

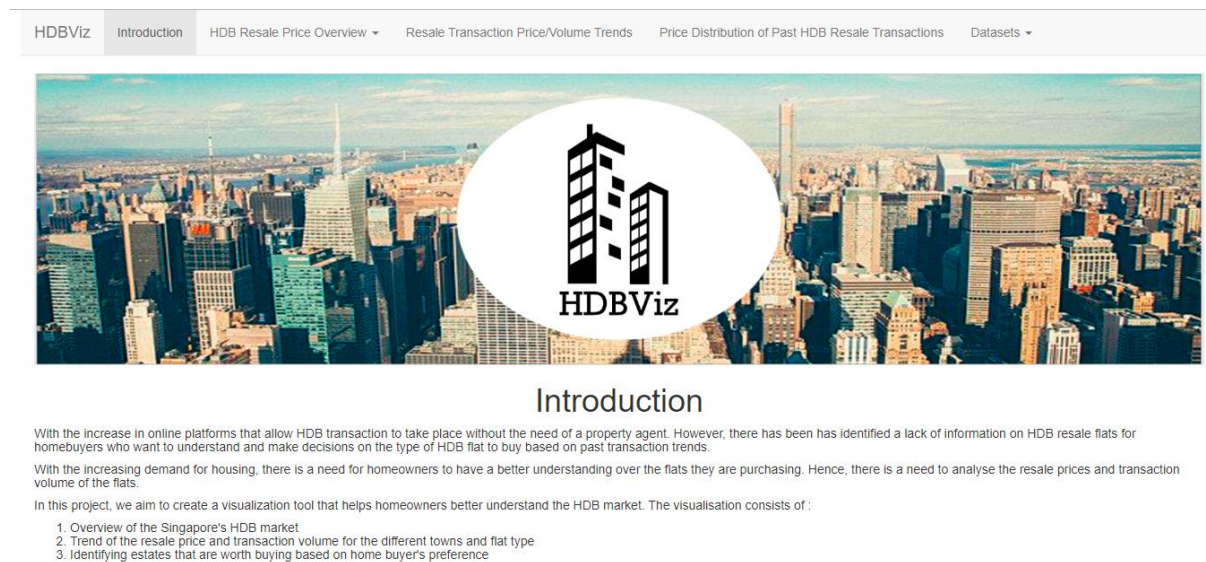


Visualising Singapore's HDB Resale Prices


Application User Guide v1.0

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1. Introduction Page



HDBViz Introduction HDB Resale Price Overview Resale Transaction Price/Volume Trends Price Distribution of Past HDB Resale Transactions Datasets



Introduction

With the increase in online platforms that allow HDB transaction to take place without the need of a property agent. However, there has been has identified a lack of information on HDB resale flats for homebuyers who want to understand and make decisions on the type of HDB flat to buy based on past transaction trends.

With the increasing demand for housing, there is a need for homeowners to have a better understanding over the flats they are purchasing. Hence, there is a need to analyse the resale prices and transaction volume of the flats.

In this project, we aim to create a visualization tool that helps homeowners better understand the HDB market. The visualisation consists of:

1. Overview of the Singapore's HDB market
2. Trend of the resale price and transaction volume for the different towns and flat type
3. Identifying estates that are worth buying based on home buyer's preference

The is the navigation bar across all the pages of HDBViz Website as shown in <https://hdbviz.shinyapps.io/hdbviz/>. By scrolling down, it shows the introduction of our project. From this page, users can read about the background of the current problem that is faced by HDB purchasers and the objective of the visualization application.

Across the pages, navigation bar is used to increase the ease of navigation. It is located at the top to all pages to allow users to navigate to different pages without having to constantly selecting the back or home button.

