

# **The impacts of Covid-19 cases upon real estate sales in Victoria**

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**Jeremy Chia – Anna Nguyen - Matthew Taylor - Kenny Dao**

# The big question

- ◆ Have the numbers of Covid-19 cases in the most popular Local Government Area changed their popularity for homeowners?
- ◆ Hypothesis: High Covid-19 cases in the most popular Local Government Area will reduce their popularity.

# The working questions

1. **What are the three most popular Local Government Areas in Victoria before March 2020?**
  1. Measured by changes to housing price in each LGA
  2. Measured by changes to housing purchase in each LGA
2. **What are the factors that contribute to this popularity?**
  1. Does the concentration of schools contribute to its popularity?
  2. Does the concentration of hospitals contribute to its popularity?
3. **How has the popularity of the top 3 LGAs in Victoria changed after March 2020?**
  1. Measured by changes to housing price & in each LGA
  2. Measured by changes to housing purchase in each LGA
4. **Does the number of Covid-19 cases from March to June 2020 in each LGA contribute to its popularity?**

# Data Collection

## Real Estate data

### Kaggle

- ◆ <https://www.kaggle.com/htagholdings/au-s-real-estate-sales-march-2019-to-april-2020>

## Covid-19 Data

### DHHS Website

- ◆ <https://www.dhhs.vic.gov.au/victorian-coronavirus-covid-19-data>

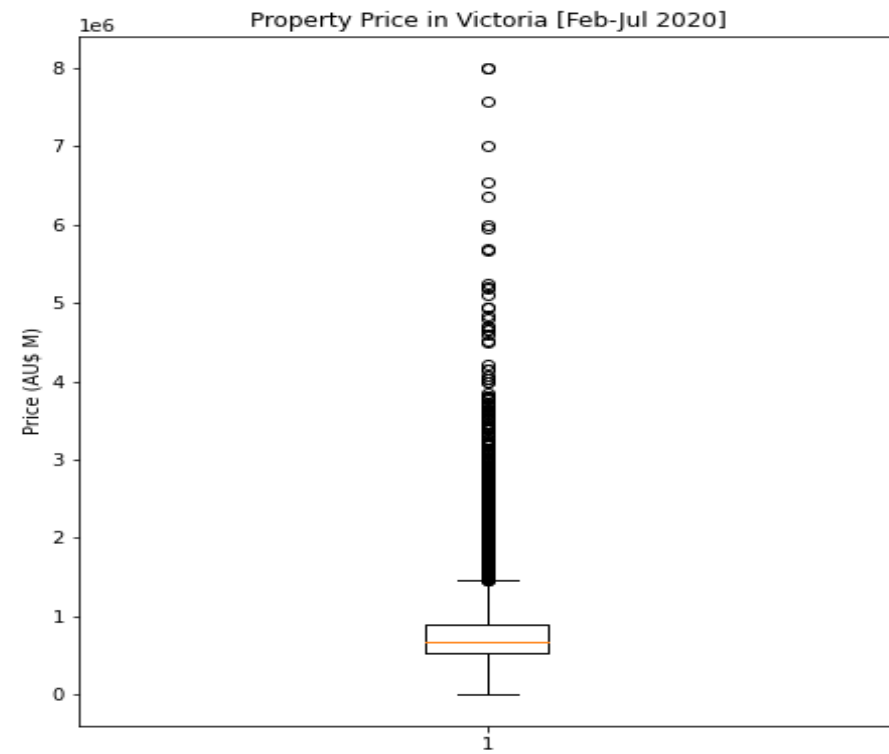
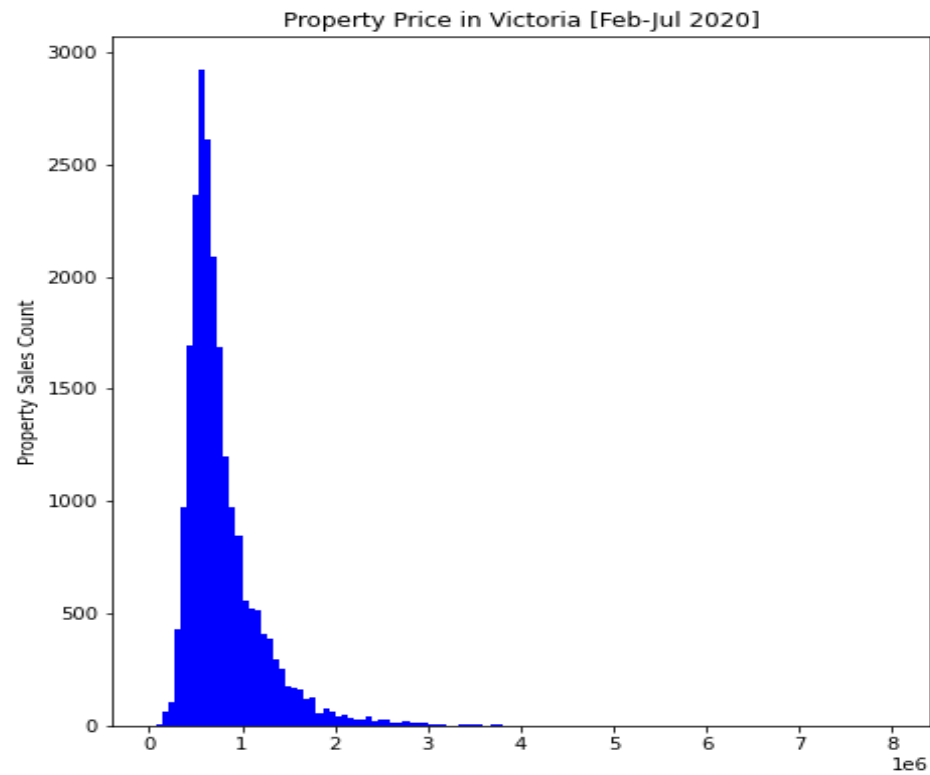
## School data & Hospital data

