

Changes in Airbnb Market in LA after COVID

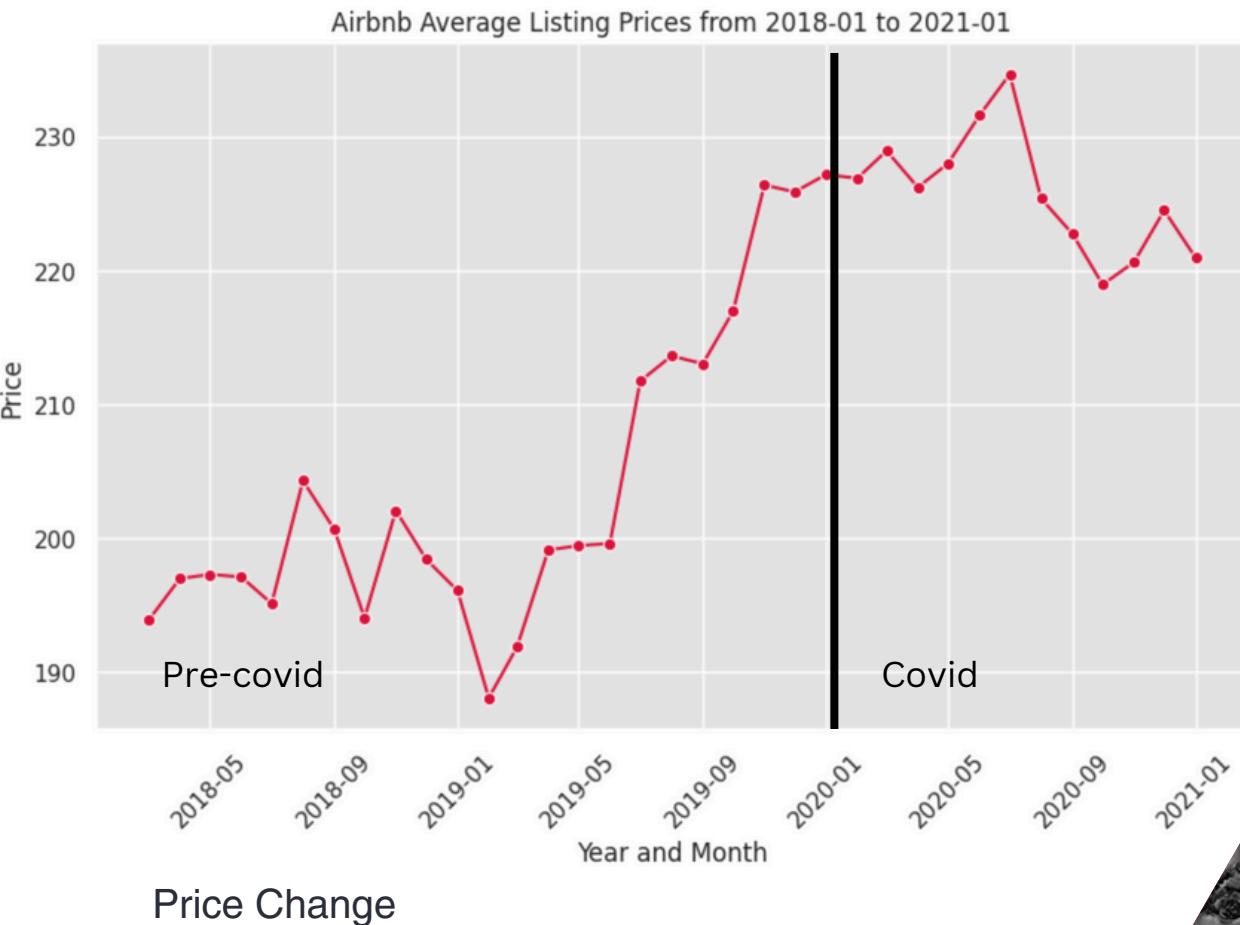
