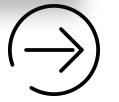
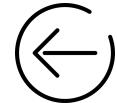


AIRBNB SCRAPER: PROOF OF CONCEPT DASHBOARD

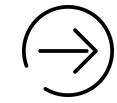


Course: Business Intelligence (BDAT 1010)

Rimi Mondal (200543066)



Toronto Airbnb Market: At a Glance



Price

\$21 \$2,860

Total Number of Listings

12K

Average Price

\$180

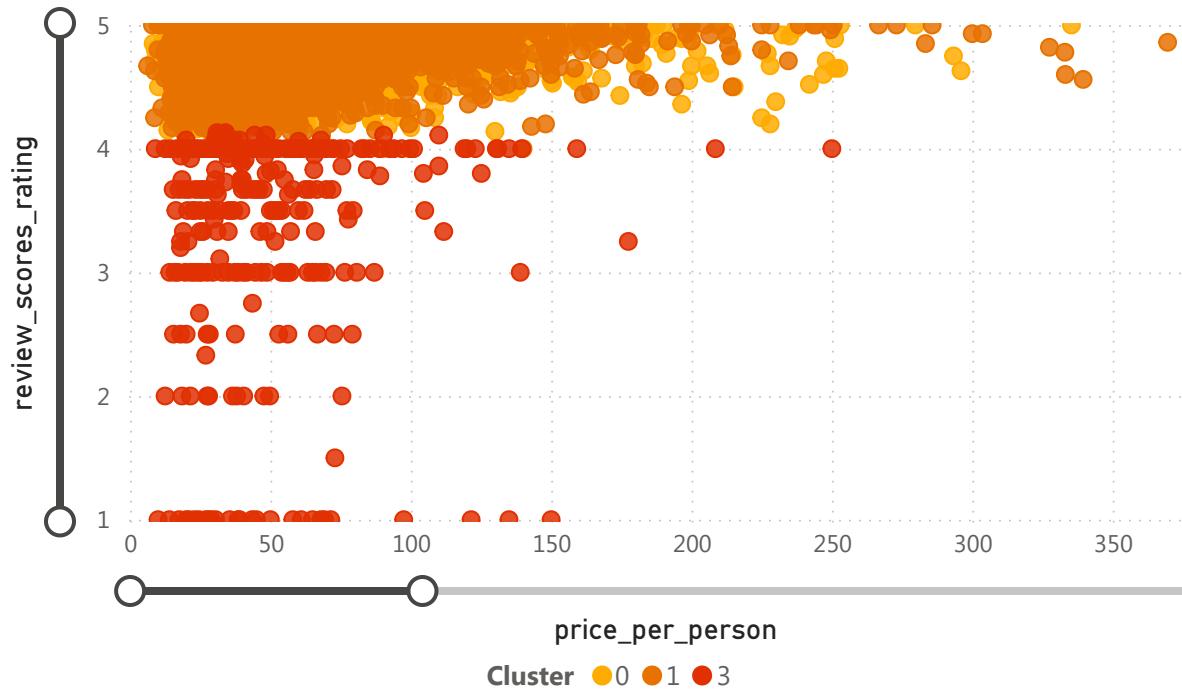