### Victorian Government Data Directory

- ◆ <https://discover.data.vic.gov.au/dataset/school-locations-time-series>
- ◆ <https://discover.data.vic.gov.au/dataset/hospital-locations-spatial>

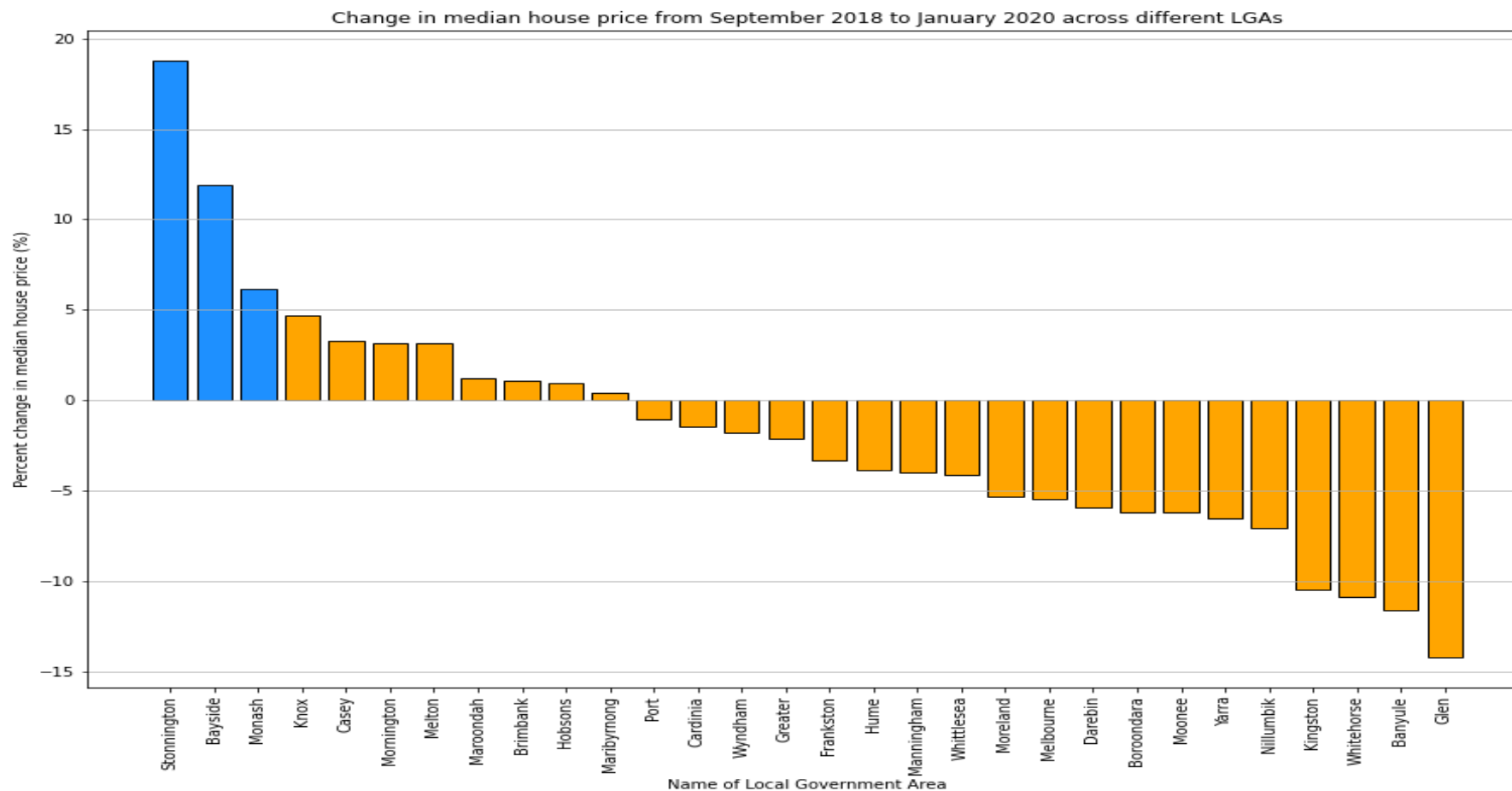
# Property Data Distribution

[Feb 2018 – Jan 2020]

