA-DRIVEN INSIGHTS INTO HOUSING TRENDS: FORECASTING AFFORDABILITY RISKS

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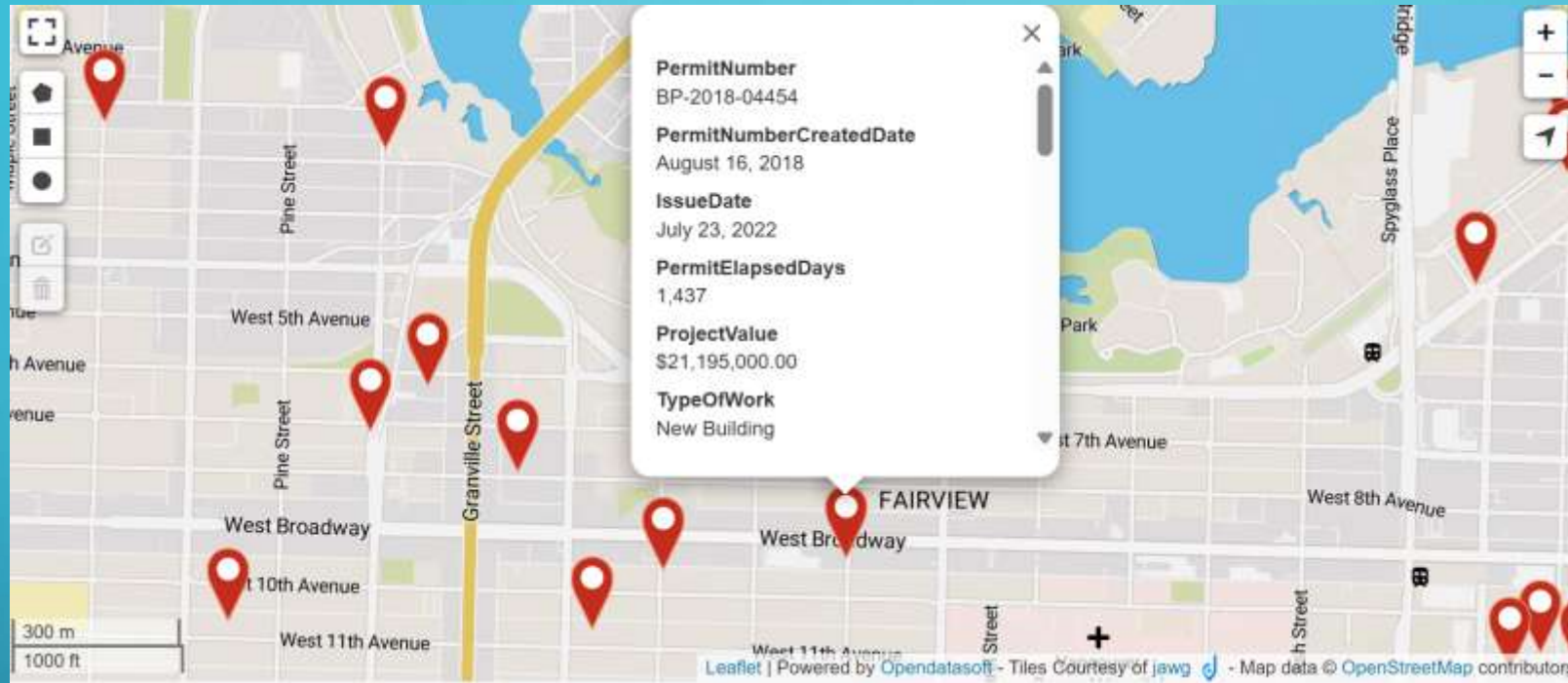
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## “OUR HOMES ARE MORE JUST THAN YOUR INVESTMENT”

- The Broadway Plan is a 30-year redevelopment strategy for Vancouver’s Broadway Corridor, focused on building high-rise housing nearby new SkyTrain stations.
- Critics fear it will lead to the displacement of renters and worsening affordability.
- This project uses machine learning to model how new developments may impact local housing affordability.

# PREDICTIVE MODELING WITH MACHINE LEARNING



Goal: Build a predictive tool to estimate the effects of developments like those in the Broadway Plan.

- Define affordability metrics at the neighborhood level.
- Use supervised machine learning regression models (such as **Linear Regression, Random Forest, and K-nearest neighbors**) to uncover correlations between development types and shifts in affordability.



# PURSuing HOUSING EQUITY WITH DATA SCIENCE



- Activists have organized protests to challenge displacement linked to large-scale redevelopment plans.
- My goal is to provide a data-driven tool to help assess how specific developments may impact neighborhood affordability.

# INTRODUCING THE DATA



	Bachelor		1 Bedroom	
Zone	Oct-20	Oct-21	Oct-20	Oct-21
Zone 1 - West End/Stansley Park	1,229	1,280	1,537	1,538
Zone 2 - English Bay	1,340	1,337	1,637	1,621
Zone 3 - Downtown	1,450	1,470	1,741	1,727
West End/Downtown (Zones 1-3)	1,389	1,406	1,673	1,660
Zone 4 - South Granville/Oak	1,243	1,296	1,517	1,556
Zone 5 - Kitsano/Point Grey	1,261	1,300	1,553	1,579
Zone 6 - Westside/Kerrisdale	1,248	1,156	1,459	1,474
Zone 7 - Marpole	965	1,046	1,138	1,161
Zone 8 - Mount Pleasant/Renfrew Heights	1,281	1,333	1,351	1,388
Zone 9 - East Hastings	1,330	1,385	1,318	1,297
Zone 10 - Southeast Vancouver	1,155	1,248	1,413	1,403



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- The project combines **housing construction data** with **neighborhood-level economic indicators**.
- Preliminary EDA shows the datasets are rich and detailed.
- I anticipate challenges in merging datasets and handling inconsistent values.
- Careful adjustments will also be needed to account for macroeconomic factors.

# NEXT STEPS

- Clean and organize datasets, building a cohesive database using SQL and Python.
- Conduct feature engineering to align construction data with neighborhood-level economic indicators.
- Research machine learning models used in housing analysis to identify suitable algorithms.
- Begin baseline modeling!

The background is a blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles representing nodes.

QUESTIONS?