Average Occupancy Rate

46%

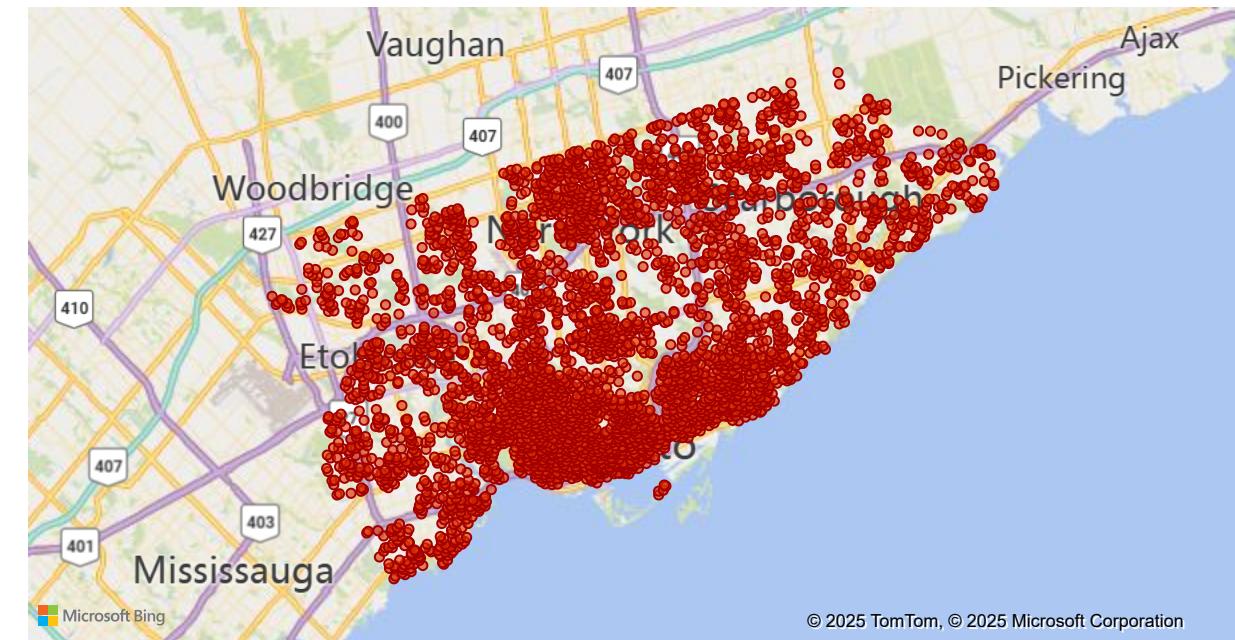
Percentage of Total Superhost

48%

Identifying Performance Tiers by Price and Rating



Listings by Location

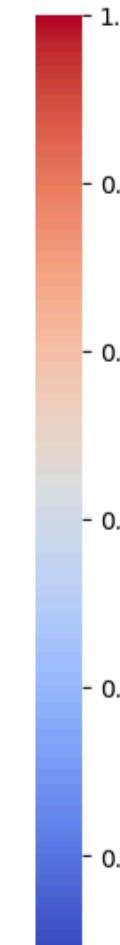
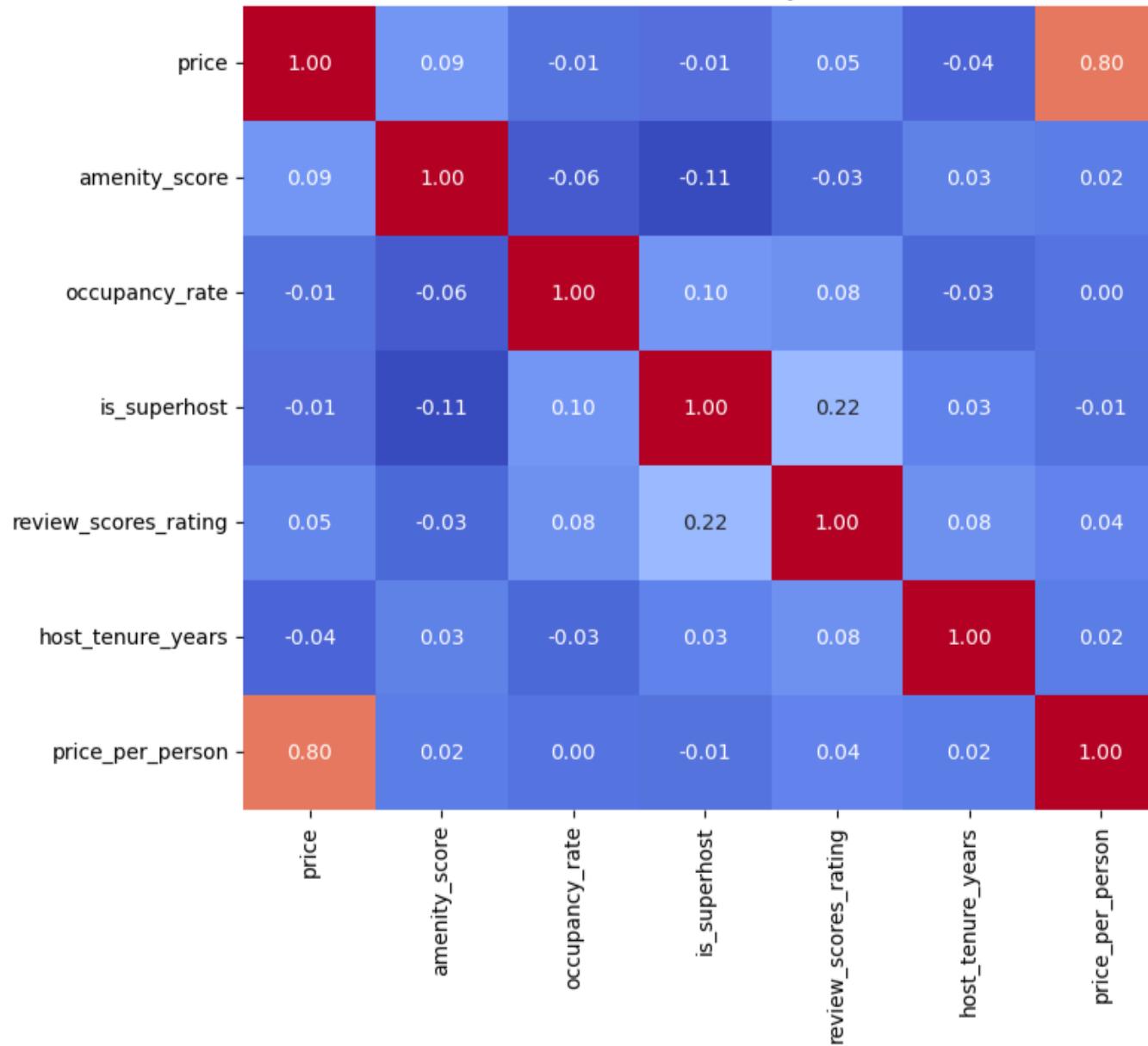




Key Market Relationship



Correlation Matrix by Key Features



This matrix reveals the underlying relationships between key listing features.