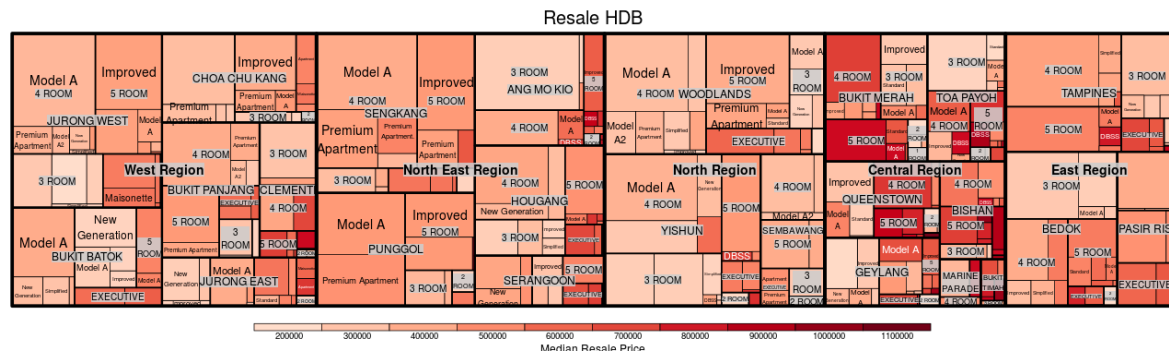
2. HDB Resale Price Overview

2.1 Regional Past Transaction Prices Overview

Regional Past Transaction Prices - Overview

The treemap shows the past resale prices by planning regions and can be filtered by the year of transaction. The colour intensity of each block is denoted by the median transaction prices and size of each block is denoted by the total number of transactions.

Year



Under this page, users are able to see the overview of the Resale HDB across regions. It is sectioned by Region, town, flat types and flat models. The size of each box is represented by the transaction volume and the colour represents the resale prices. The treemap is arranged according to the sizes, with the biggest box (signifying most transaction) at the front.

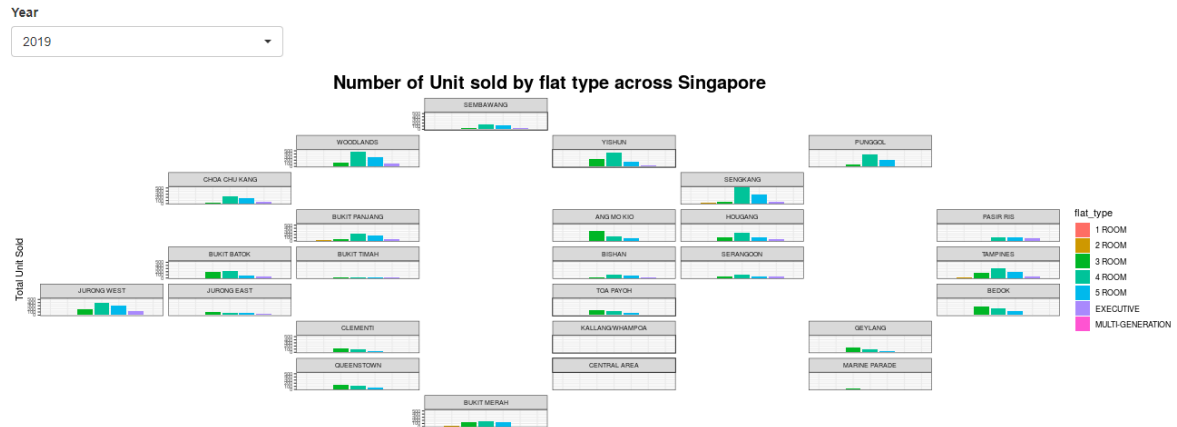
Filters

This page contains an interactive filter for the user to display the past transaction volume by the year, from 2015 to 2019.

2.2 Number of Units Sold Overview

Number of Units Sold - Overview

The chart below shows the total number of units transacted over the years of 2015 to 2019 based on the types of flat per town. Based on the insights, most HDB resale flats transacted were either 3 or 4 room flats.



Under this page, users can toggle to the **Number of Units Sold** tab to view the past yearly HDB resale transactions by flat type across the estate town. It contains a geographically faceted map with bar charts for each estate, positioned in a grid akin to the Singapore geographical map.

