



Exploratory analysis of Airbnb landscape in Sydney



Landscape overview

Data in 2024 as of end of June 2024.

In this report, 2024 means L12Ms (Jul/2023 - Jun/2024)

Number of listings as end of Jun'24

11,340

Number of hosts as end of Jun'24

5,755

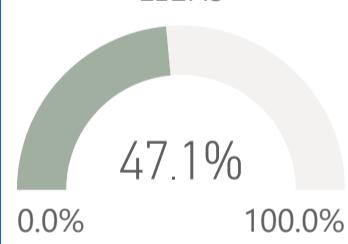
Average nights booked in L12Ms

75

Average of revenue per listing L12Ms

15,920

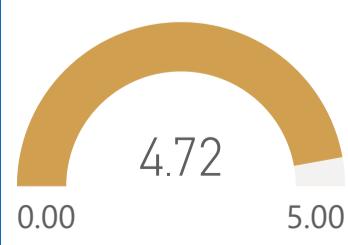
Average occupancy rate L12Ms



Total number of reviews L12Ms

157K

Average reviews rating as end of Jun'24



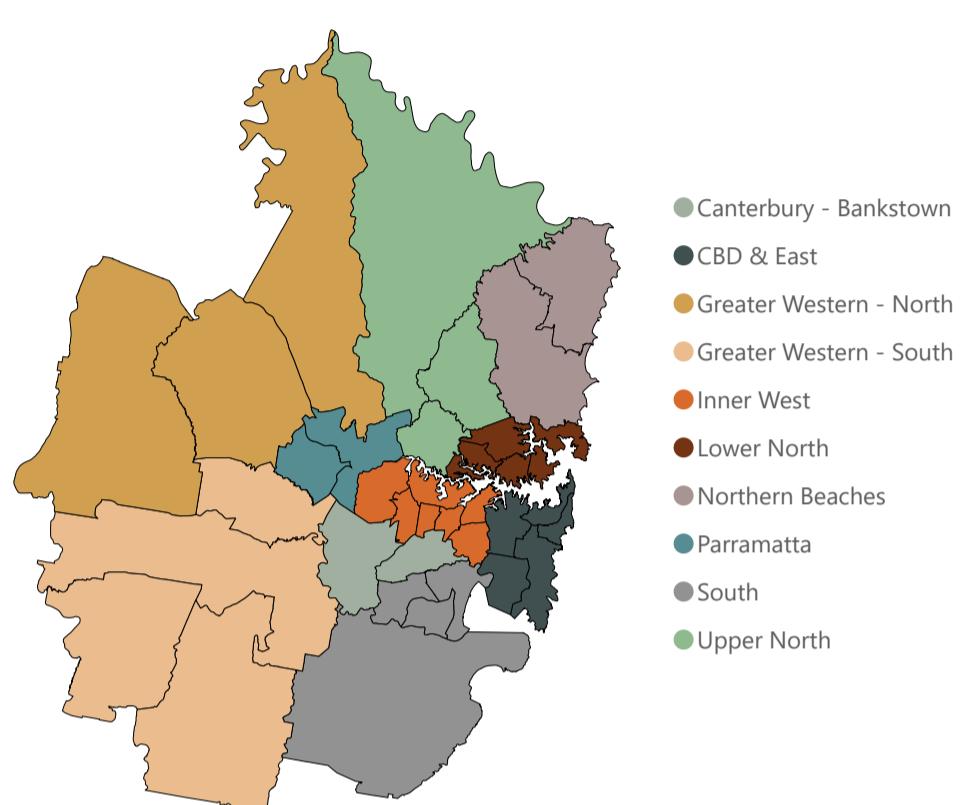
Pricing factors

2024

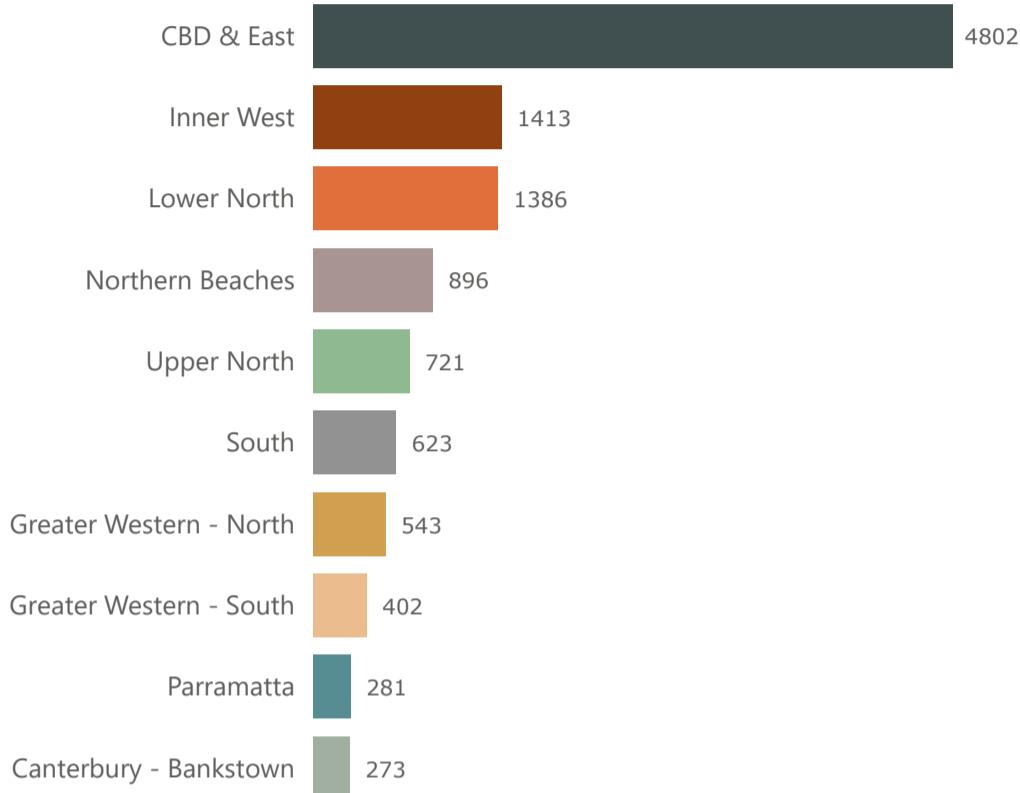
2021

Project information