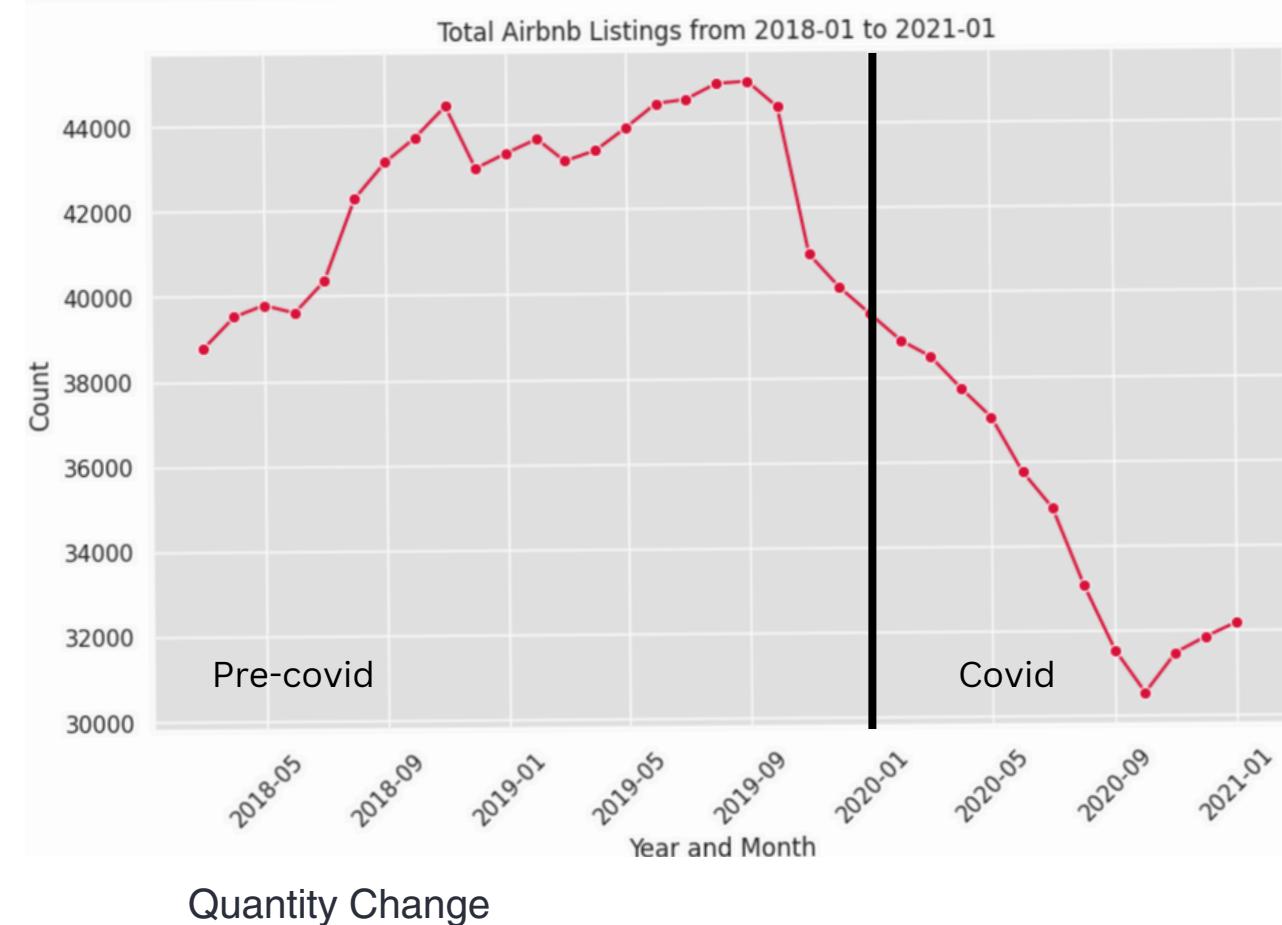
DSO 574 (Spring 2024)