Key Findings

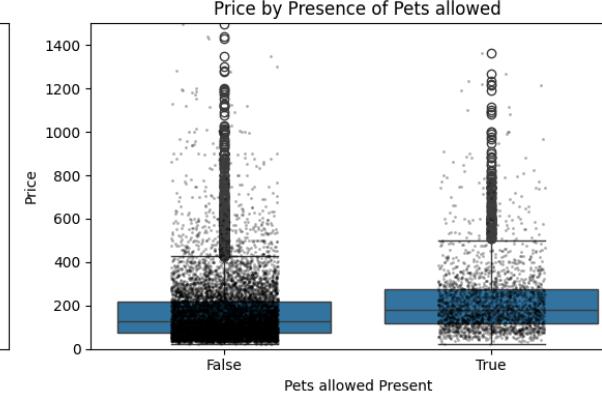
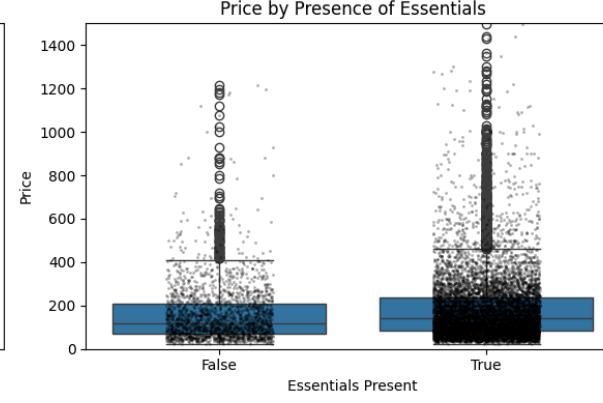
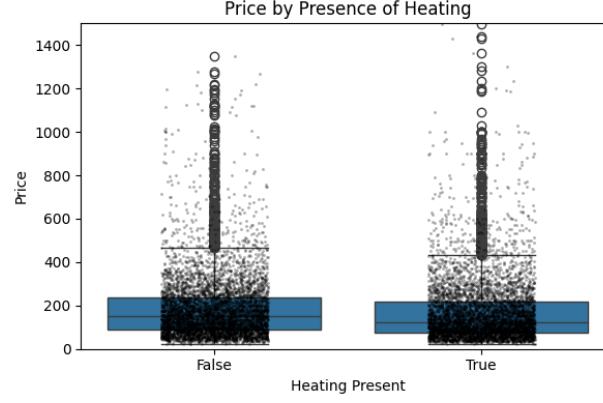
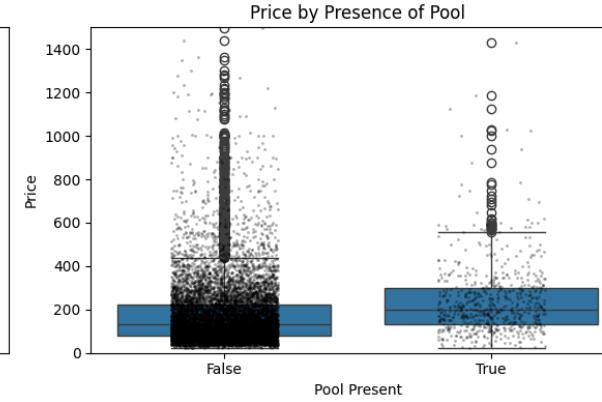
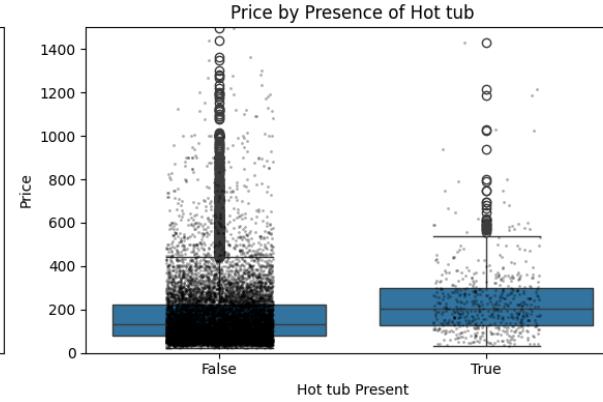
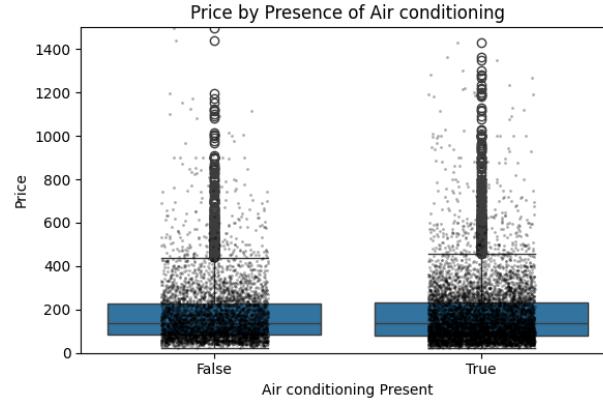
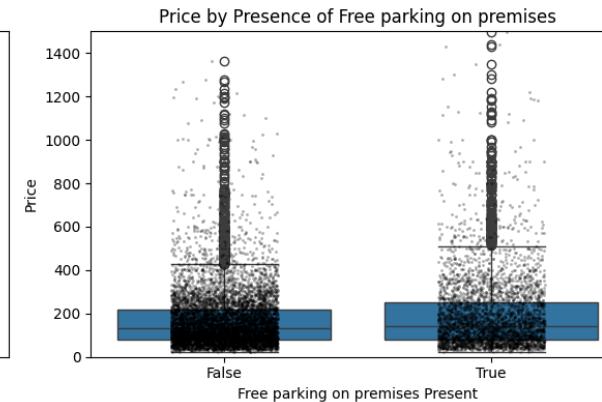
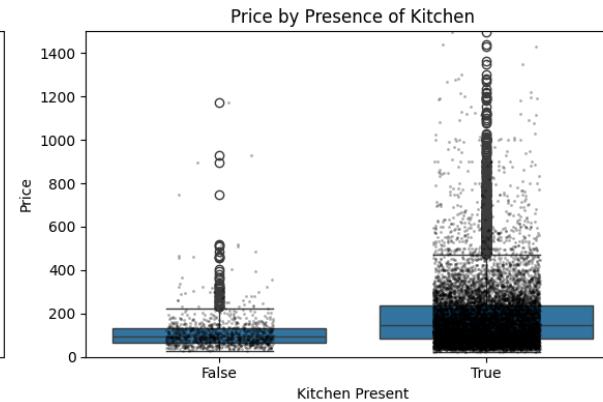
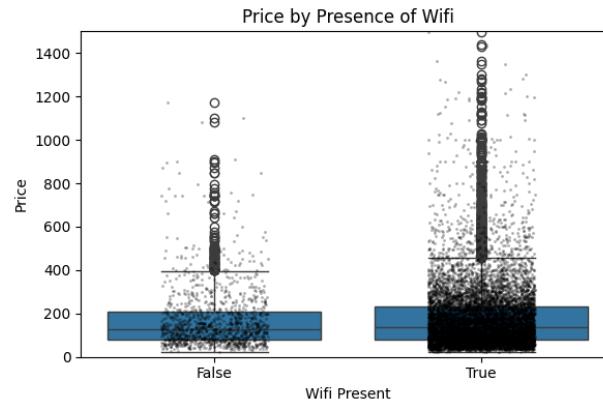
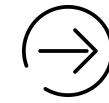
- The Superhost Formula:** The data shows a clear pattern for Superhosts. The strongest driver of is_superhost status is a high review_scores_rating (correlation of **0.22**). This is followed by a higher occupancy_rate (**0.10**), confirming that excellent service leads to more bookings and official recognition.
- Surprising Insight on Amenities:** Being a Superhost has a slight *negative* correlation (-**0.11**) with the amenity_score. This suggests that the best hosts may focus more on providing exceptional service rather than simply maximizing the sheer quantity of amenities.
- Price Does Not Equal Quality:** There is almost no relationship (**0.05**) between the price of a listing and its review_scores_rating. This is a crucial insight: expensive listings are not inherently better-rated than more affordable options.
- Experience Isn't a Key Factor:** A host's years of experience (host_tenure_years) has no meaningful impact on their review scores or listing price. New hosts are just as capable of achieving success as long-time veterans.