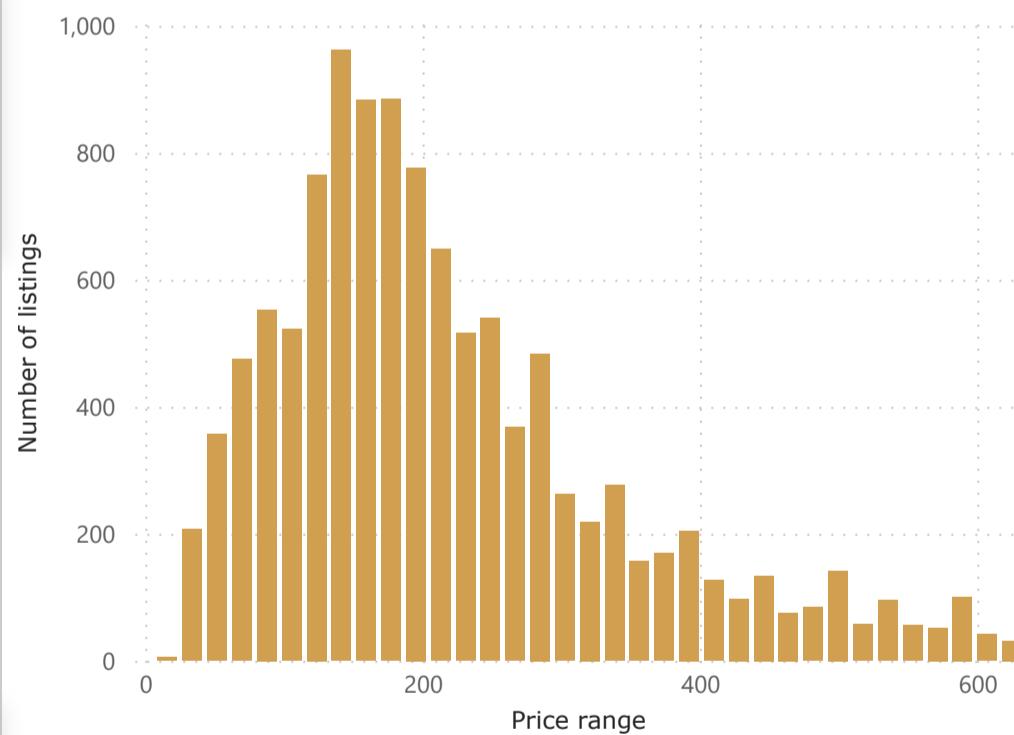
Sydney by 10 groups of neighbourhood as end of Jun'24



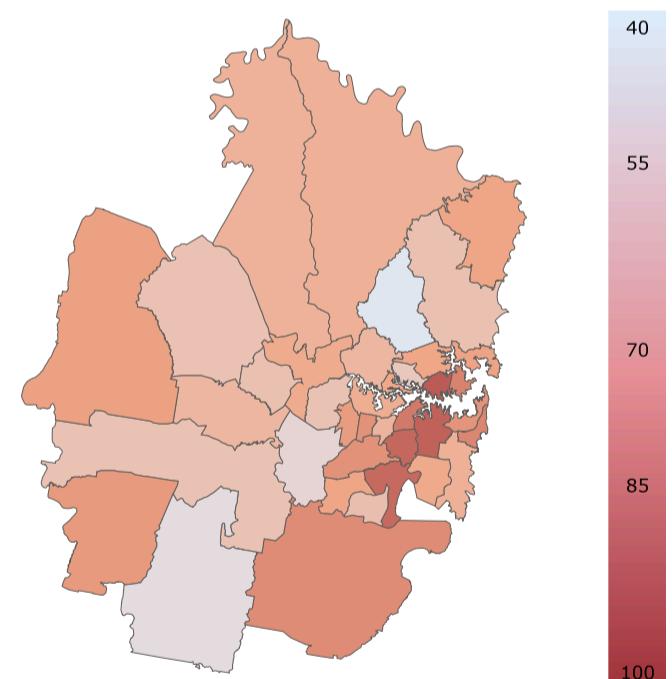
Number of listing in each area as end of Jun'24



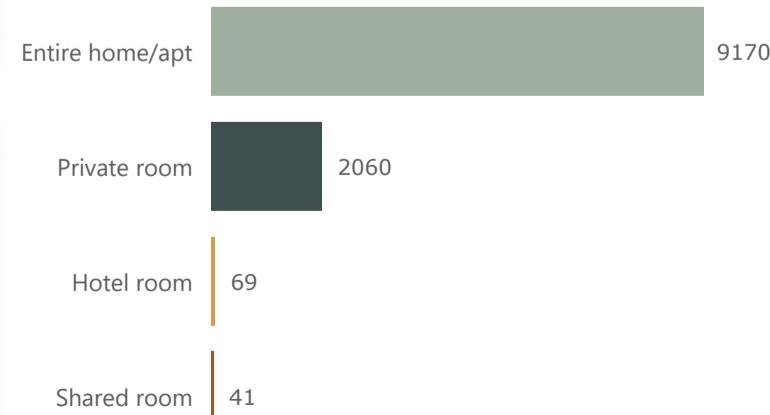
Price distribution of listing (in AUD) L12Ms



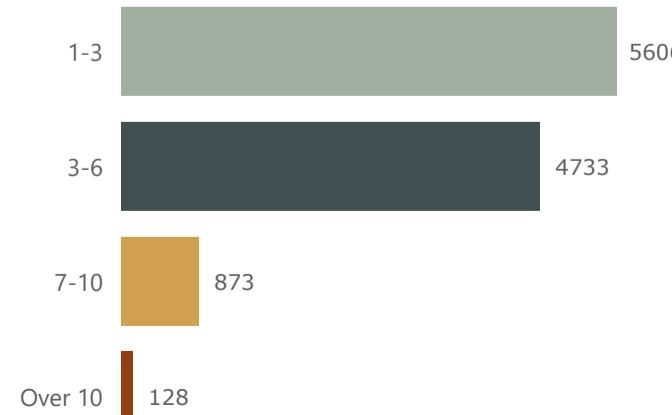
Average nights of booking by area as end of Jun'24 (nights/ L12Ms)



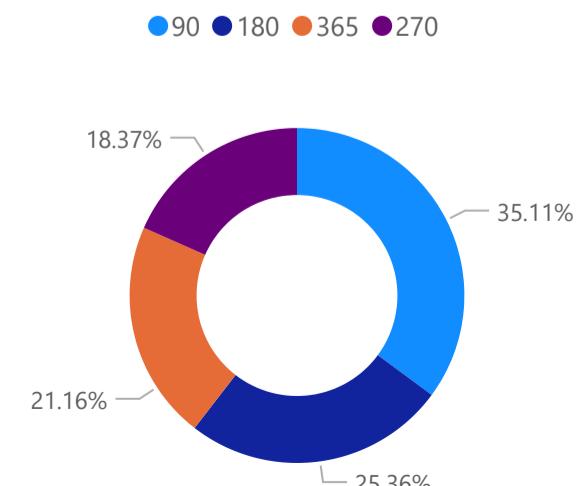
Number of listings by type of properties as end of Jun'24



Number of listings by capacity (accommodates) as end of Jun'24



Number of listing by availability by Jun'24





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Number of listings as end of 2021

