REGAINING OUR COMPETITIVE EDGE

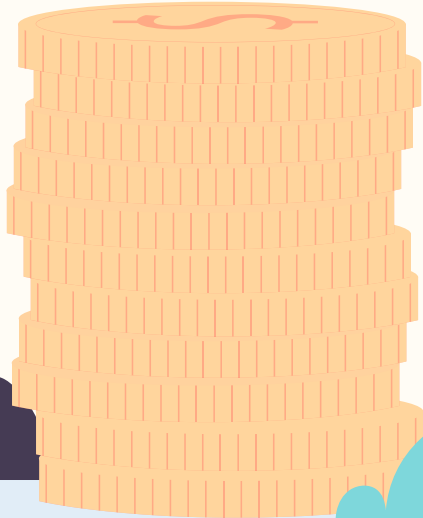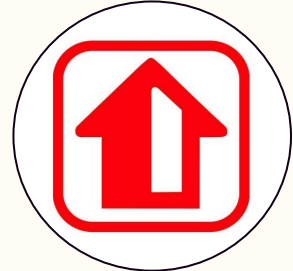# 01

How Do You Buy or Sell Property in Singapore?

Property Agencies

wow!

PropNex
Service You Trust
SINGAPORE

ERA
REAL ESTATE

OrangeTee
Keener Sense of Real Estate

Huttons
SINGAPORE'S LARGEST
PRIVATE REAL ESTATE AGENCY

SRI
SINGAPORE REALTORS INC

Online Listing Platforms

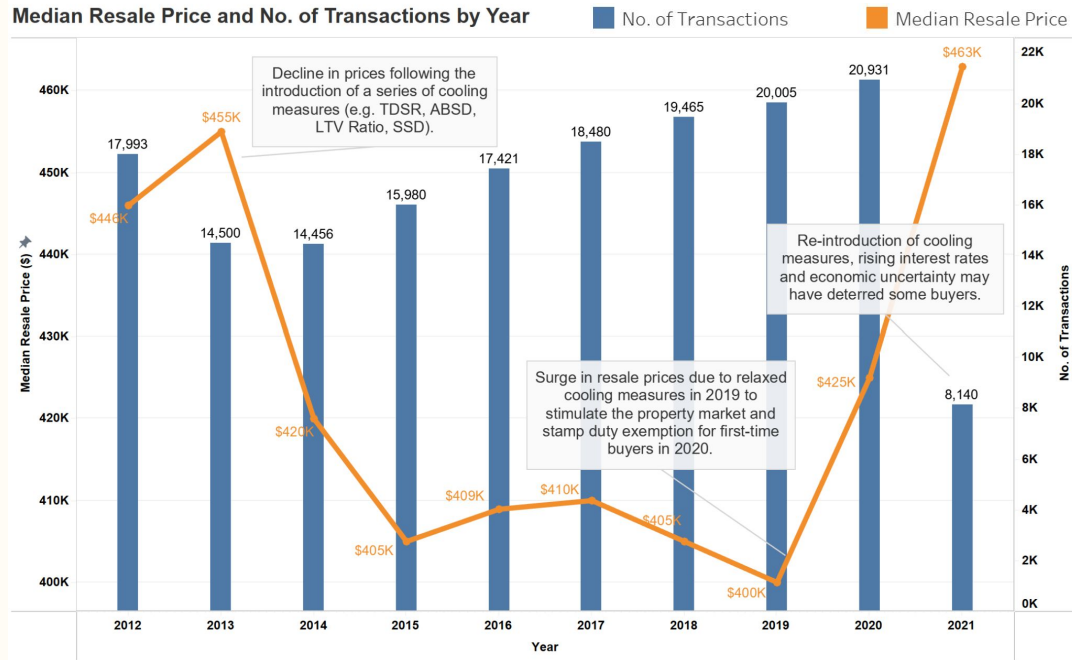# Do-It-Yourself App

Averspace

MORTGAGE

02

What Factors Affect HDB Resale Flat Prices?

FOR SALE

HDB resale prices saw a general upward trend over the past decade, with fluctuations influenced by various factors

Median Resale Price and No. of Transactions by Year

Legend: ■ No. of Transactions ■ Median Resale Price

Annotations on chart:
- Decline in prices following the introduction of a series of cooling measures (e.g. TDSR, ABSD, LTV Ratio, SSD).
- Re-introduction of cooling measures, rising interest rates and economic uncertainty may have deterred some buyers.
- Surge in resale prices due to relaxed cooling measures in 2019 to stimulate the property market and stamp duty exemption for first-time buyers in 2020.