Main Takeaway

- The data tells a clear story: the path to a successful Airbnb in Toronto is not about having the highest price or the most amenities. The most critical factor is providing outstanding service to earn **high review scores**, which directly influences **occupancy rates** and the coveted **Superhost status**.



How Amenities impact Listing Prices



This analysis compares Airbnb listings **with** and **without** popular amenities, focusing on their impact on **price**.

Key Findings

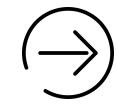
- Comfort Pays Off:** Listings with **Wi-Fi**, **air conditioning**, and **kitchens** tend to have higher median prices, showing that comfort-driven features are valued by guests.
- Luxury Adds a Premium:** Rare amenities like **hot tubs** and **pools** significantly increase price.
- Parking Boosts Value:** Listings offering **free parking** consistently charge more, especially relevant in busy urban areas.
- Standard isn't Special:** **Heating** and **essentials** don't impact pricing much. They're now baseline expectations, not differentiators.

Main Takeaway

- Amenities matter, but not all equally. **Comfort and luxury features** can push listing prices higher, while **standard amenities** are more about meeting expectations than commanding a premium. Hosts looking to increase earnings should focus on offering **value-added amenities** like kitchens, hot tubs, or pet-friendliness, which directly influence pricing power.

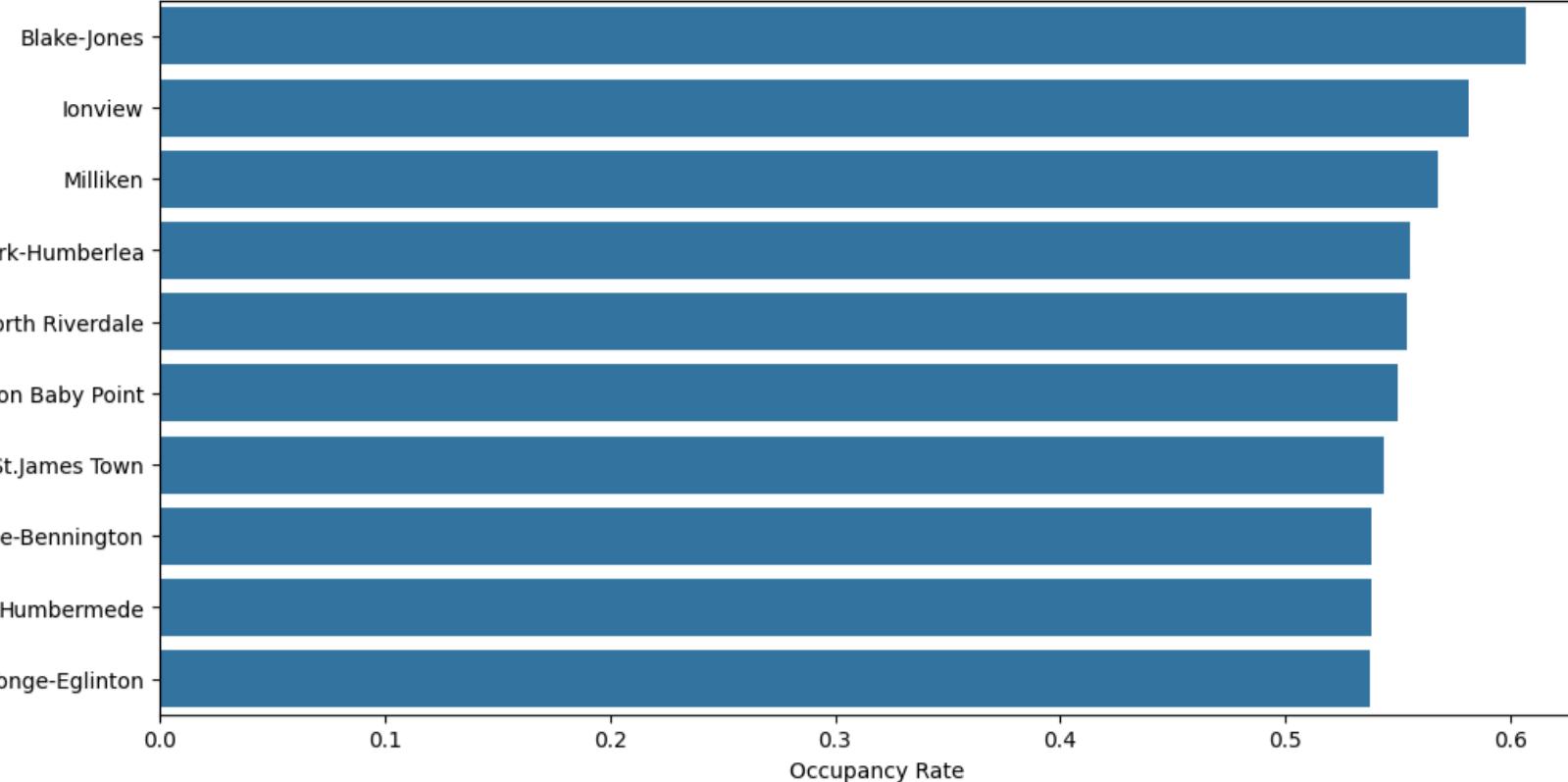


Occupancy & Price by Neighborhood



Top 10 Neighborhoods vs Occupancy Rate

Neighborhood



This analysis identifies top-performing neighborhoods based on occupancy rates (demand) and a price-to-occupancy ratio (value).

Key Findings

- **High-Demand Hotspots:** **Blake-Jones** is the top neighborhood for pure demand, achieving the highest occupancy rate at approximately 60%. **Ionview**, and **Milliken** are also elite performers with consistently high guest bookings.
- **The "Sweet Spot" - High Demand & Great Value:** **Humbermede**, **Ionview** and **Milliken** are the standout markets for overall opportunity. They are the only neighborhoods to appear in the top 10 for **both** high occupancy and the best price-to-occupancy ratio, indicating a perfect blend of strong demand and effective pricing.
- **Identifying Best Value:** The price_occupancy_ratio reveals markets that balance price and demand effectively. A lower score is better. **Humbermede**, **York University Heights**, and **Glenfield-Jane Heights** lead this list, making them excellent value markets.

Main Takeaway

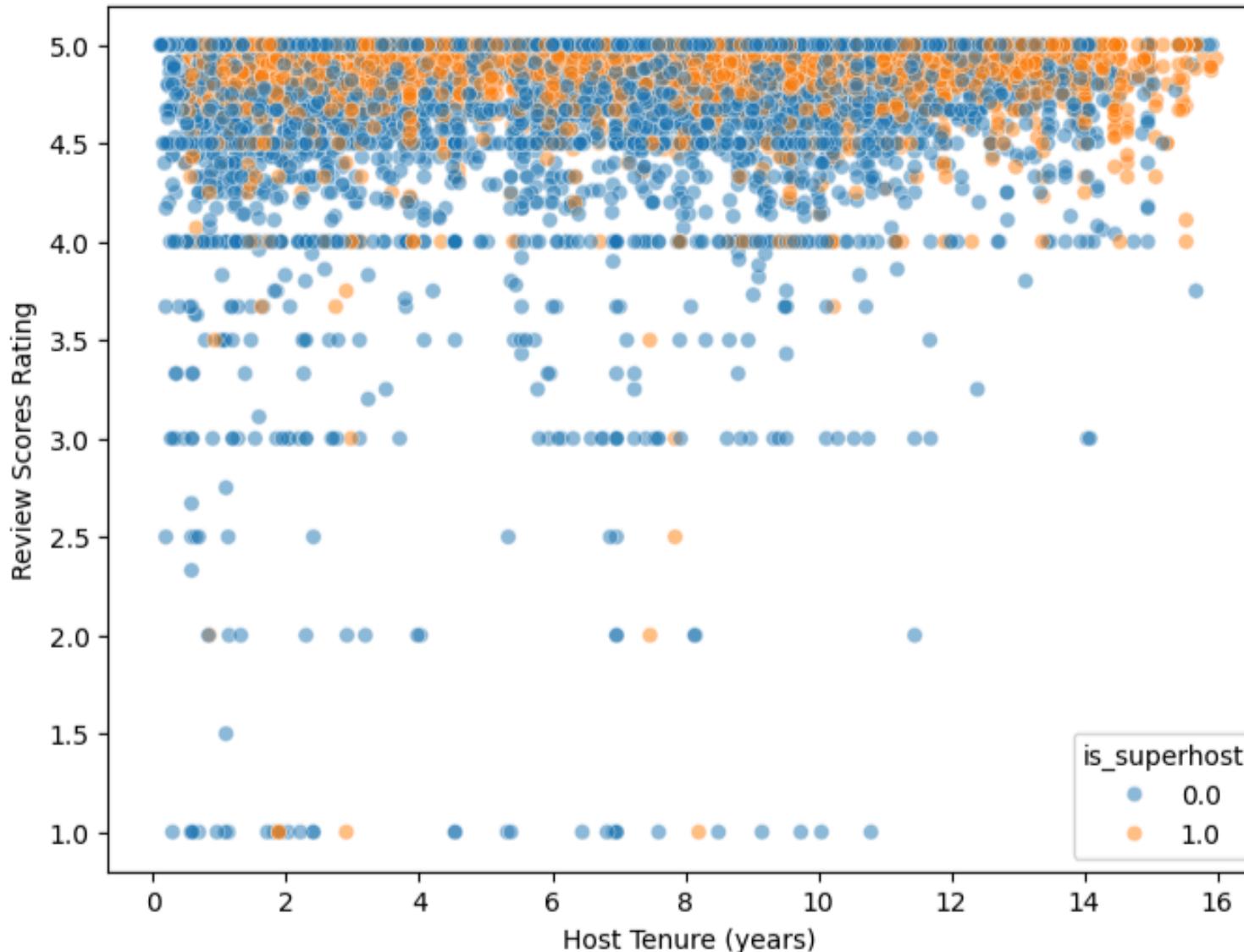
For the highest potential return, focus should be on neighborhoods that hit the sweet spot of high demand and good value, such as **Humbermede**, **Ionview**, and **Milliken**. While **Blake-Jones** has the most traffic, its pricing may be less efficient than these other prime markets.