27,387

Number of hosts as end of 2021

21,014

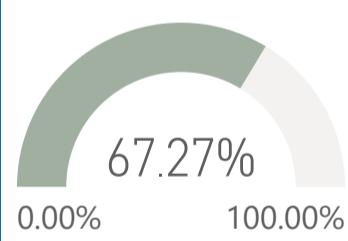
Average of Night_booked in 2021

70.13

Average of revenue per listing in 2021

9,444

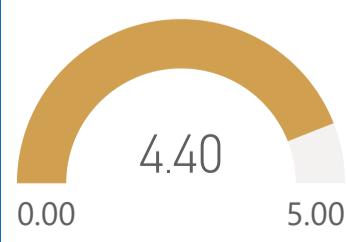
Average of occupancy rate end of 2021



Total number of reviews in 2021

65K

Average rating as end of 2021



Pricing factors

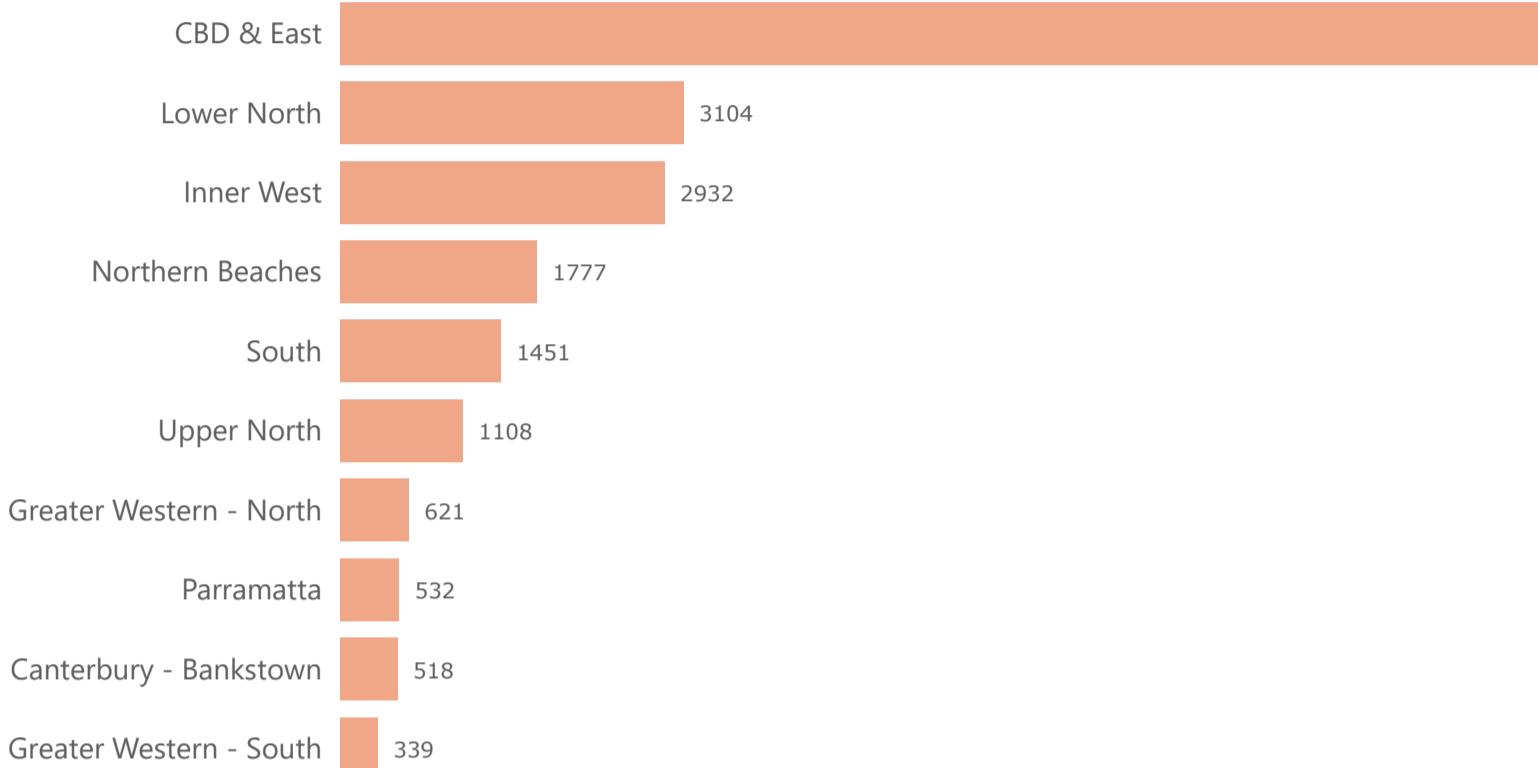
2024

2021

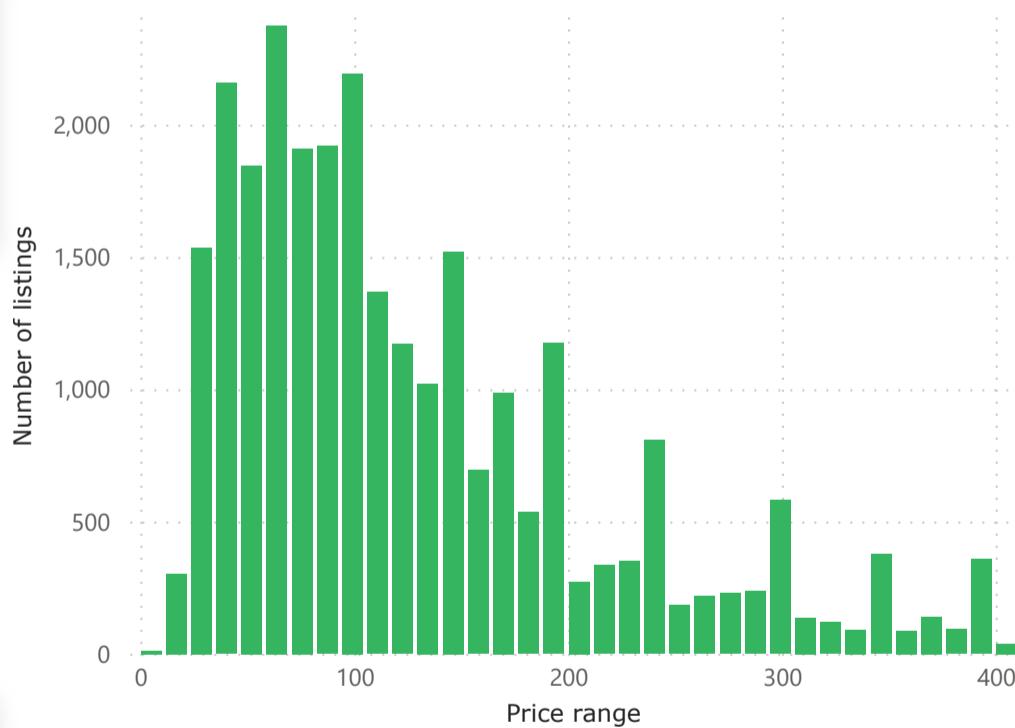
Occupancy factors

Fix the filter button for 2021

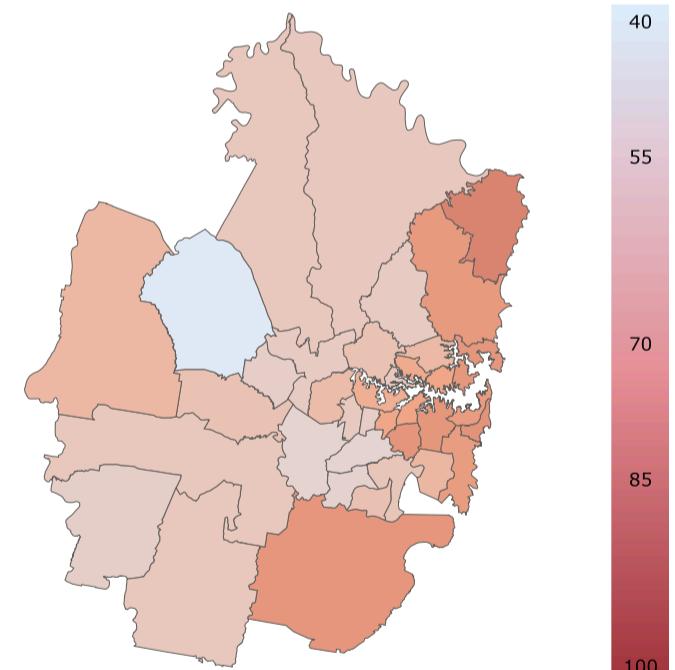
Number of listing in each area as end of 2021