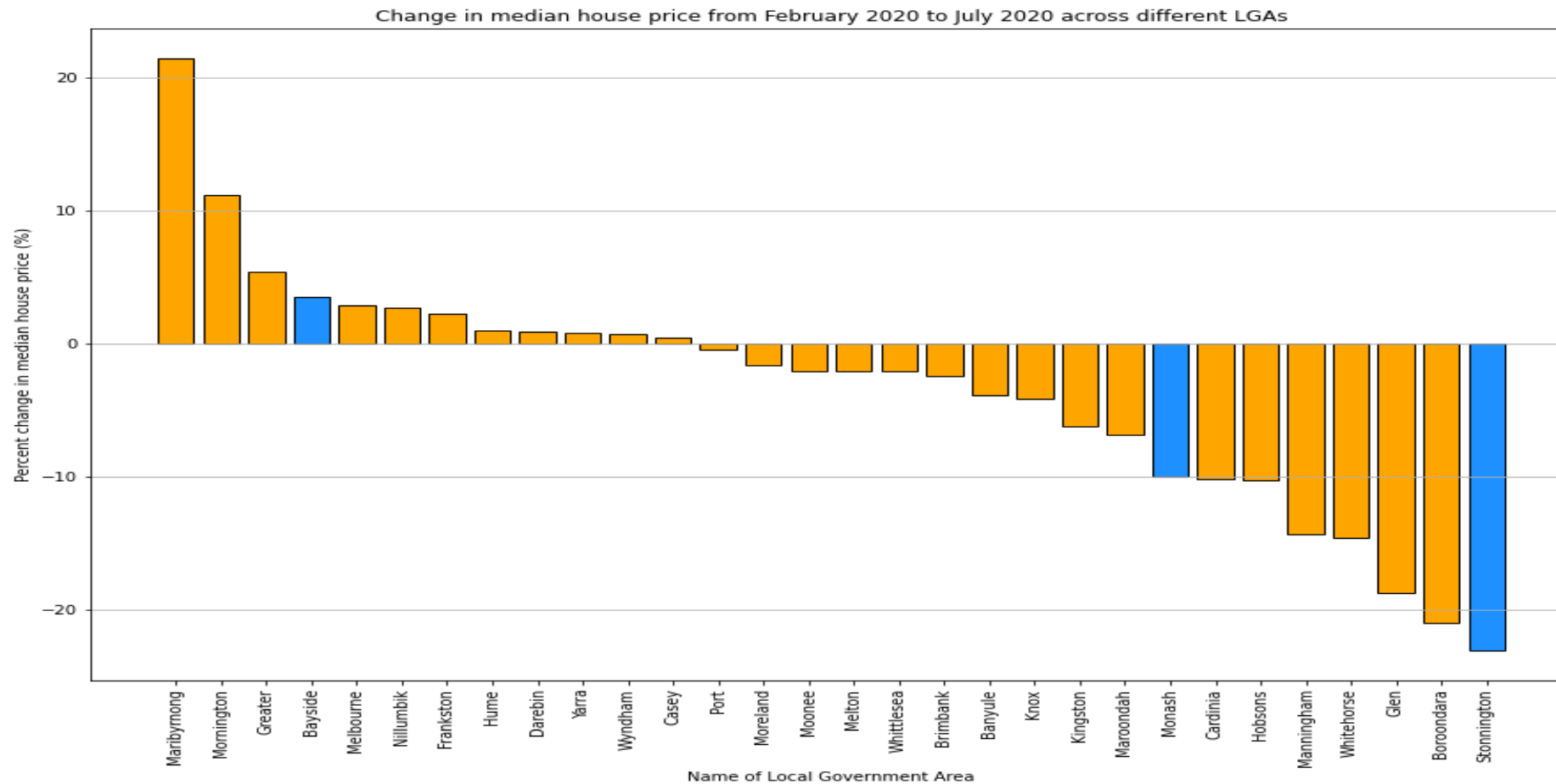




# Property Price Analysis (Pre-Covid)

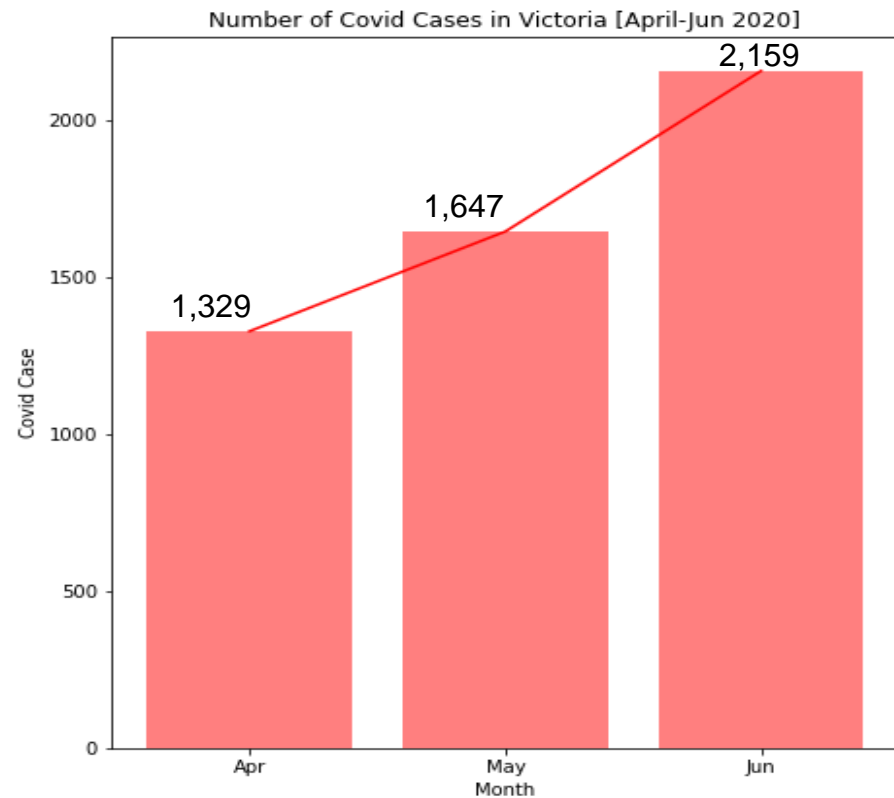
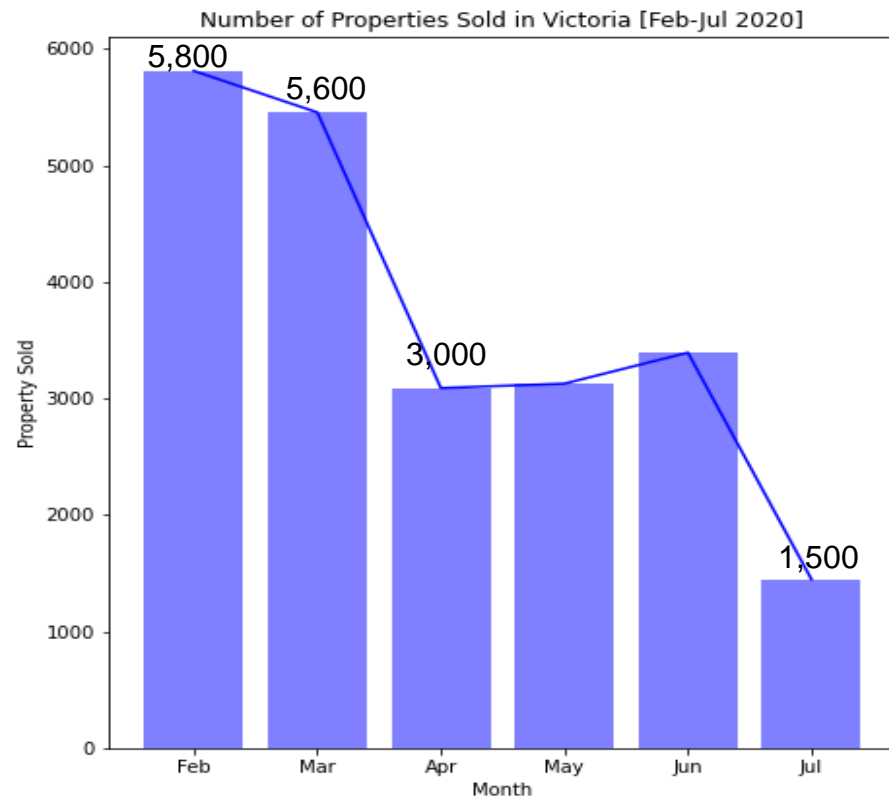