By Chun Yat Cheung, Tsung-Wei Lin, Kuang Hsuan Lee



Overview

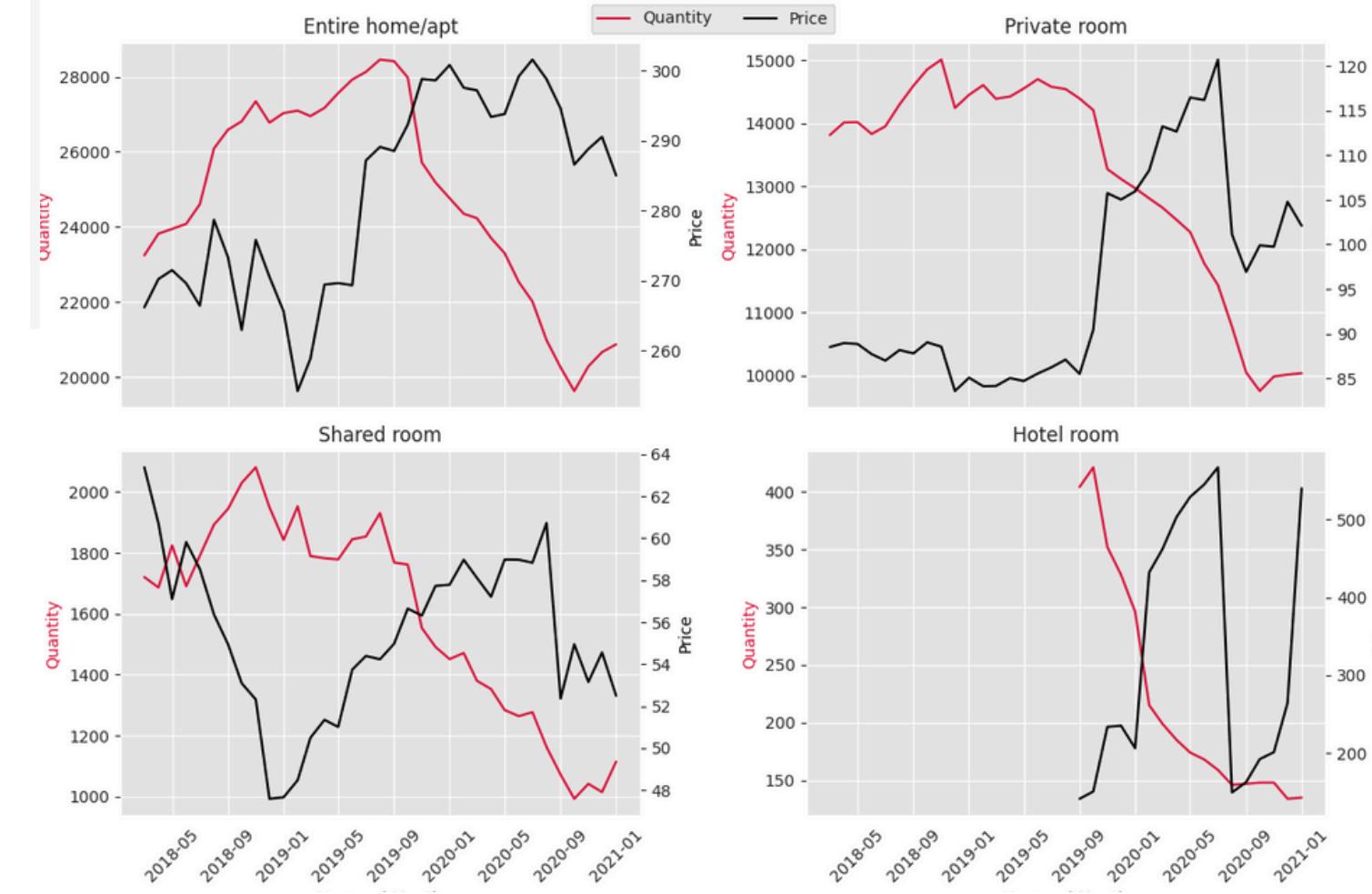
In this project, we are interested in learning the impact of COVID-19 pandemic on Los Angeles Airbnb Market by analyzing the data from 2018 to 2021. We will approach the problem using multiple perspectives, mainly by the room type and by neighborhood of the Airbnb listings. First, we would like to share a month-to-month overview of the LA Airbnb market.



We acknowledged that revenue is most simply calculated as the number of units sold multiplied by the selling price. Therefore, our first step to this problem is to look into the month-to-month changes in both price and quantity of Airbnb listings. These two plots gave us a broad idea of how the price (rose from 2019-01 and peaked in 2020-06) and quantity (dropped since 2019-09 and bottomed in 2020-09) between the two periods.

Room-Type: Trends in Quantity and Pricing

(1) To better understand each sub-market, we dive into changes in price and quantity for each room type.