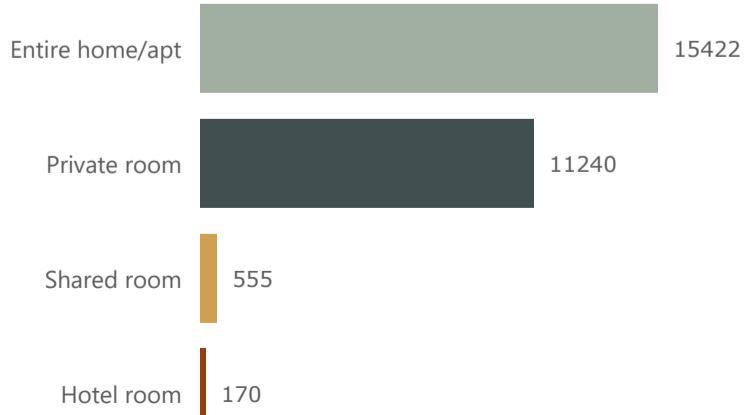
Price distribution of listing (in AUD) as end of 2021



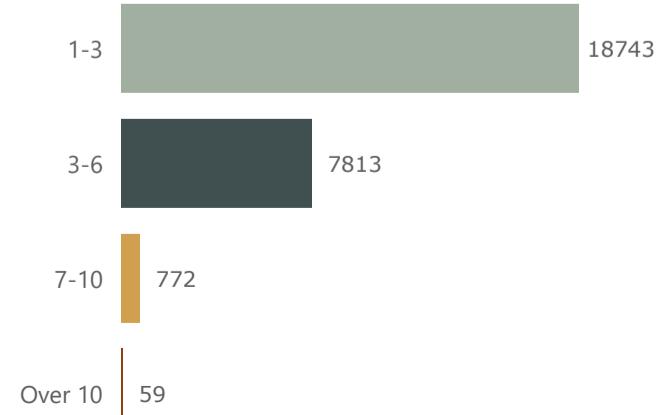
Average nights of booking by area as end of 2021 (nights/ L12Ms)



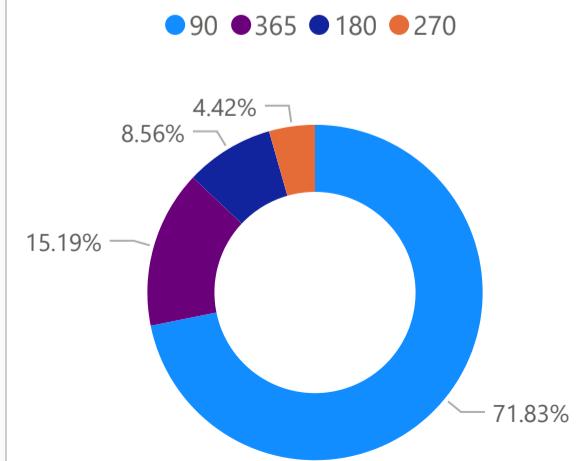
Number of listings by type of properties as end of 2021



Number of listings by capacity (accommodates) as end of 2021



Number of listing by availability by 2021



Landscape overview

Pricing factors

Occupancy factors

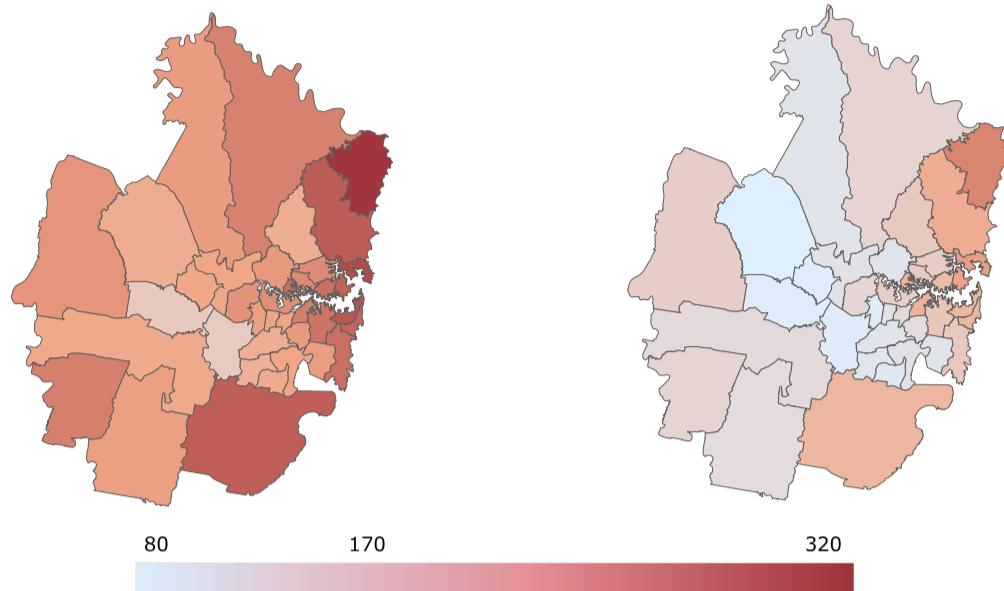
Data in 2024 as of end of June 2024.