# Property Price Analysis (Post-Covid)



# Property Sold During Covid-19

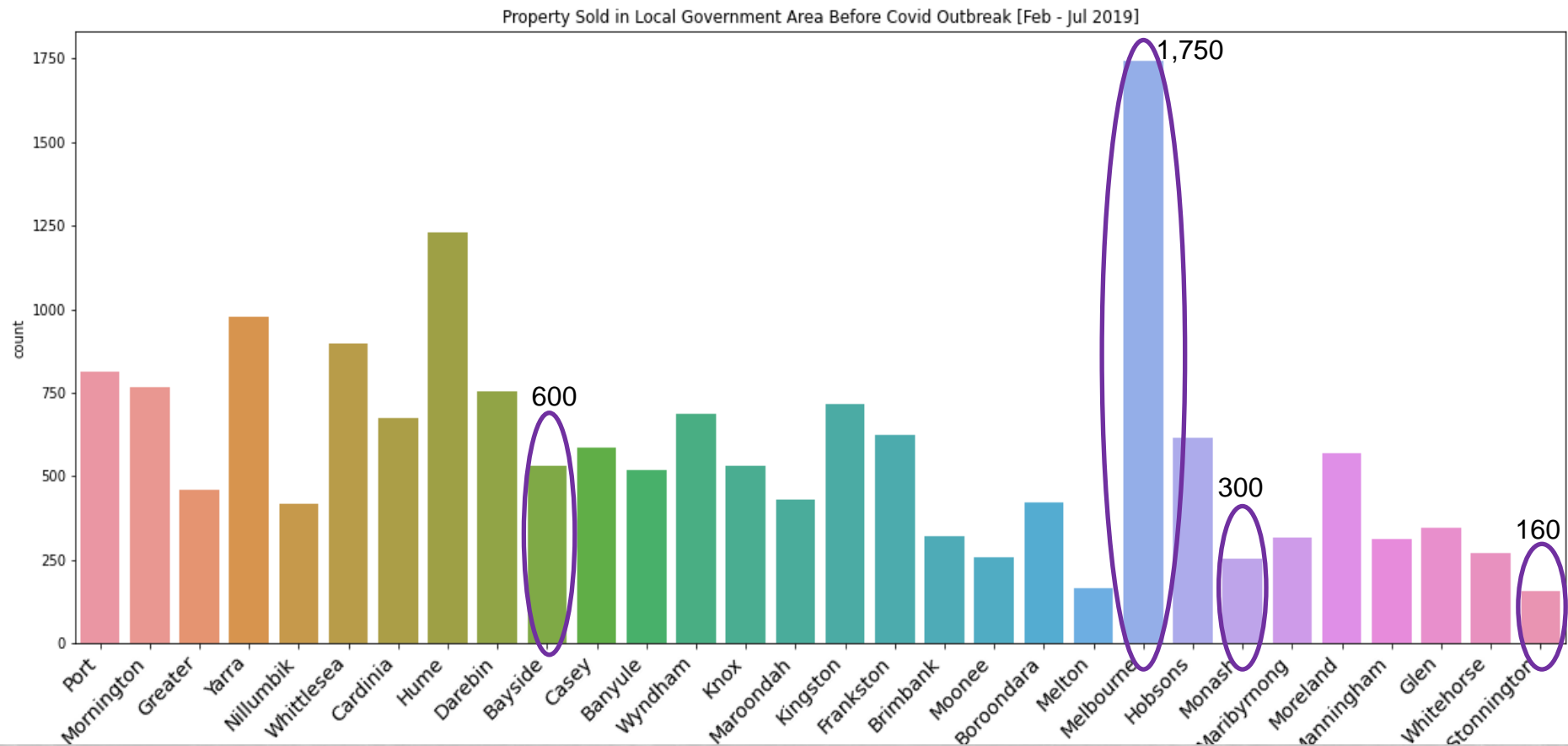
[Feb – Jul 2020]