No. of Transactions by year:
- 2012: 17,993
- 2013: 14,500
- 2014: 14,456
- 2015: 15,980
- 2016: 17,421
- 2017: 18,480
- 2018: 19,465
- 2019: 20,005
- 2020: 20,931
- 2021: 8,140

Median Resale Price by year:
- 2012: $446K
- 2013: $455K
- 2014: $420K
- 2015: $405K
- 2016: $409K
- 2017: $410K
- 2018: $405K
- 2019: $400K
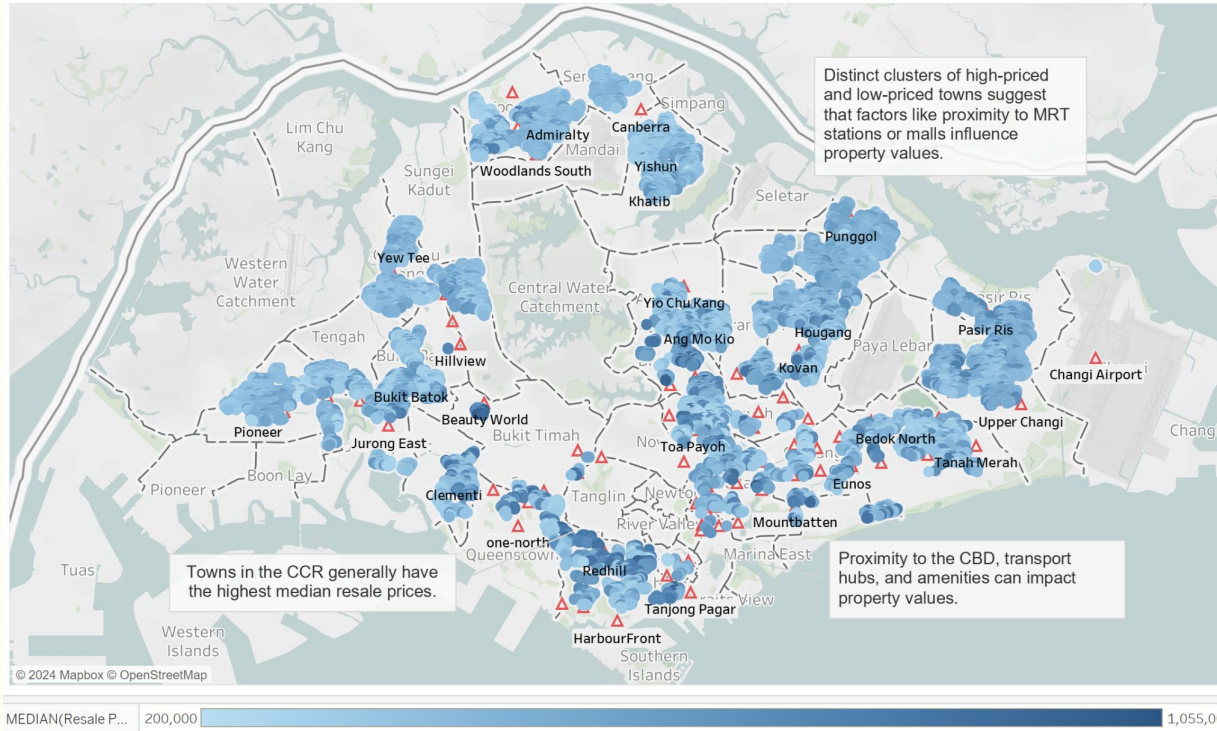- 2020: $425K
- 2021: $463K

Potential Factors Influencing Trends:

- The overall economic health of Singapore, including interest rates, GDP growth, and job market conditions, can significantly influence housing demand and prices

- Government policies, such as cooling measures or incentives, can impact the HDB resale market

- The balance between the supply of HDB flats and demand from buyers can drive price fluctuations

- Global events, such as the COVID-19 pandemic, can have both direct and indirect effects on the housing market

There is significant disparity in resale prices across different towns, proximity to amenities also influence property values