In this report, 2024 means L12Ms (Jul/2023 - Jun/2024)



Project information

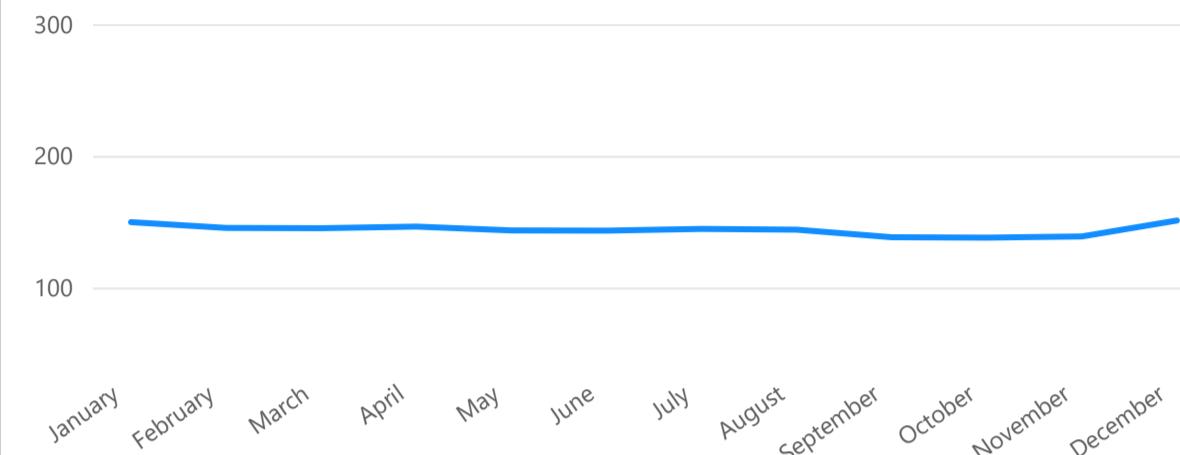
Average price (AUD) by area in 2024



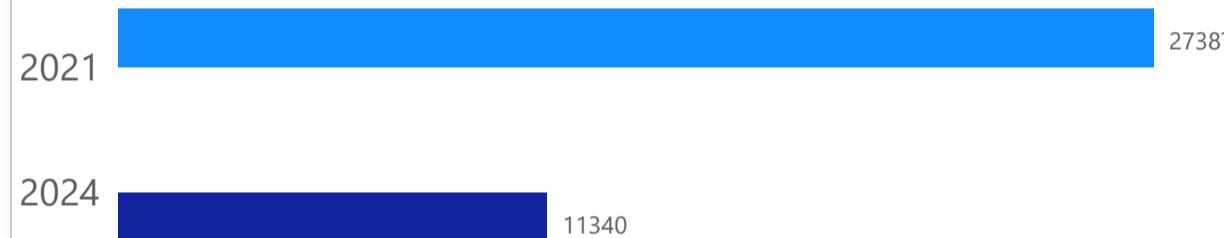
Average price (AUD) by area in 2021

Average price by month (seasonality)

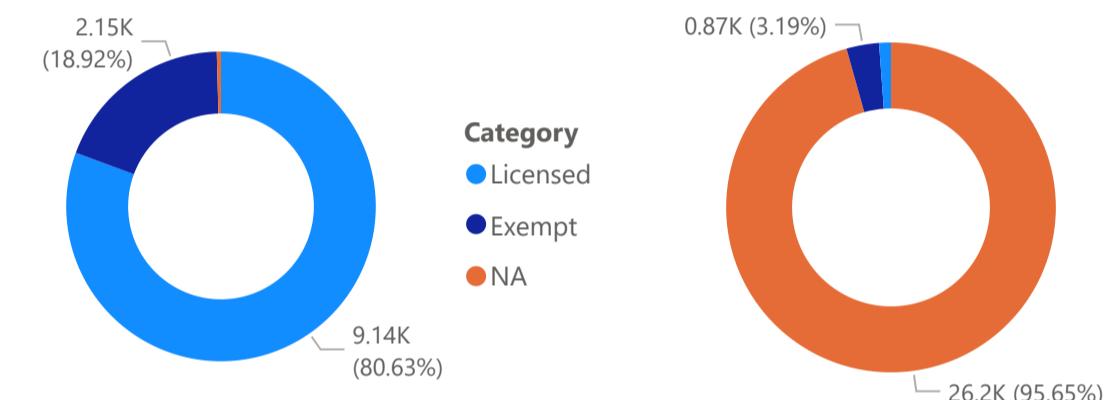
— 2021 — 2024



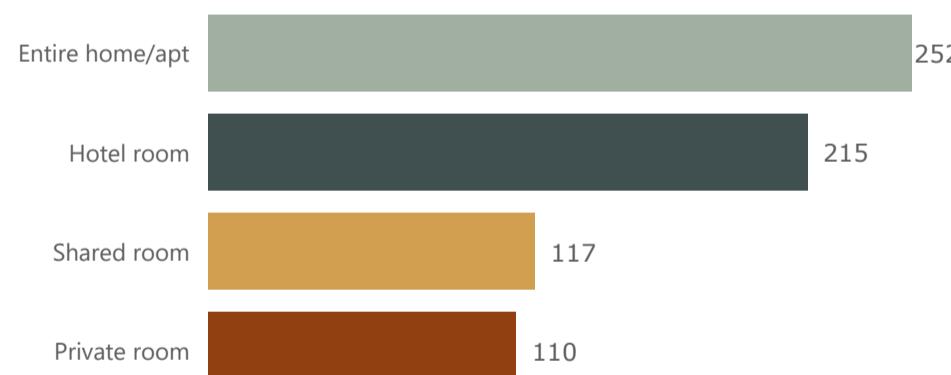
Number of listing in 2024 vs 2021



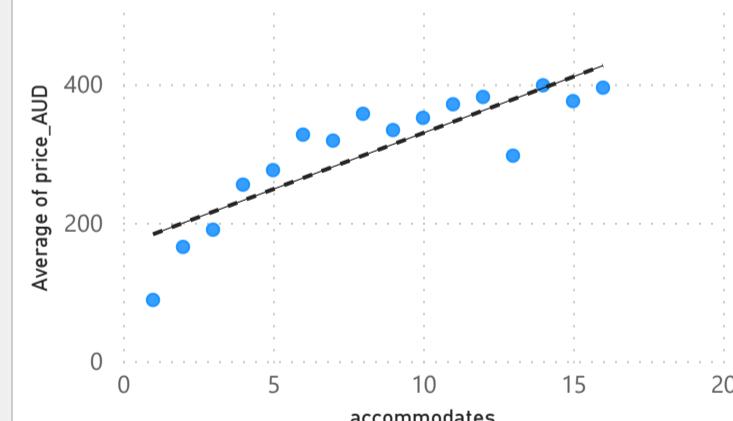
Short term rental (STR) licensing in 2024 STR license in 2021