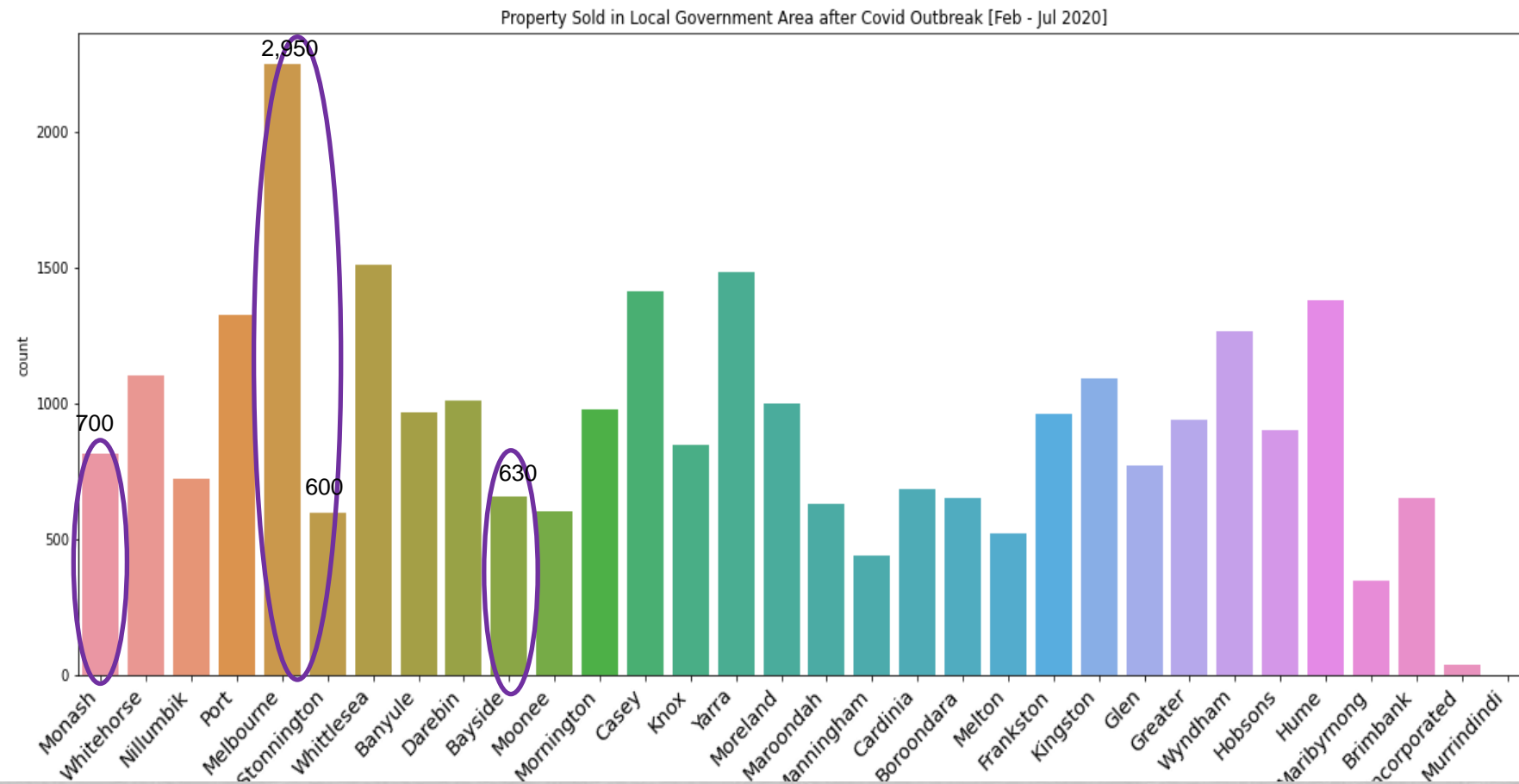
# Property Sold By LGA Before Covid-19 Outbreak

[Feb – Jul 2019]