Superhost Performance Analysis



Host Tenure vs Review Scores by Superhost Status



This analysis compares Superhosts (orange) and regular hosts (blue) based on ratings, tenure, occupancy, and price.

Key Findings

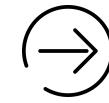
- Superhosts are Defined by Elite Ratings:** The clearest difference is the review score. Superhosts are almost exclusively rated between 4.8 and 5.0, with an average rating of **4.88**. Regular hosts have a much wider range of scores.
- Better Ratings Drive More Business:** Superhost status directly translates into more bookings. They achieve a significantly higher average occupancy rate of **49%**, compared to 43% for regular hosts.
- Surprising Pricing Strategy:** Despite better ratings and higher occupancy, Superhosts on average charge slightly *less* per night (\$183) than regular hosts (\$189). This may indicate a strategy of competitive pricing to maximize occupancy and maintain their status.
- Experience Doesn't Dictate Success:** Host tenure (years on the platform) has almost no correlation with review scores. New hosts are just as likely to have top-tier ratings as veteran hosts, showing that quality of service is what matters most.

Main Takeaway

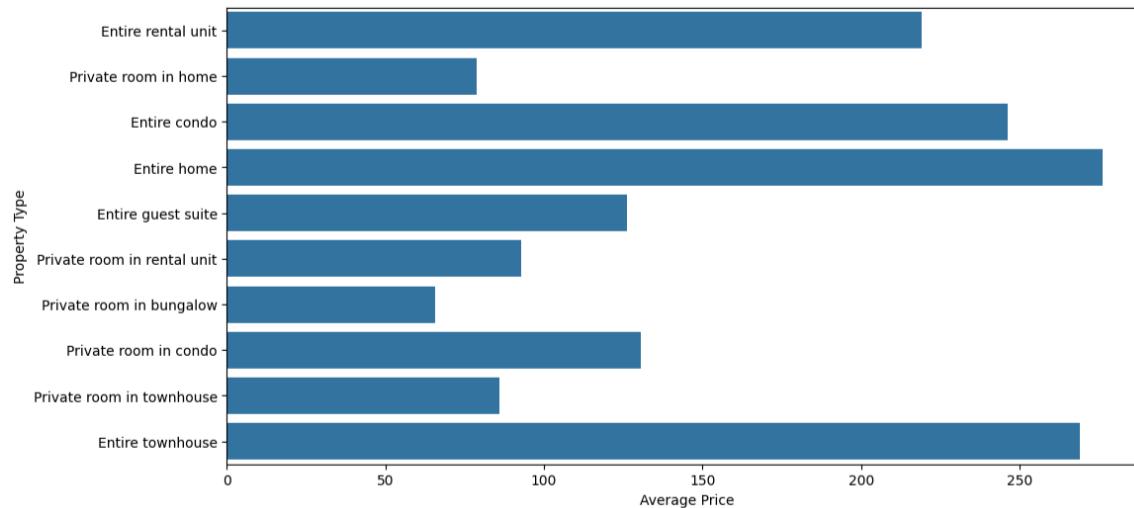
The path to success on Airbnb is clear: by providing exceptional service to earn elite reviews and pricing the listings competitively. This strategy is proven to drive higher occupancy and is the key to achieving Superhost status.