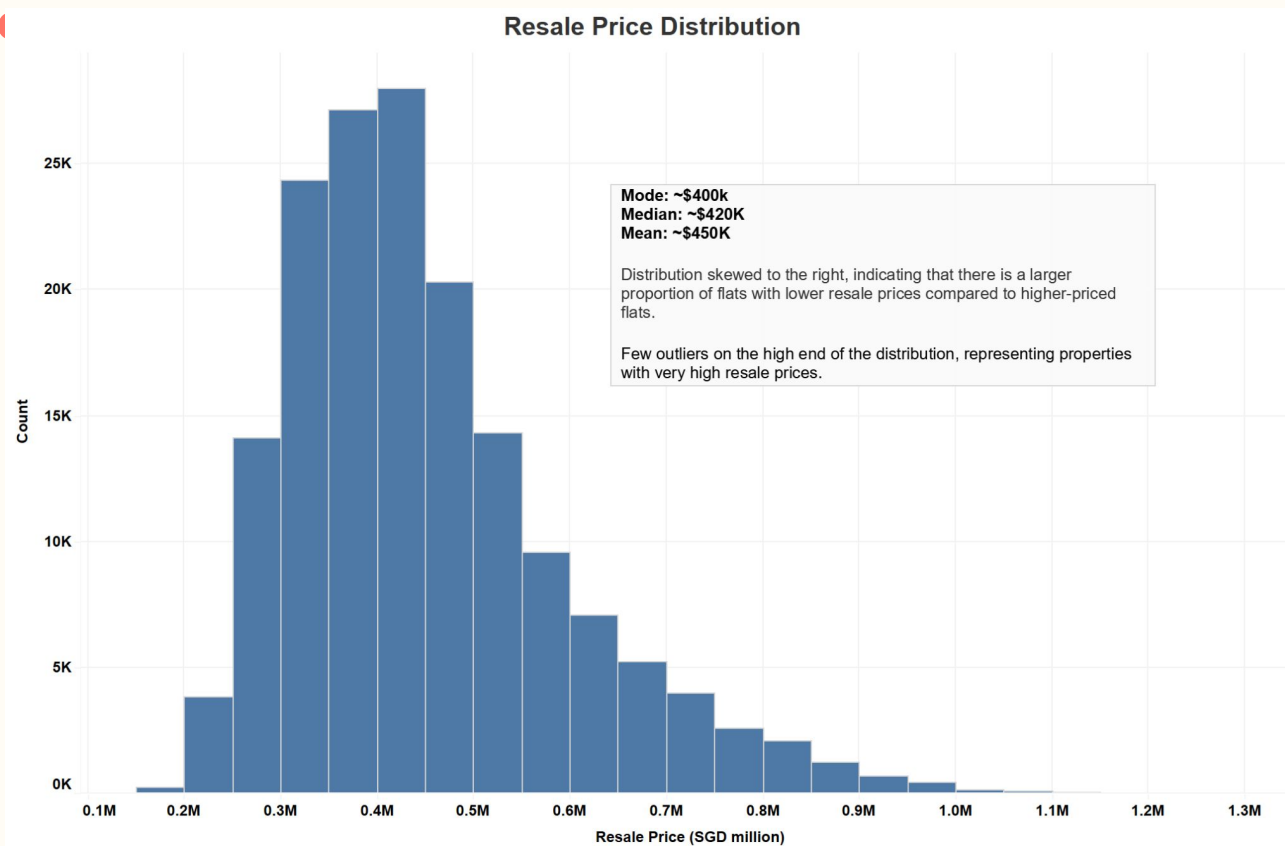**Distribution of Median Resale Price by Block**

Distinct clusters of high-priced and low-priced towns suggest that factors like proximity to MRT stations or malls influence property values.

Towns in the CCR generally have the highest median resale prices.

Proximity to the CBD, transport hubs, and amenities can impact property values.

© 2024 Mapbox © OpenStreetMap
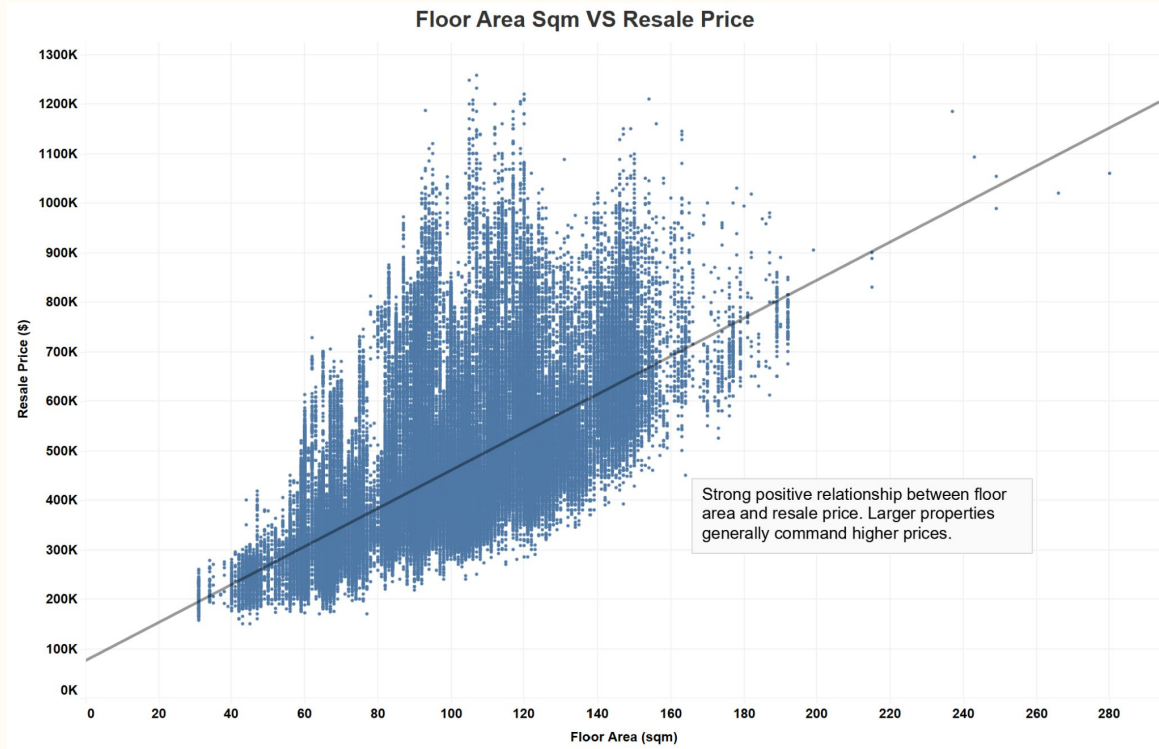
MEDIAN(Resale P... 200,000 ————————— 1,055,000