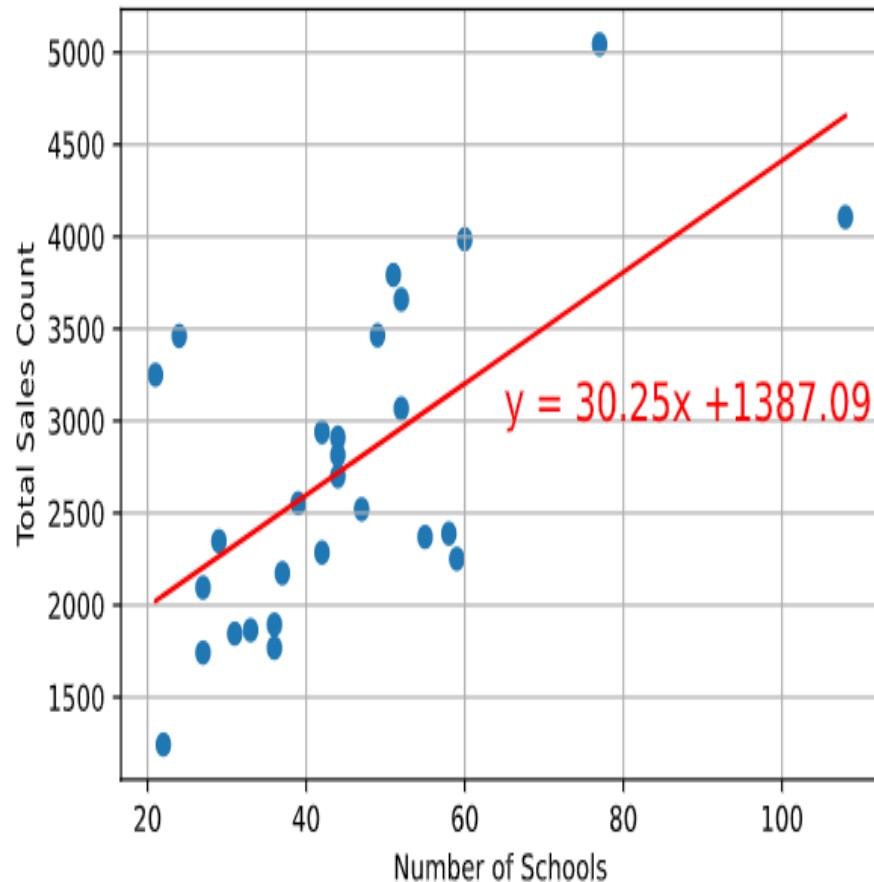
# Property Sold By LGA During Covid-19

## [Feb – Jul 2020]

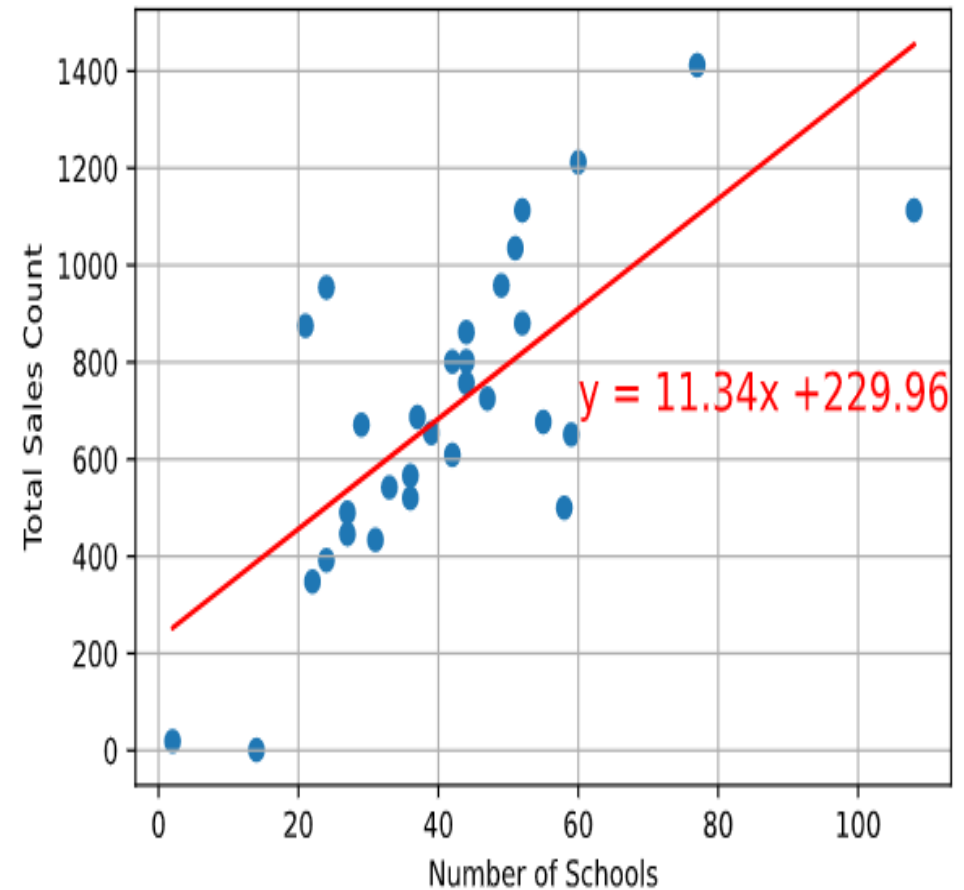


# Property Sold [Pre vs During Covid-19]

Sept'19 - Jan'20 (Pre covid) - Number of Schools vs. Total Sales Count