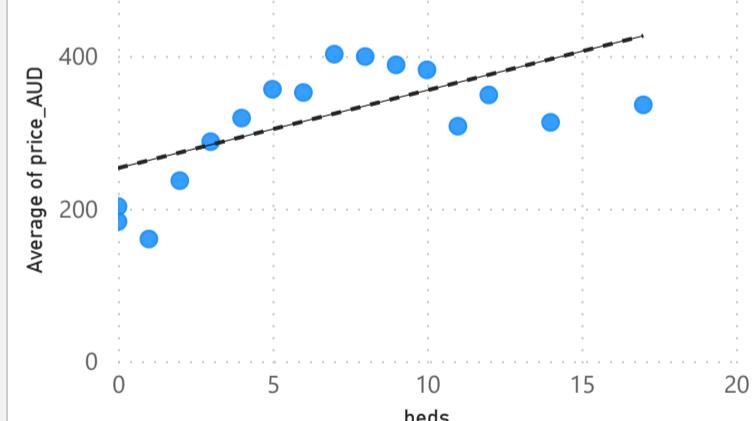
Average price by room type (AUD) as end of Jun'24



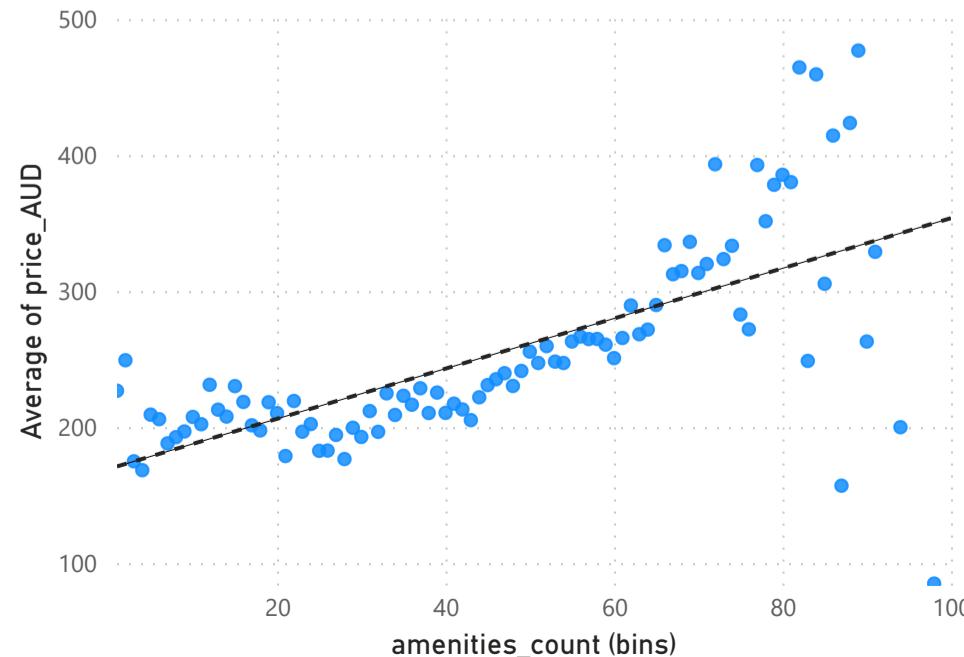
Average of price_AUD by accommodates as end
of Jun'24



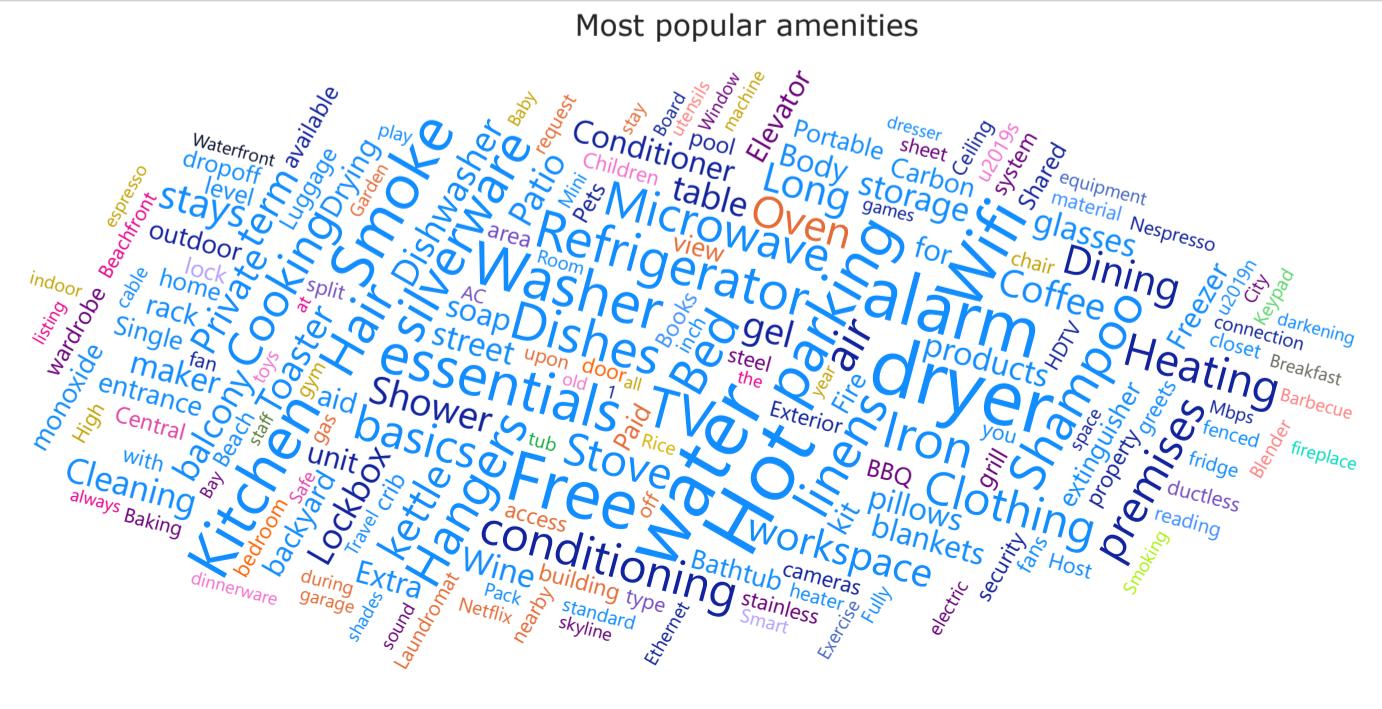
Average of price_AUD by beds as end of Jun'24