Distribution of median resale prices for HDB flats across different towns in Singapore. The color intensity and size of the circles indicate the median resale price in each town.

Potential Factors Influencing Price Distribution:

- **Proximity to the CBD, transportation hubs, schools**, and amenities can significantly impact property values

- Availability of amenities such as **shopping malls, parks, and recreational facilities** can influence demand and prices

- **Newer developments** with modern amenities and facilities may have higher resale prices compared to older estates

- **Government policies**, such as the designation of Restrictive Zones, can impact property values

Right-skewed distribution and concentration of flats in the middle price range suggest that HDB flats are generally affordable, with a smaller proportion of high-end flats available

Resale Price Distribution

Mode: ~$400k
Median: ~$420K
Mean: ~$450K

Distribution skewed to the right, indicating that there is a larger proportion of flats with lower resale prices compared to higher-priced flats.

Few outliers on the high end of the distribution, representing properties with very high resale prices.

Count

0.1M 0.2M 0.3M 0.4M 0.5M 0.6M 0.7M 0.8M 0.9M 1.0M 1.1M 1.2M 1.3M

Resale Price (SGD million)

Floor area is the strongest predictor of resale price

- As floor area increases, the resale price tends to increase as well

- Data points are somewhat scattered around the trend line suggests that while floor area is a significant factor influencing resale price, other factors also play a role

Floor Area Sqm VS Resale Price

Strong positive relationship between floor area and resale price. Larger properties generally command higher prices.

Resale price generally increases with larger flat types

Distribution for most flat types skewed to the top, indicating there are a few high-priced flats that pull the average resale price higher than the median. Overlap between the distributions of different flat types suggests that other factors besides the number of rooms might influence resale prices.

Flat Type VS Resale Price
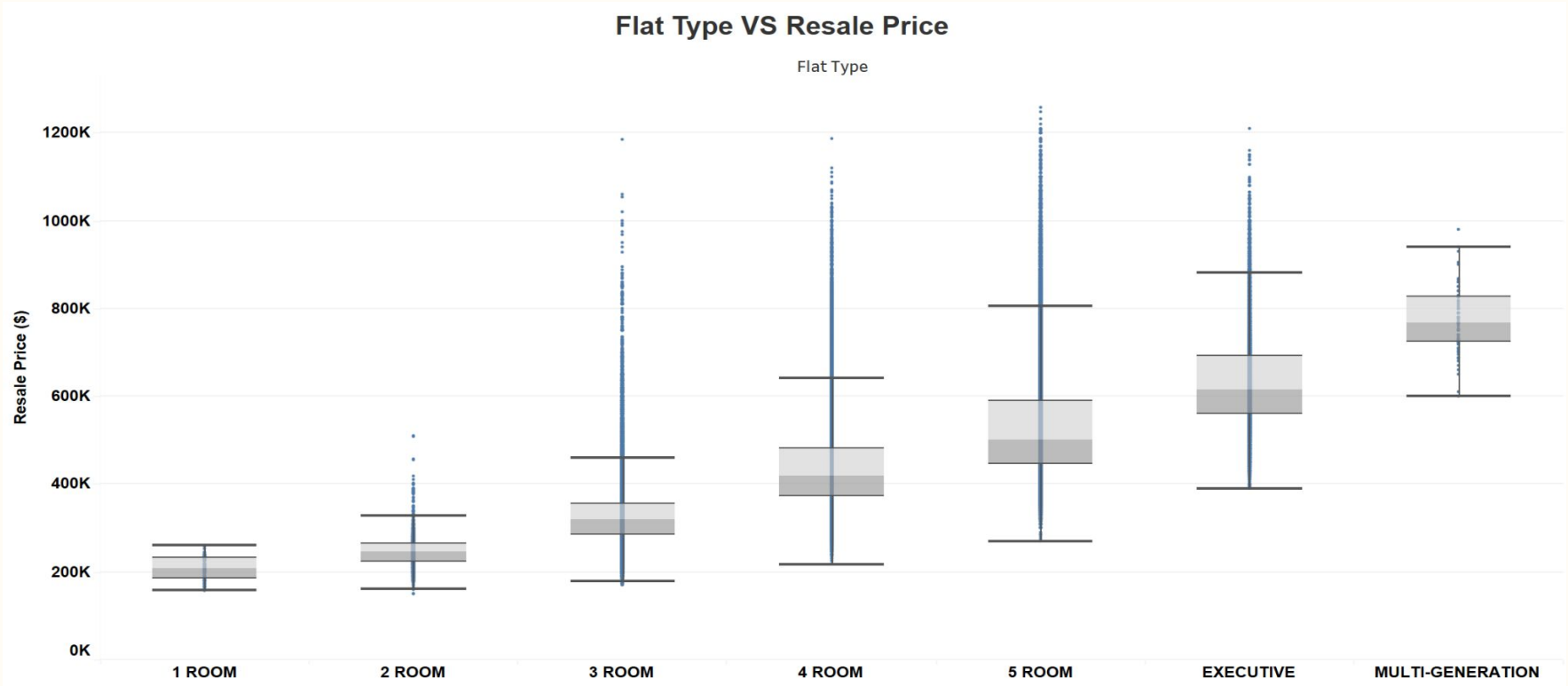
Flat model significantly influence resale price, with some models consistently commanding higher prices