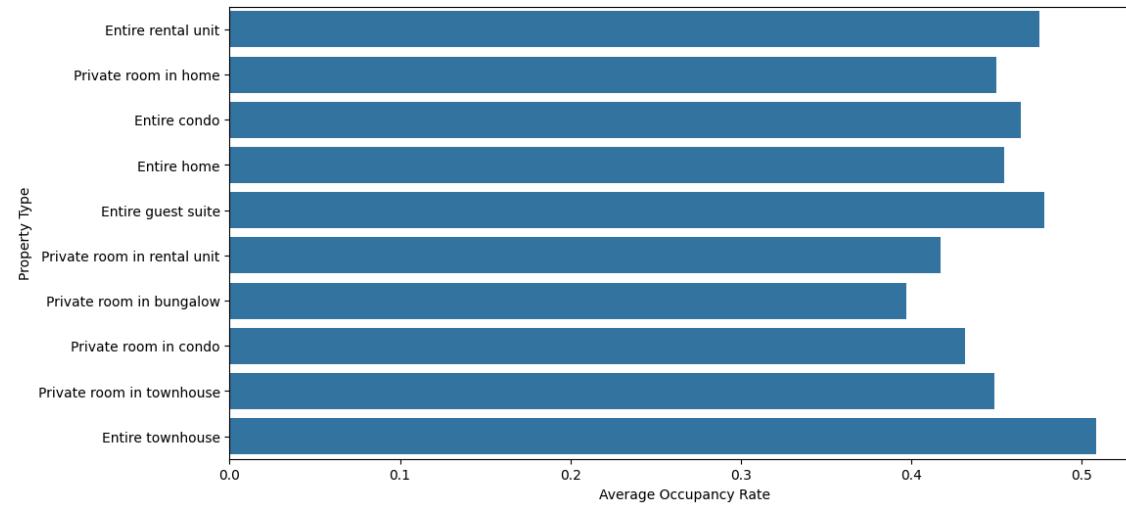
Performance by Property Type



Average Price by Property Type



Average Occupancy Rate by Property Type



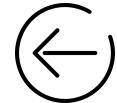
This analysis breaks down the average price and occupancy rate for different types of Airbnb listings.

Key Findings

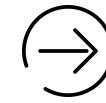
- 'Entire Place' Listings Dominate the Market:** Properties where guests rent the entire space (home, condo, guest suite) consistently outperform private rooms. They command significantly higher prices and achieve higher occupancy rates, showing a clear market preference for privacy.
- Highest Earners:** Entire home and Entire townhouse are the most lucrative listings, with average prices easily exceeding \$250. These represent the premium segment of the market.
- Top Performers for Occupancy:** Entire guest suite and Entire rental unit boast the highest average occupancy rates, both approaching 50%. While slightly cheaper than a full home, their high demand makes them extremely reliable for consistent bookings.
- Private Rooms Serve a Budget Niche:** Private rooms operate at a much lower price point and, in turn, have lower average occupancy. They cater to a distinct, budget-conscious traveler segment rather than competing with larger properties.

Main Takeaway

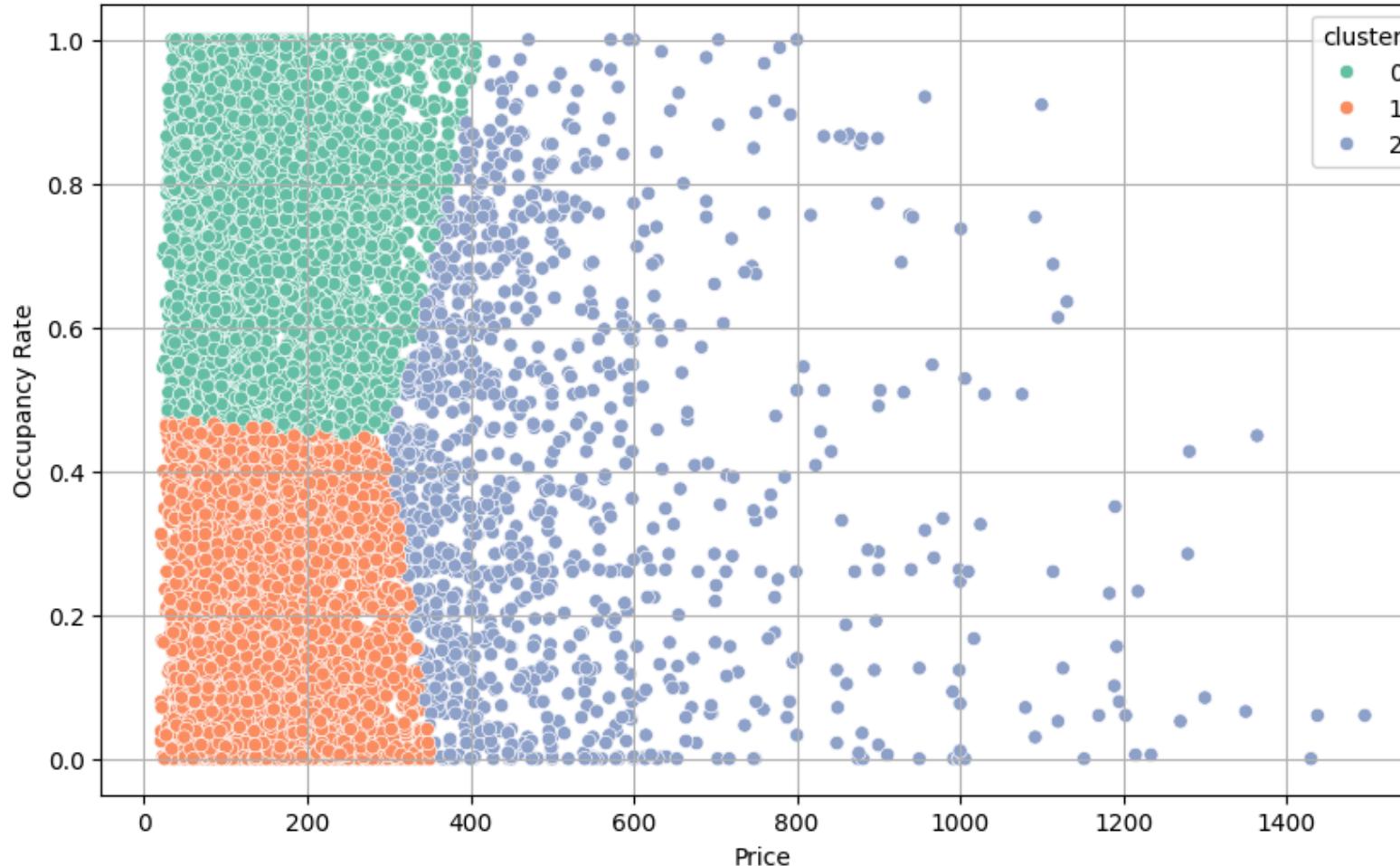
For hosts, the data shows a clear path to maximizing revenue: investing in and listing an 'Entire Place'. These properties attract higher rates and more frequent bookings than private room offerings.