Average price by number of amenities as end of Jun'24



Most popular amenities



Landscape overview

Pricing factors

Occupancy factors

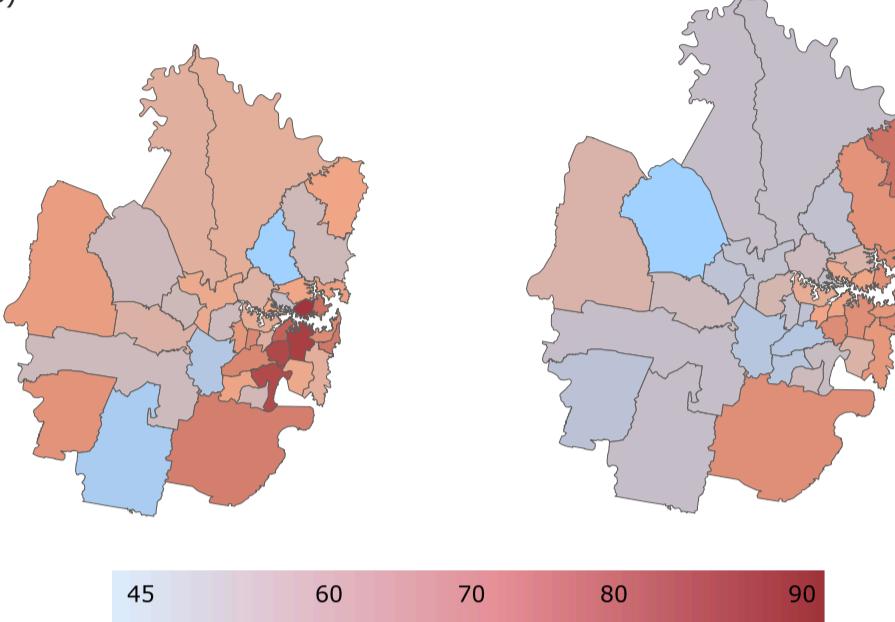
Data in 2024 as of end of June 2024.

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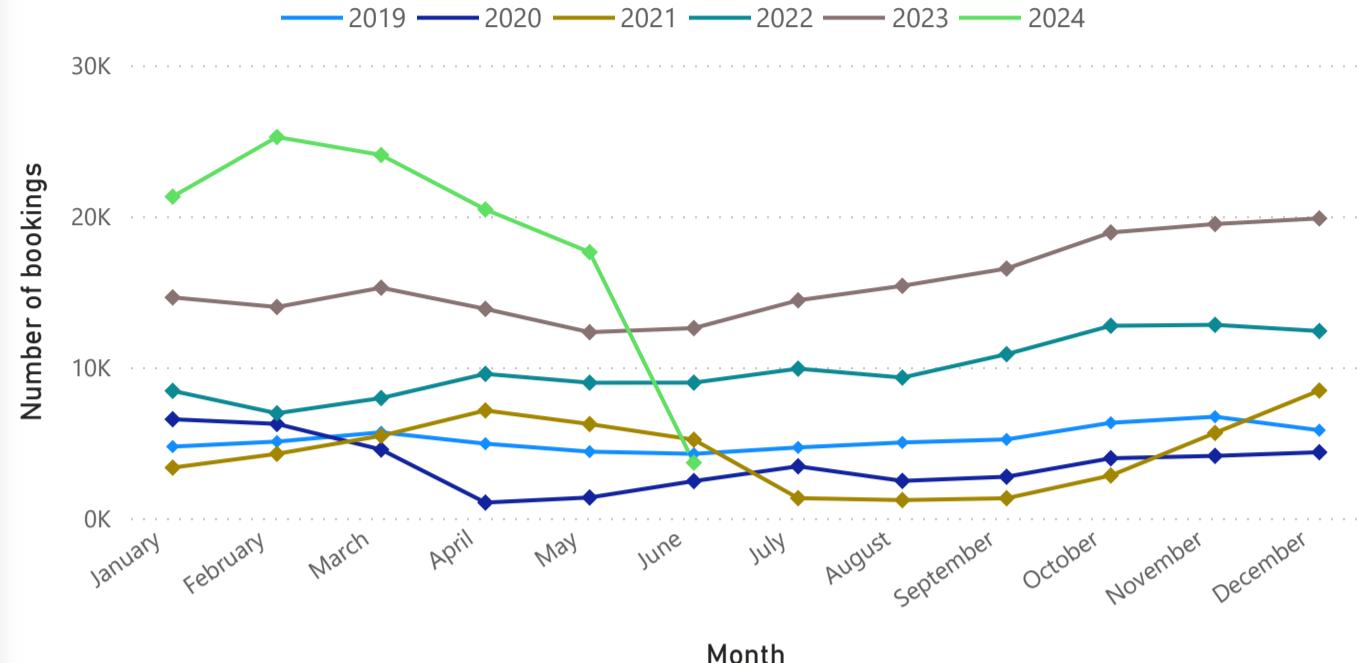
Project information

Average nights of booking by area 2024 (number of nights booked L12Ms)

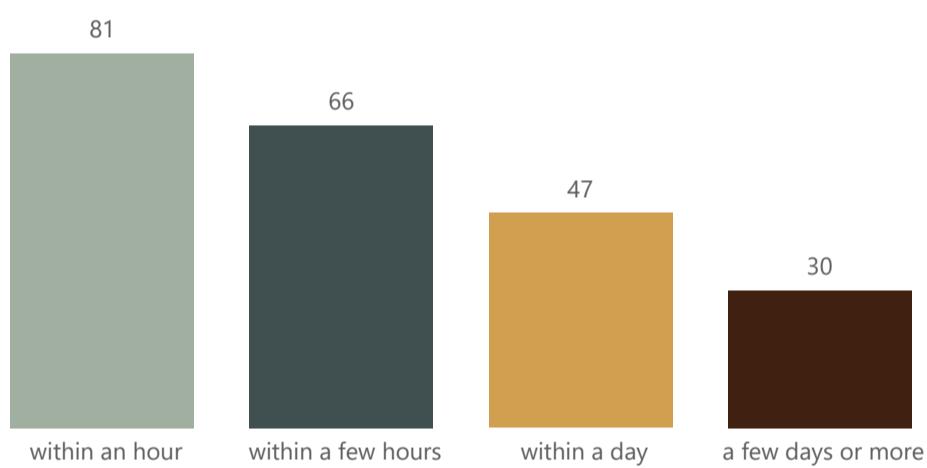


Average nights of booking by area 2021

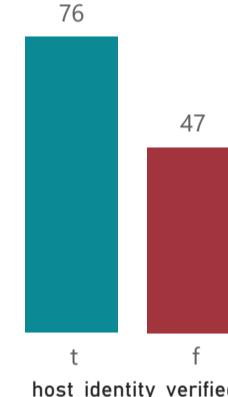
Average nights of booking by month from 2019-2024 (estimated by reviews)