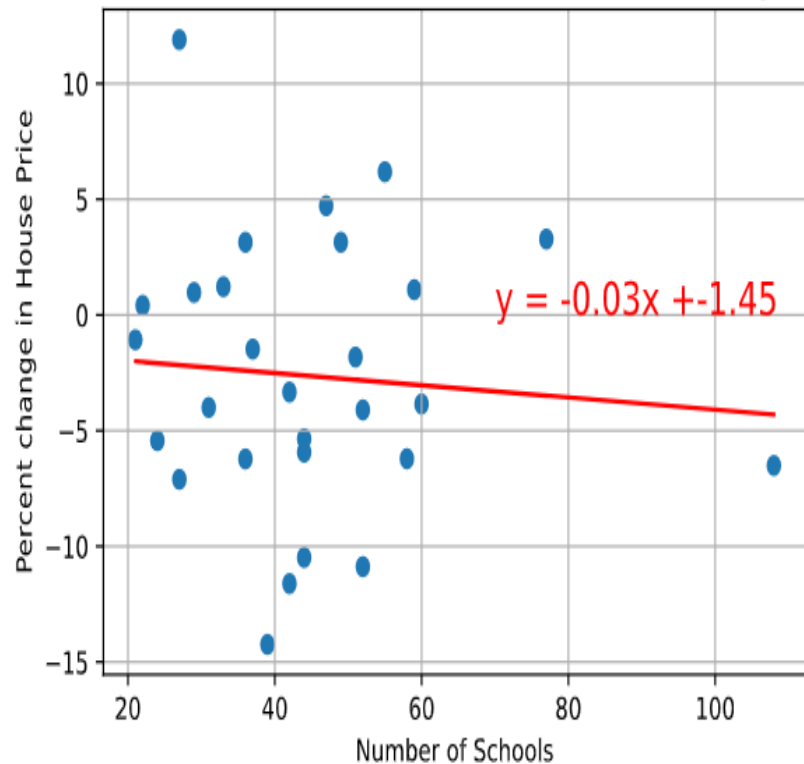


Feb'20 - July'20 (During covid) - Number of Schools vs. Total Sales Count

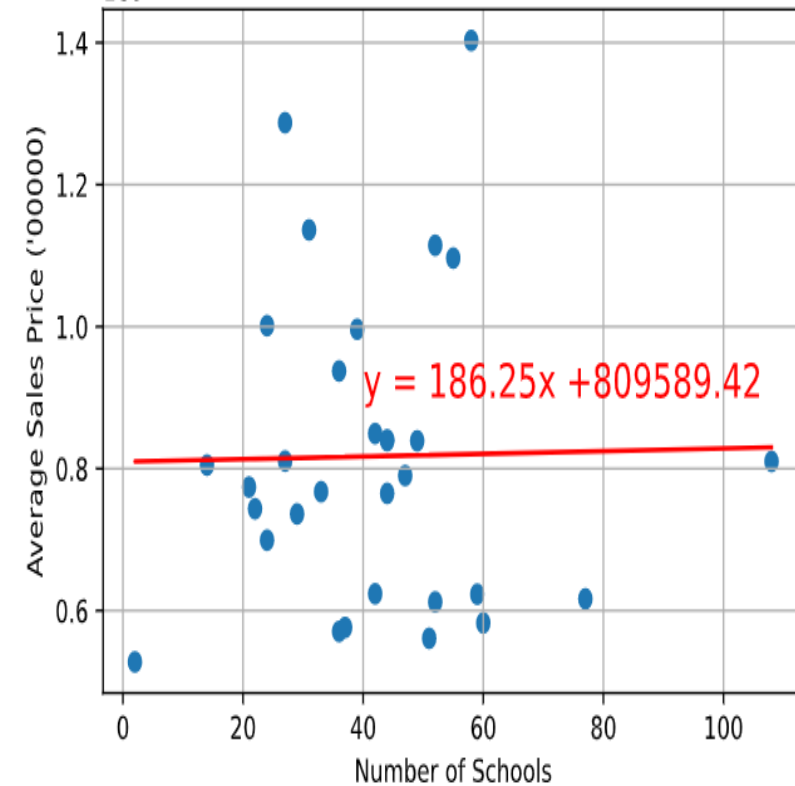


# Property Price Change [Pre vs During Covid-19]

Sept'19 - Jan'20 (Pre covid) - Number of Schools vs. Percent change in House Price