Buyers place a premium on specific flat models due to their perceived value or desirability. The presence of outliers indicates that there are a few properties with exceptionally high or low resale prices.

Flat Model VS Resale Price
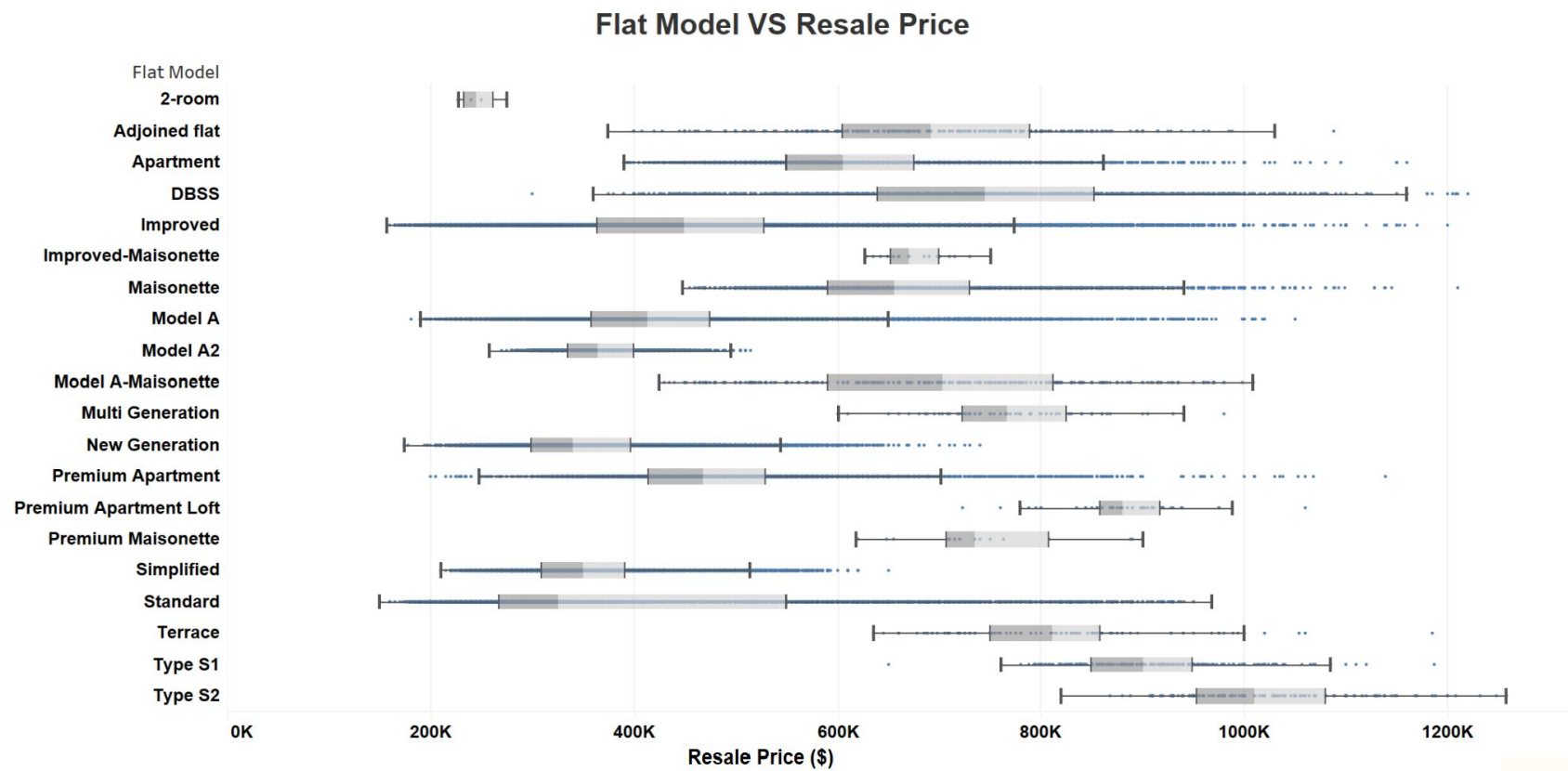
Location has a significant influence on resale price, with certain towns and areas commanding higher prices