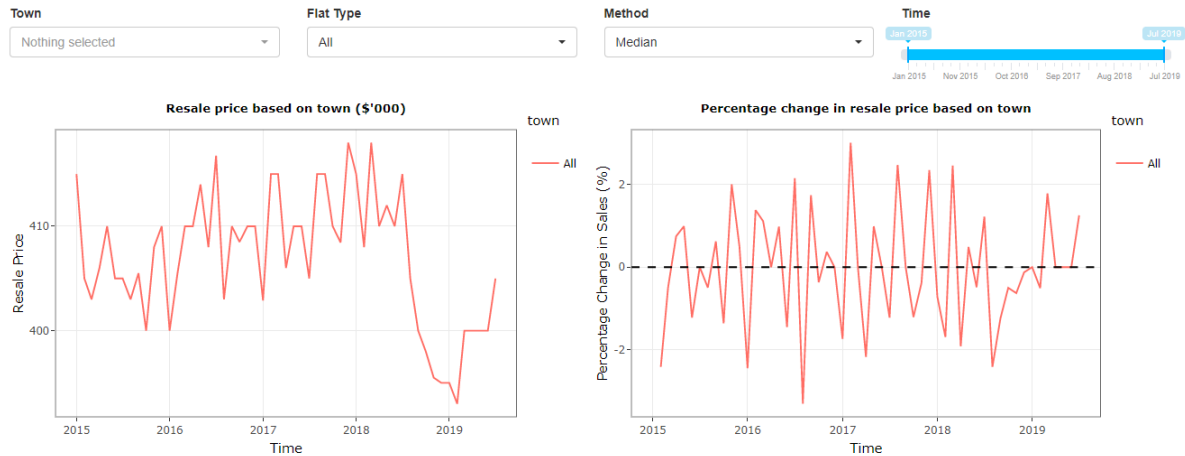
Filters

This page contains an interactive filter for the user to display the past transaction volume by the year, from 2015 to 2019.

3. Resale Transaction Price/Volume Trends

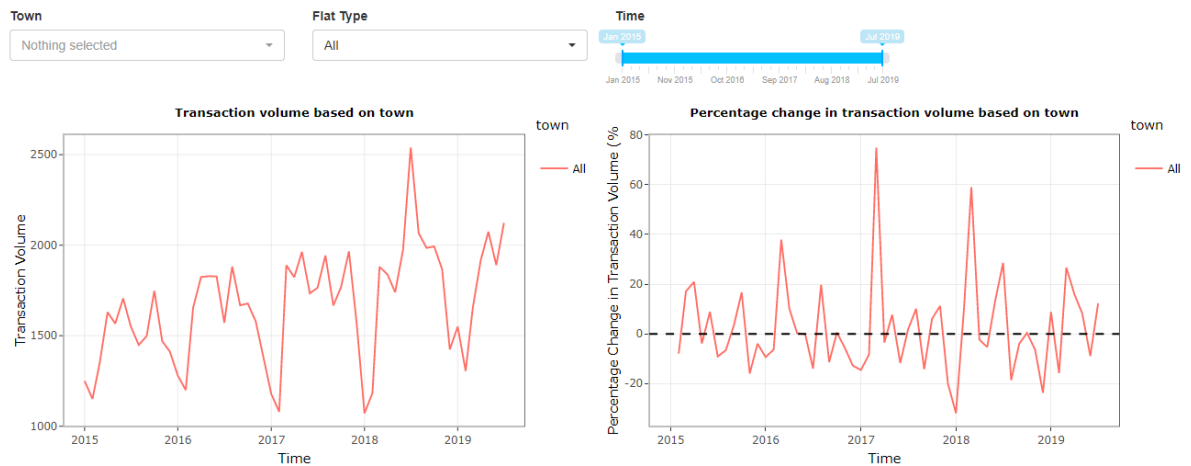
Resale Transaction Price Trends

The chart shows the monthly changes in transaction prices across various towns and flat types. The graphs can also be filtered by the transaction time range as well as the different aggregation methods (median, mean, min and max) to display the transaction prices. Town has been limited to allow only up to 4 selection and a zero reference line has been included to allow easy reference for negative and positive percentage change in the resale price.



Resale Transaction Volume Trends

The chart shows the monthly changes in transaction volume across various towns and flat types. The graphs can also be filtered by the transaction time range. Town has been limited to allow only up to 4 selection and a zero reference line has been included to allow easy reference for negative and positive percentage change in the transaction volume.



After looking at the overview of the HDB resale market, user can turn to **Resale Transaction Price/Volume Trends** page. This page allows users to have a more in depth analysis of the resale market by looking at the trend of the resale price/transaction volume for the past 5 years. The percentage change in resale price/transaction volume, as compared to the previous quarter can also be analysed in this page.

Filters

Comparison between different towns can also be done in this page. Using the drop down filters, Users can choose up to 4 towns that they are interested in, and the line chart will be updated accordingly.