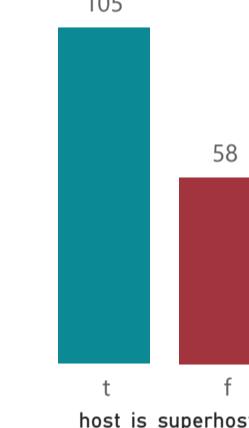
Average nights of booking L12Ms by host response rate



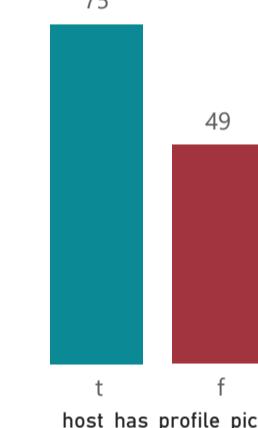
Average nights of booking L12Ms by host identity verification



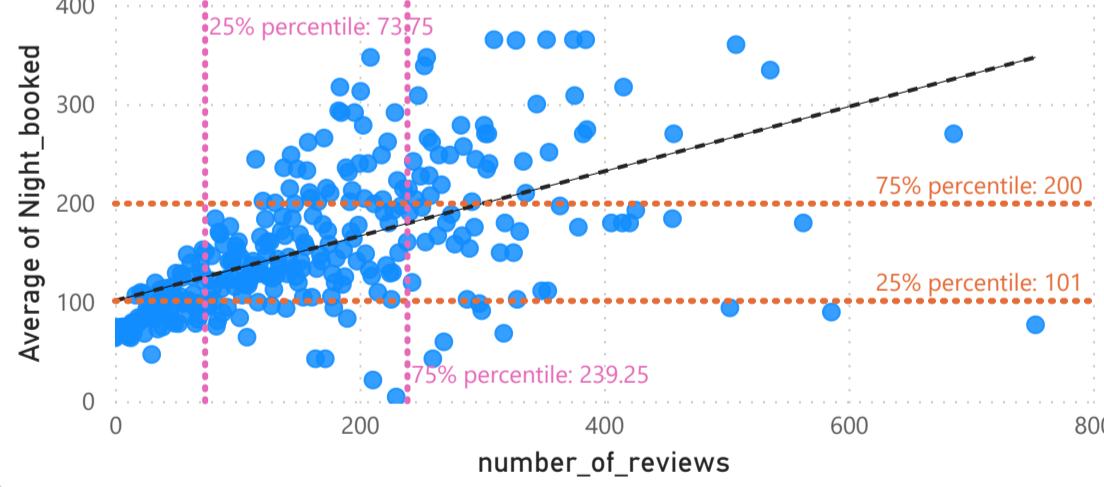
Average nights of booking



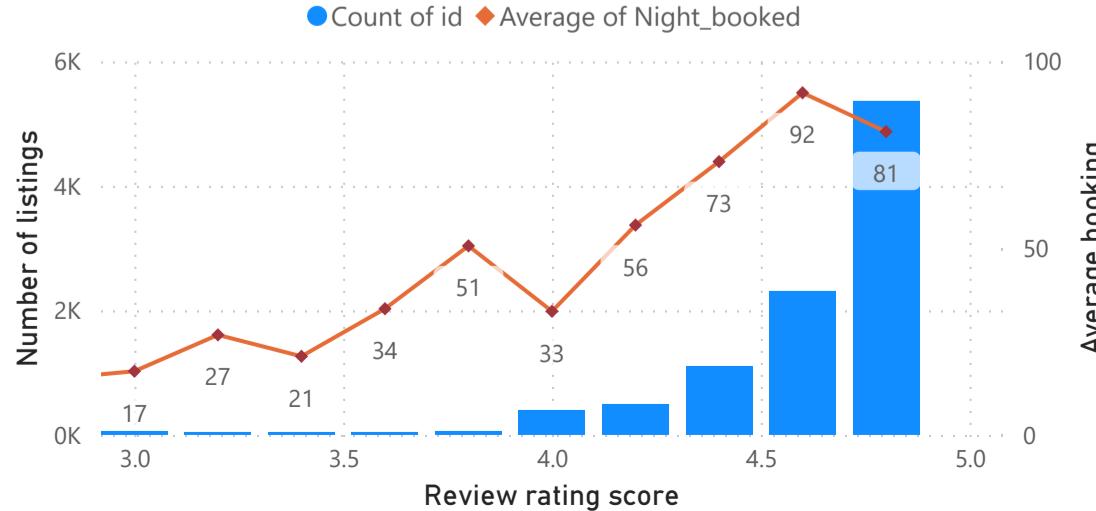
Average nights of booking



Average nights of booking by number of reviews as end of Jun'24



Number of listing and Average nights of booking L12Ms by rating score as end of Jun'24



What guests say in their reviews as end of Jun'24



Exploratory Data Analysis projects:

This is my portfolio project about data visualization using Microsoft Power BI.

Data source: Inside Airbnb at [<https://insideairbnb.com/get-the-data/>] (this is a non-commercial website providing scraping data for Airbnb listings. At one point at a time, visitors can download 01 set of data for the last 12 months. I have collected 2 sets at 2 different points in 2021 and 2024 for this exercise).

Project question: What is the landscape of Airbnb listing in Sydney? Discover what factors affect the revenue of Airbnb listing in this city?

Project outline:

- Data cleaning with python: my python notebook is uploaded on my git hub repo at:
- Data modeling power BI
- DAX application for calculated columns/table/ measures of:
 - Estimated number of booked nights for each listing in L12Ms: **Number of reviews * Minimum nights**
 - Common date table
 - Summarize table across different datasets for estimated bookings in different years
- Data visualization
- Data presentation and reporting (will be updated)

Method explanation:

The most important challenge in this project is to estimate the number of booking each listing had in L12Ms as there is no available data on this. Hence, the proxy method utilize the number of reviews and number of minimum stays, number of availability to estimate the number of nights booked. Reference source is:

<https://insideairbnb.com/data-assumptions/>. In summary, the key assumptions are:

- The minimum stay of each visit is estimated as 3 nights/ booking. Hence for those listing with less than 3 nights in minimum requirement will be deemed to have 3 nights as minimum booked.
- The rate of guests leaving reviews after their stay is estimated at 72%. Hence, the number of reviews divided by 0.7 will be used as the frequency of booking.
- The number of nights booked = (Number of reviews/0.7)*Minimum_night (lower bound at 3)
- There availability will be calculated by the availability_365 into 4 brackets: (1) 0-90 days available; (2) 91-180 days available; (3) 181-270 days available; (4) 271-365 days available.
- The number of nights booked if larger than its availability will be capped at the listing's availability.



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