Town VS Resale Price

Town: ANG MO KIO, BEDOK, BISHAN, BUKIT BATOK, BUKIT MERAH, BUKIT PANJANG, BUKIT TIMAH, CENTRAL AREA, CHOA CHU KANG, CLEMENTI, GEYLANG, HOUGANG, JURONG EAST, JURONG WEST, KALLANG/WHAMPOA, MARINE PARADE, PASIR RIS, PUNGGOL, QUEENSTOWN, SEMBAWANG, SENGKANG, SERANGOON, TAMPINES, TOA PAYOH, WOODLANDS, YISHUN

Resale Price ($): 0K, 200K, 400K, 600K, 800K, 1000K, 1200K
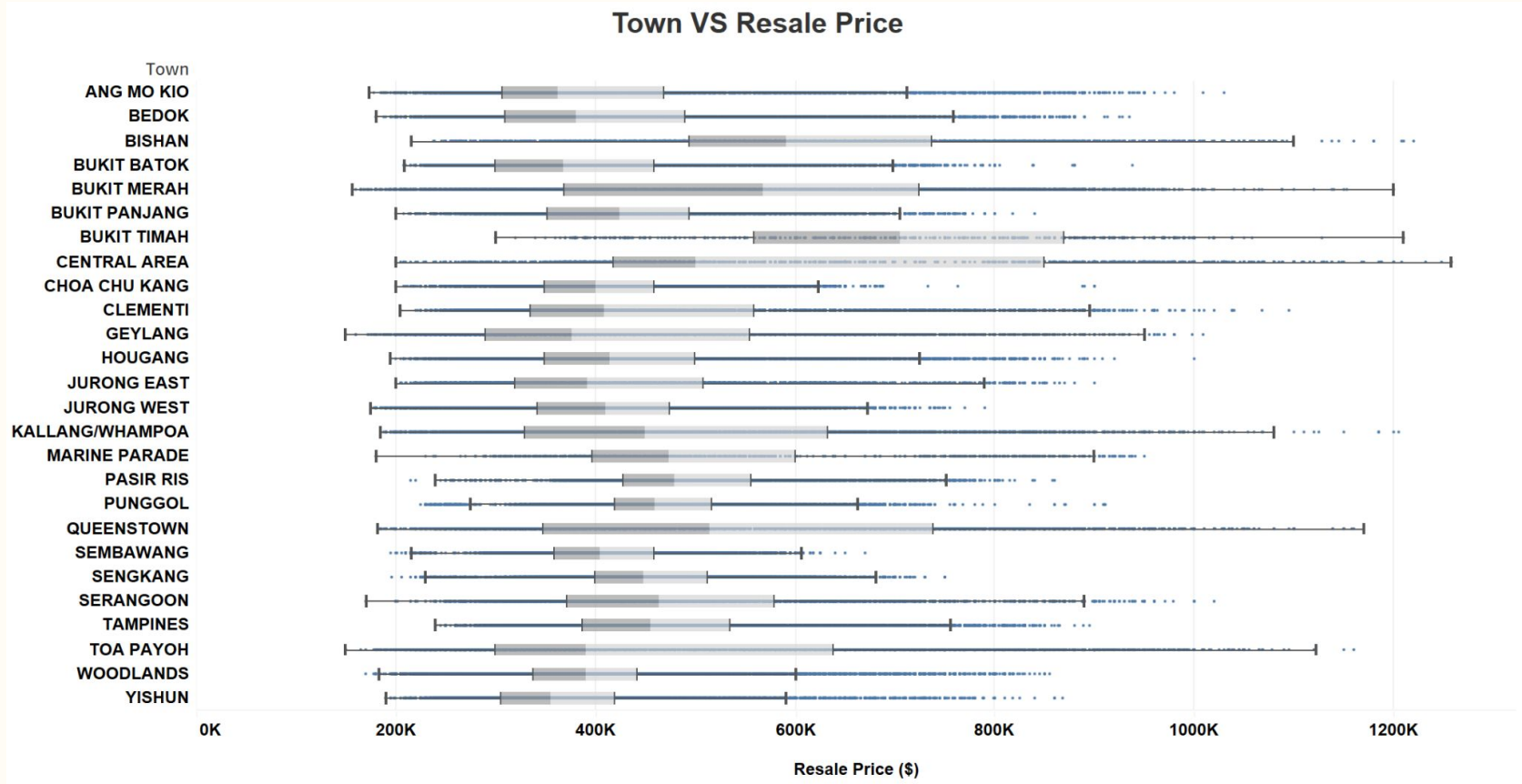
Proximity to amenities relatively affects resale price