Market Segmentation Analysis



Clustering Listings by Price and Occupancy



This chart uses clustering to group listings into three distinct market segments based on their price and occupancy rate. This helps identify the different strategies at play in the Toronto rental market.

Segment Definitions

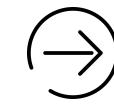
- Cluster 0 (Mint): The Sweet Spot** - This group represents the high-value performers. They are defined by a **low-to-moderate price (under ~\$350)** combined with a **high occupancy rate (over 45%)**. These listings have found the ideal balance to attract a steady stream of guests.
- Cluster 1 (Orange): The Underperformers** - These listings are priced similarly to the "Sweet Spot" group but suffer from **low occupancy (below 45%)**. They represent a significant opportunity for hosts to improve their performance, likely by adjusting amenities, marketing, or pricing to increase demand.
- Cluster 2 (Blue): The Premium & Niche Market** - This segment includes all listings priced **above ~\$350**. The occupancy rate in this group varies widely, suggesting a more volatile or specialized market. Success here is not guaranteed by price alone and likely depends on unique luxury features or prime locations that can justify the premium cost.

Main Takeaway

For most hosts in Toronto, the clear goal is to position their listing in **Cluster 0**. This requires competitive pricing and high-quality service to achieve the high occupancy that defines a successful property. The premium market (Cluster 2) is less predictable and carries higher risk.



Geographic Market Zones in Toronto



Geospatial Clustering of Listings by Latitude & Longitude



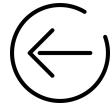
This chart groups Toronto's Airbnb listings into five distinct geographic zones based on their latitude and longitude for understanding how the market behaves in different parts of the city.

Toronto's Geographic Clusters

- Cluster 0 (Red): The Downtown Core** This is the densest and most central cluster, representing the heart of Toronto's Airbnb market. It covers the Financial District, Entertainment District, CityPlace, and Harbourfront.
- Cluster 3 (Purple): Midtown Toronto** Located directly north of the core, this cluster includes affluent and high-demand neighborhoods like Yorkville, The Annex, and the Yonge-Eglinton area.
- Cluster 4 (Orange): The West End** Stretching west of downtown, this zone contains a mix of trendy, residential, and family-oriented neighborhoods such as Liberty Village, Parkdale, Roncesvalles, and The Junction.
- Cluster 1 (Blue): The East End** This cluster covers popular residential areas east of the Don Valley Parkway, including Leslieville, Riverdale, and The Beaches.
- Cluster 2 (Green): North York & Inner Suburbs** The largest and most sprawling cluster, this represents the northern and northeastern parts of the city, covering large sections of North York and Scarborough.

Main Takeaway

This clustering provides a powerful framework for strategic analysis. By using these five distinct zones, key metrics, such as price, occupancy, and popular amenities can be compared to uncover the unique characteristics and opportunities within each of Toronto's primary rental markets.



Top Selling Points in Listings Description



Most Common Words in Listing Descriptions



This word cloud visualizes the most frequently used terms in Toronto Airbnb descriptions, revealing what hosts emphasize to attract guests.

Key Themes from Host Descriptions

- **Location & Convenience are Paramount:** The dominant theme is overwhelmingly about location. The most common words are **downtown**, **subway station**, **walking distance**, and **centrally located**. This proves that walkability and easy access to public transit are the primary selling features in the dense Toronto market.
 - **Core Amenities are Essential:** After location, hosts focus on practical, must-have features. Keywords like **kitchen**, **private room**, **bedroom**, and especially **free parking** are heavily featured. Highlighting a fully equipped kitchen or the availability of parking is a key strategy for standing out.
 - **Selling the Guest Experience:** The language used is persuasive, not just descriptive. Words like **enjoy**, **comfort**, and phrases such as **newly renovated** are used to promise a modern, clean, and pleasant stay, appealing directly to the guest's desire for quality.

Main Takeaway

The data reveals a clear formula for a successful Toronto listing description: lead by emphasizing proximity to downtown and a subway, highlight walkability, and list key functional amenities like a kitchen and free parking. Framing this with language about comfort and enjoyment creates a compelling pitch for potential guests.