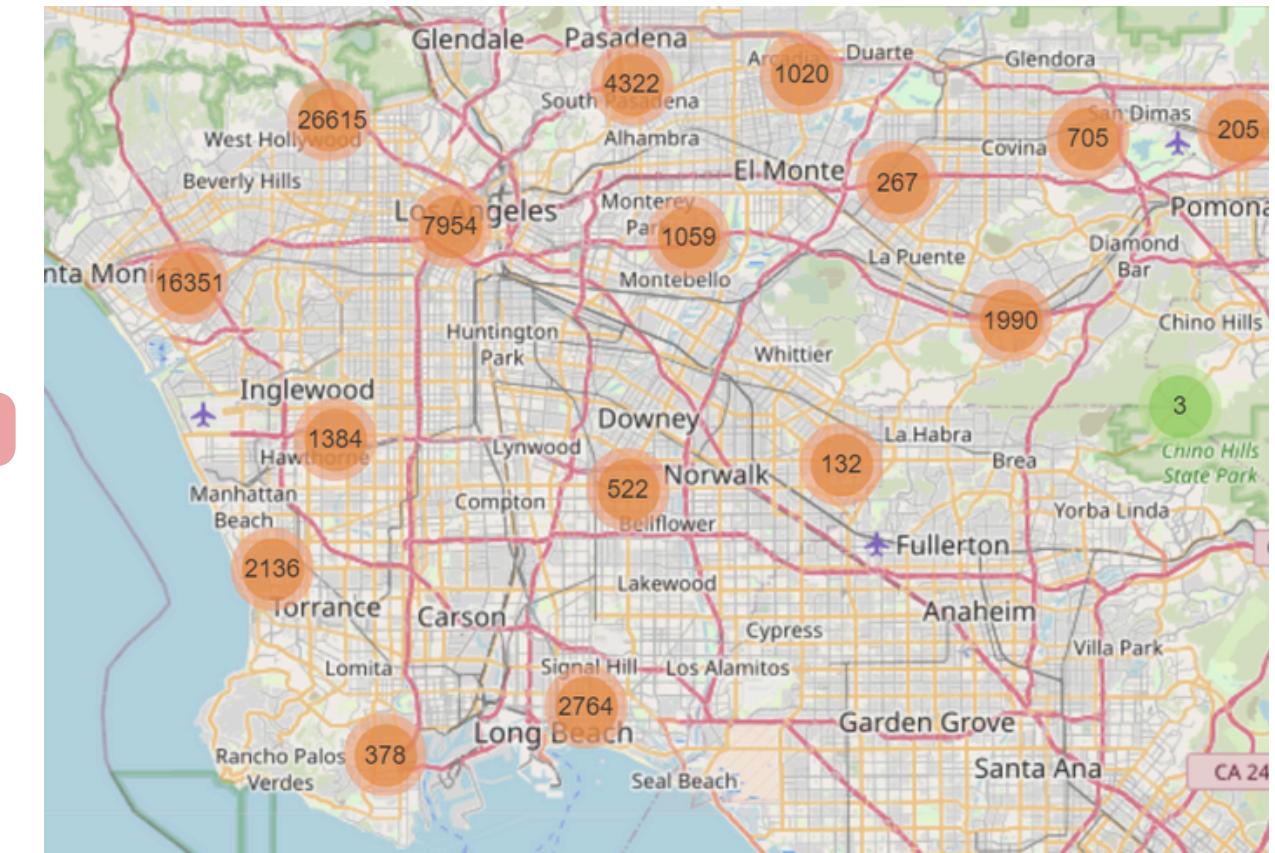


Conclusion:

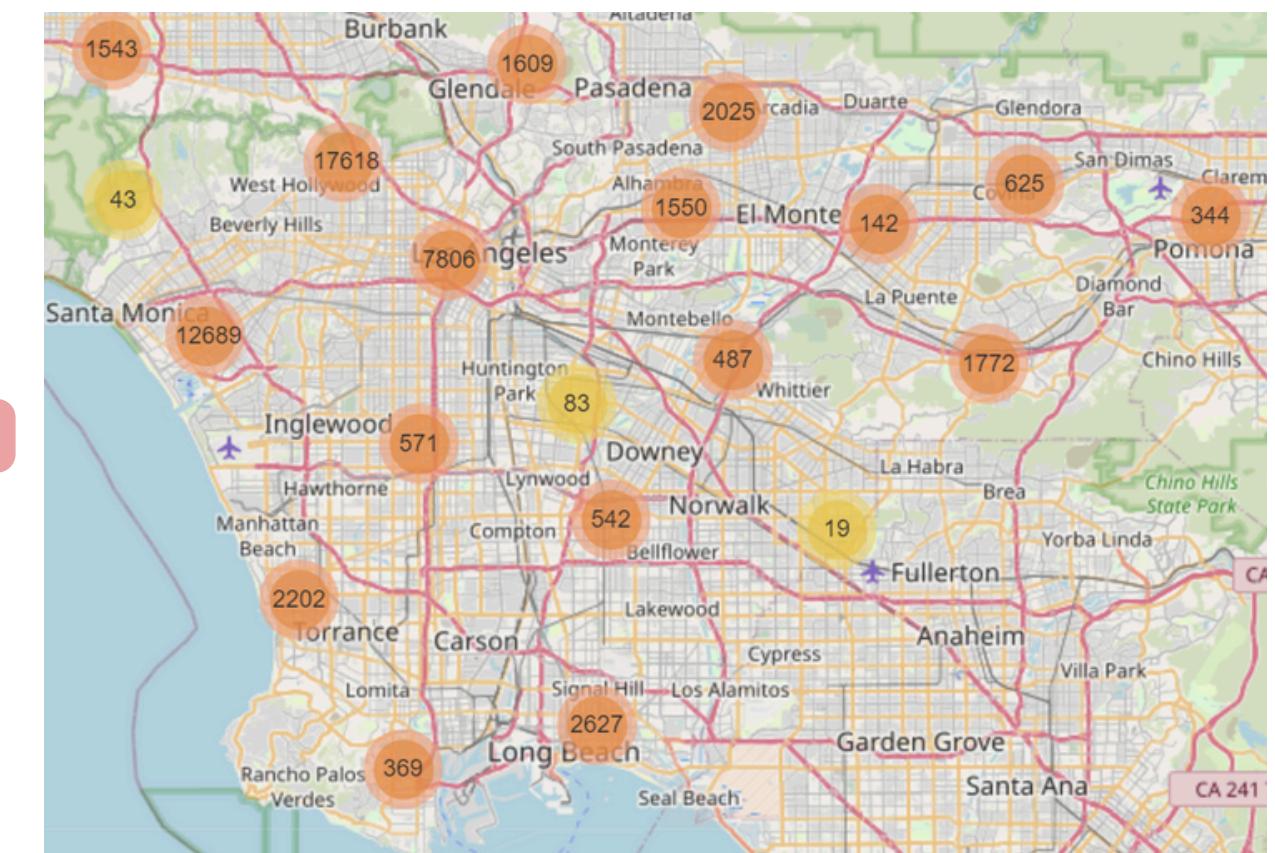
Listings and prices of all four room types had similar trends to the overall market during COVID, while the hotel room sector fluctuated the most.

Neighborhood: Listing Counts Across Regions

(2) Subsequently, we examine pre and post-COVID listing counts through geo maps to delve into diverse geographic markets.



Before COVID



During COVID

Listing Price Across Neighborhoods

(3) Utilizing geo information, we select specific areas to examine changes in median prices before and after COVID.

Area / Period	Median Price Before COVID	Median Price During COVID	Percentage delta
Hollywood	\$125	\$128	2.40 %
Santa Monica	\$150	\$150	0.00 %
Hermosa_Beach	\$150	\$160	6.67 %
Long Beach	\$100	\$100	0.00 %
Los Angeles	\$115	\$130	13.04 %
Pasadena, Glendale	\$110	\$125	13.63 %
San Fernando Valley	\$75	\$80	6.67 %

Definition: The reported average prices per area are calculated as the median values across three neighborhoods within each specified area.

Conclusion: The data demonstrates a surge in median listing prices during the COVID period when compared with the pre-COVID era. The percentage change across area spans from 0% to 13.6%.

Conclusion: 13 out of 16 areas experienced a decrease in listing counts.

Summary



Conclusion:

- The LA market experienced a significant impact from COVID-19, with a 30% drop in listings from peak to bottom.
 - Average listing prices fell by almost 10% due to frozen demand caused by travel restrictions.
 - COVID-19 significantly impacted the businesses of all four room types on Airbnb. The hotel room sector, launched as a new service in late 2019, faced the most severe effects.
 - 81.25% (13 out of 16 areas) saw a decrease in listings during COVID compared to pre-COVID.
 - 5 out of 7 areas experienced a surge in median listing prices during COVID, with the highest increase reaching 13.6%.



Limitations:

- Missing data
 - We are missing Airbnb listing data from 2021-02 onward, this undoubtedly undermined our ability to get the whole picture of the market
- Omitted Factors
 - According to Los Angeles Times, a new Rent Stabilization Ordinance was introduced in 2019-09. It could be another potential factor of the Airbnb listings drop in the “Covid” period.

Overview

Price &
Quantity

Room Type &
Neighborhoods

Airbnb

Thank You