MRT Nearest Distance VS Resale Price

Hawker Nearest Distance VS Resale Price

Mall Nearest Distance VS Resale Price

Bus Stop Nearest Distance VS Resale Price

Pri Sch Nearest Distance VS Resale Price

Sec Sch Nearest Distance VS Resale Price
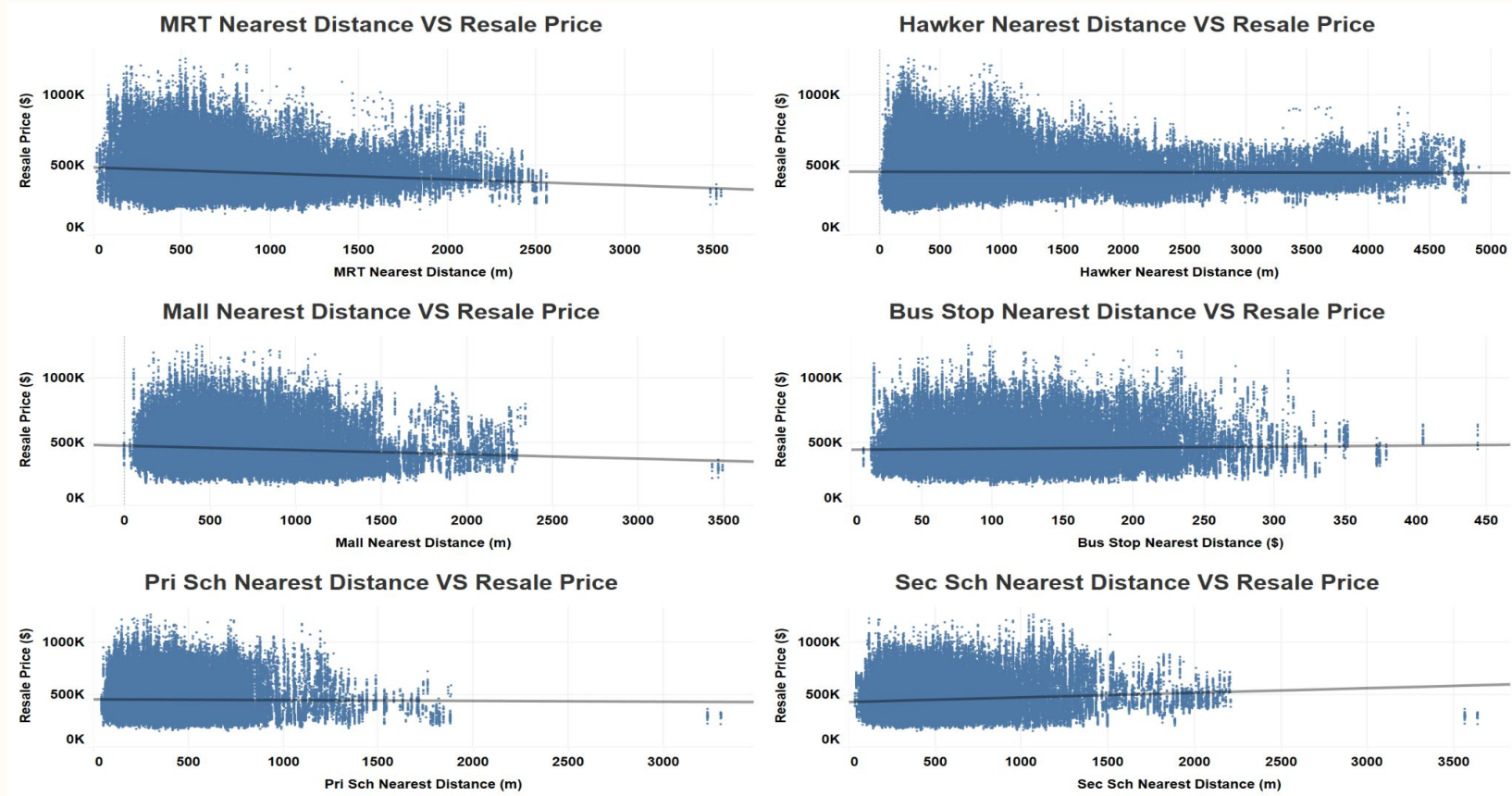
- Proximity to hawker centres and bus stops does not significantly influence resale prices
- Proximity to MRT stations and malls has a slight positive impact on resale prices, but the effect is not very strong
- Proximity to pri schools has a weak positive impact on resale prices, while proximity to sec schools does not have a significant effect

Features Selected

Flat Features

Town

Transaction Year

Amenities Within Block

Amenities Nearby

Proximity to Schools

03

Is It Possible to Predict HDB Resale Flat Prices?