The chart can be further narrowed down based on the flat type users choose using the drop down filter. It is important to take note that if a particular flat type is not available

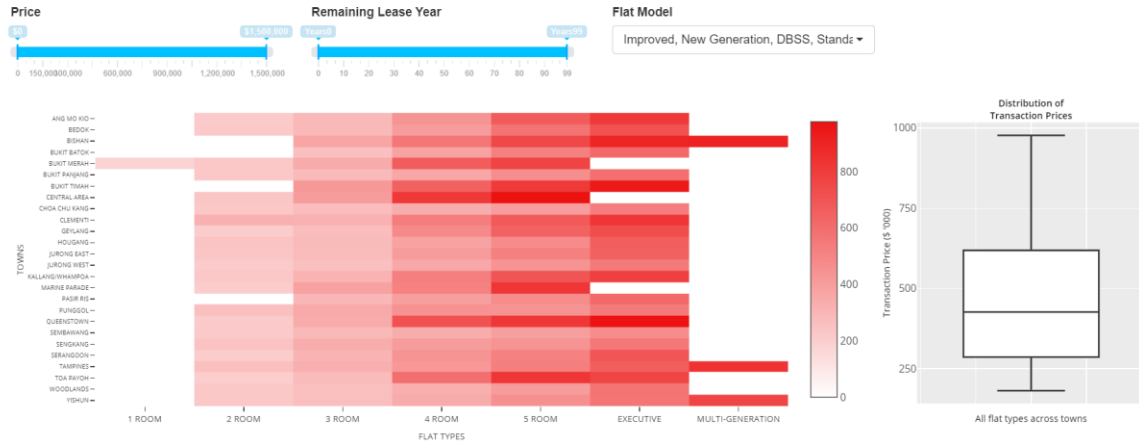
in a specific town (e.g. There's no 1 room flat in Ang Mo Kio). a new line for the town will not be shown in the line chart.

User can also adjust the time frame they want to look at using the slider. Specifically for resale price, users have the flexibility to choose the aggregation method (median, mean, min and max) they prefer.

4. Price Distribution of Past HDB Resale Transactions

Price Distribution of Past HDB Resale Transactions

This page presents an in-depth outlook of the past HDB Resale transactions price distribution by town and flat types based on the user's inputs (flat model, remaining lease year, price range). It acts as a reference for home buyers/sellers by displaying the median transaction prices on a heatmap and the price distribution for a particular town and flat type, where the colour intensity is denoted by the median resale value.



Under the **Price Distribution of Past HDB Resale Transactions** tab, this page allows users to narrow down the past transactions (from Jan 2017 to 2019) based on their filter selections and obtain the HDB resale price distribution across various towns and flat types. On this page, by default selection, the heat map shows the median transaction price of each flat type within all the estate towns, and a box plot displays the price distribution across all flat types and estate towns. The heat map colour intensity is denoted by the median transaction price, and the white block within the heat map of 0 value, represents a NULL transaction.

Filters

The user can make the following filter selections: (1) range of the median **transaction prices**, (2) **remaining lease year** at the time the flat was sold, and (3) types of **flat model**. After making the necessary filter selections, the heatmap and boxplot will change accordingly. The user can obtain further insights on the price distribution of a particular flat type and estate town, by clicking on the cell blocks on the heatmap (except the white blocks).

5. Datasets

HDBViz Introduction HDB Resale Price Overview Resale Transaction Price/Volume Trends Suggestion Tool Datasets

Show 25 entries Search:

	Planning Region	town	flat_type	flat_model	year	Total Unit Sold	Median Resale Price	Total Resale price	average
1	Central Region	BISHAN	3 ROOM	Improved	2015	8	280000	2231000	278875
2	Central Region	BISHAN	3 ROOM	Improved	2016	15	270000	4036888	269125.866666667
3	Central Region	BISHAN	3 ROOM	Improved	2017	9	275000	2473500	274833.333333333
4	Central Region	BISHAN	3 ROOM	Improved	2018	9	260000	2358500	262055.555555556
5	Central Region	BISHAN	3 ROOM	Improved	2019	3	260000	772000	257333.333333333
6	Central Region	BISHAN	3 ROOM	New Generation	2015	9	400000	3657000	406333.333333333
7	Central Region	BISHAN	3 ROOM	New Generation	2016	16	404000	6480000	405000
8	Central Region	BISHAN	3 ROOM	New Generation	2017	7	442000	3093000	441857.142857143
9	Central Region	BISHAN	3 ROOM	New Generation	2018	7	410000	2818000	402571.428571429
10	Central Region	BISHAN	3 ROOM	New Generation	2019	6	421500	2532000	422000
11	Central Region	BISHAN	3 ROOM	Simplified	2015	33	393000	12789300	387554.545454545
12	Central Region	BISHAN	3 ROOM	Simplified	2016	19	355000	6839888	359994.105263158

If users are keen to find out more about the datasets used in building our visualisations, they can visit the **Datasets** tab. This page contains tables of **pre-processed** data that are used in our **line graph**, **treemap** and **heatmap** visualisations respectively. Users can search for a particular row of data by entering relevant values into the search box, or they could sort the data in ascending/descending order.