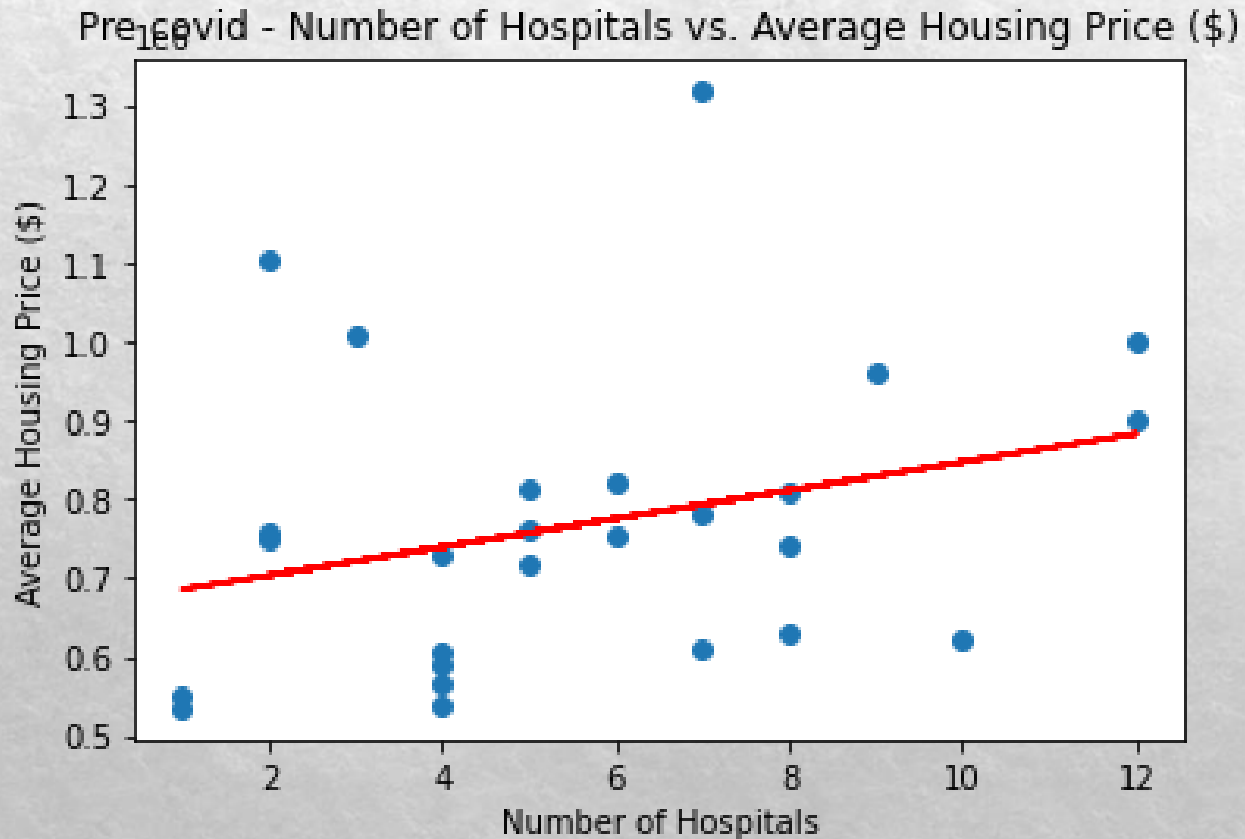


Feb'20 - July'20 (During covid) - Number of Schools vs. Average Sales Price ('000000)

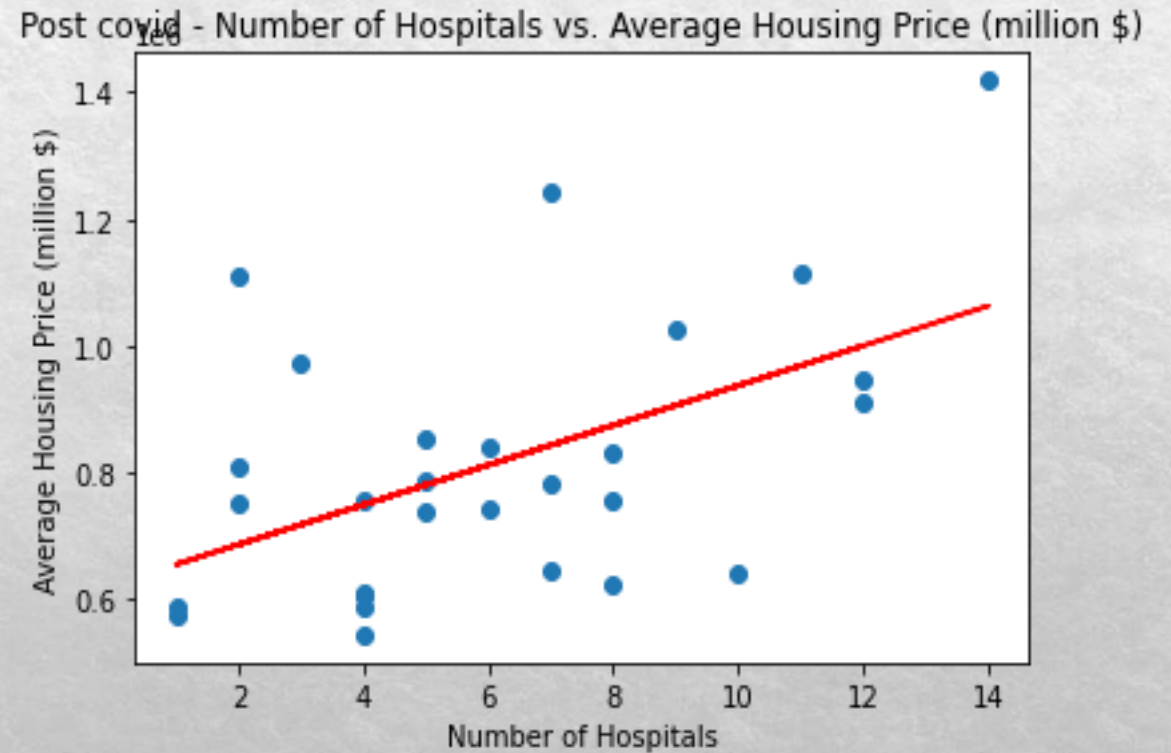




# Real-estate Data Before Covid-19



The r-squared is: 0.08410507608477118  
The correlation between both factors is 0.29



The r-squared is: 0.2583386699344546  
The correlation between both factors is 0.51



# Findings & Conclusion & Implications

## ◆ Before Covid (September 2018 – January 2020)

- ◆ The top 3 LGAs are: Stonnington (1), Bayside (2), Monash (3)
- ◆ Hospitals: 8% of the house price can be explained by the number of hospitals
- ◆ Schools: The more schools there are, the higher the total number of sales is in a Local Government area.

## ◆ After Covid (February – July 2020)

- ◆ Stonnington: - 23% (Most Covid-cases in April, second most in May until mid June)
- ◆ Bayside: + 3.6% (Next to Stonnington, with an average number of Covid-cases)
- ◆ Monash: - 9.9% (Top 5 Covid-cases in early April, top 15 Covid-cases until mid June)

Thank you.

Q & A