Model Evaluation

Attributes	Random Forest Regressor	Extra Trees Regressor	XGBoost
Accuracy	🌳	🌳 🌳	🌳 🌳 🌳
Speed	🌳	🌳 🌳	🌳 🌳 🌳
Widely Used	🌳 🌳	🌳 🌳	🌳 🌳 🌳
Control for overfitting	🌳	🌳	🌳 🌳 🌳

Model Chosen

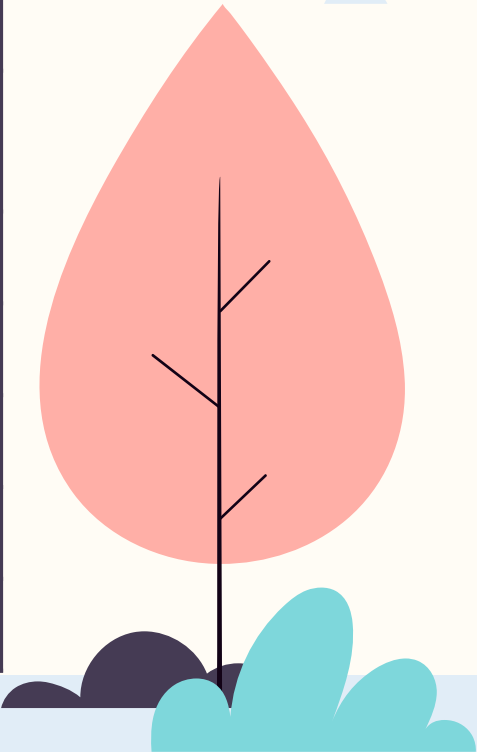|	Train RMSE	Test RMSE	Train R^2	Test R^2	Model Run Time (s)
Random Forest Regressor	16,789	26,227	0.986	0.966	52
Extra Trees Regressor	14,894	26,421	0.989	0.966	56
XGBoost	25,166	27,074	0.956	0.964	13

04

What Insights Can the Model Give Us?

Important Features & Recommendations

Specific Towns	Flat Features	Block Features
Bishan	Flat Type (No. of Rooms)	Highest Floor in Block
Woodlands	Floor Area	
Bukit Timah	Flat Model - Terrace	
Choa Chu Kang		
Serangoon		
Jurong West		

05
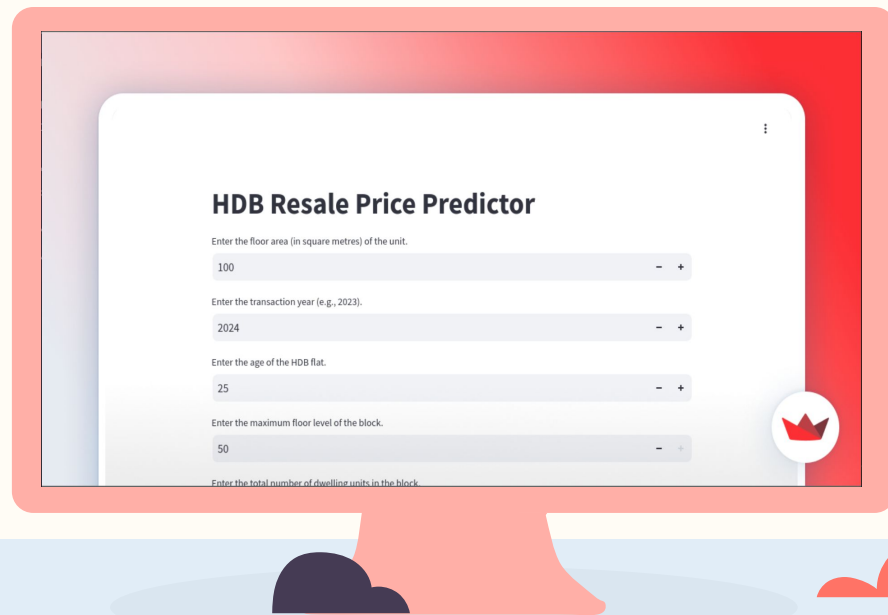
How Can We Improve Moving Forward?

Q4 2024 — Inflation data

Q1 2025 — Direction flat faces

Q2 2025 — School rankings

Q3 2025 — Purchase data by demographics

Q4 2025 — Distance from preschools/childcare

Q1 2026 — Distance from other key amenities

Q2 2026 — Impact of Government policy

FOR SALE

06

App Demo

07

Conclusion

08

Q&A