

visualizing housing market trends : an analysis of sale prices and features

Introduction

The housing market is influenced by various factors such as location, property size, number of bedrooms, and amenities. This project analyzes housing data to identify patterns and trends in sale prices using **Tableau** for interactive visualization.

The objective is to uncover key insights that affect property pricing and support data-driven decision-making.

Objectives

- Analyze trends in house sale prices
- Identify important features influencing pricing
- Compare prices based on location and property characteristics
- Build interactive dashboards using Tableau

Dataset Description

The dataset includes the following features:

- Sale Price
- Number of Bedrooms
- Number of Bathrooms
- Square Footage (Living Area)
- Lot Area
- Year Built
- Location/Neighborhood
- Property Condition

Data was cleaned and transformed before importing into Tableau.

Tools Used

- **Tableau Desktop / Tableau Public** – Data Visualization
 - Excel / CSV – Data Preprocessing
 - Hyper Extract (.hyper file) – Optimized Tableau data format
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Data Preprocessing Steps

- Removed missing values

- Handled duplicate records
 - Converted categorical variables
 - Created calculated fields (Price per Sq Ft)
 - Generated Tableau extract file (.hyper)
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Visualizations Created

1. Sale Price Distribution

- Histogram showing price distribution
- Identifies pricing range concentration

2. Price vs Square Footage

- Scatter plot
- Shows strong positive correlation

3. Price by Number of Bedrooms

- Bar chart
- Compares average sale price

4. Neighborhood Analysis

- Map visualization
- Highlights high-value areas

5. Year-wise Price Trends

- Line chart

- Displays market growth over time
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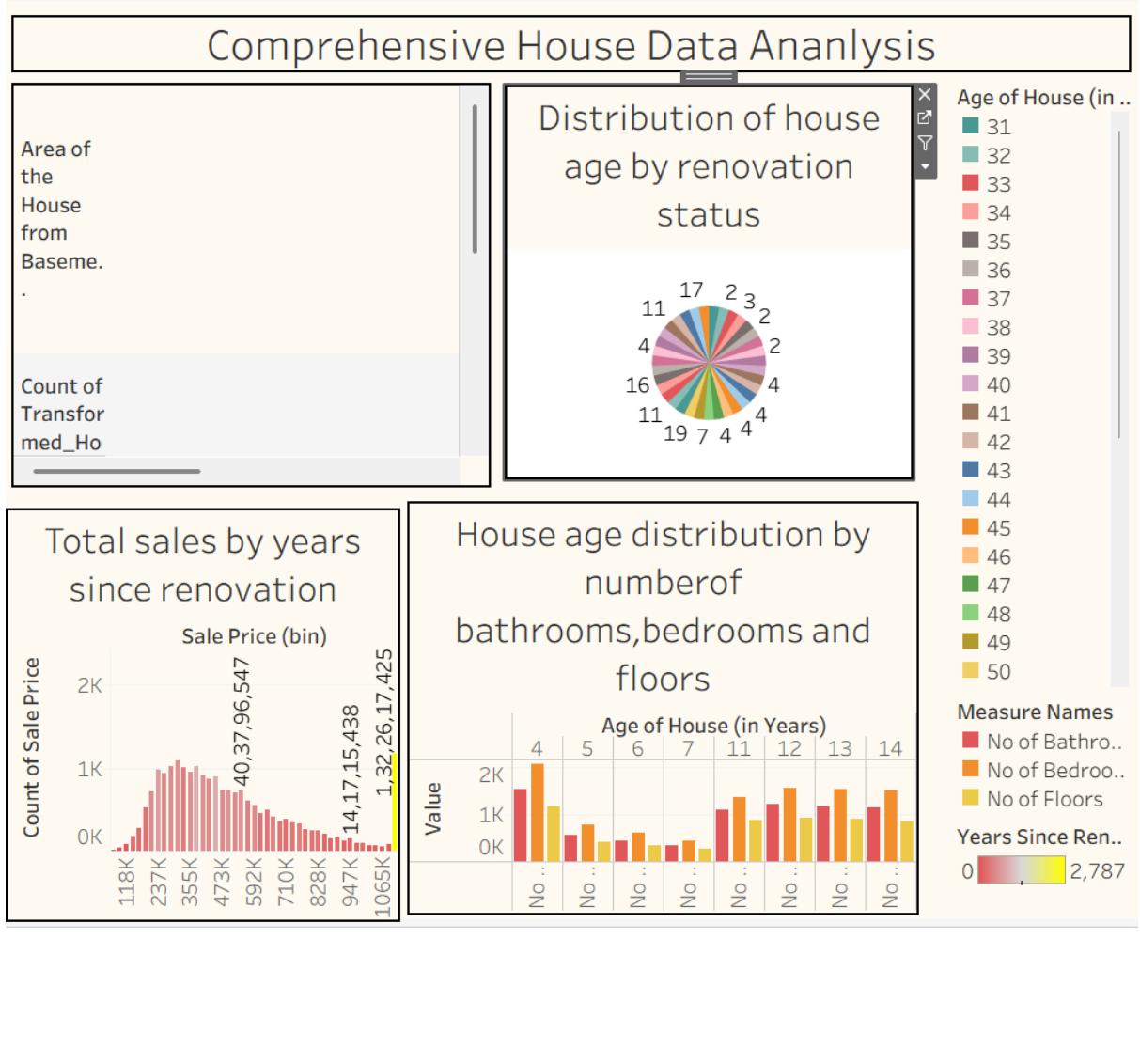
Key Insights

- Larger homes generally have higher sale prices
 - Certain neighborhoods significantly influence pricing
 - Recently built homes tend to have higher value
 - Price per square foot provides better comparison than total price
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Dashboard Design

The Tableau dashboard includes:

- Interactive filters (Location, Bedrooms, Year Built)
- KPI cards (Average Price, Total Sales, Median Price)
- Dynamic charts for comparative analysis



Story Design

The Tableau Story presents the housing market analysis in a clear, step-by-step sequence. It begins with an overview of overall sale price trends and key performance indicators. Next, it highlights how property features like bedrooms, square footage, and location impact pricing. Finally, it summarizes key insights to support data-driven decision-making in the housing market.

Tableau - housing details [Recovered] - Tableau license expires in 11 days

File Data Worksheet Dashboard Story Analysis Format Server Window Help

Story Layout

New story point

Blank Duplicate

Sheet 1 Sheet 2 Dashboard 1 Sheet 3 Sheet 4

A Drag to add text

Show title

Size Story (1016 x 964)

Area of the House from Basement (in Sqft) 38,643,798

Count of Transformed_Housing_Data2: 21,609

Count of Transformed_Housing_Data2 21,609

Sum of Sale Price 11,055,565,423

Data Source Sheet 1 Sheet 2 Story 1 Sheet 3 Sheet 4

11:31 AM 19-02-2026

This screenshot shows a Tableau Story titled 'Story 1'. It contains four cards: 1) 'Area of the House from Basement (in Sqft)' with a value of 38,643,798. 2) 'Count of Transformed_Housing_Data2' with a value of 21,609. 3) 'Sum of Sale Price' with a value of 11,055,565,423. 4) A placeholder card labeled 'A Drag to add text'. The sidebar on the left lists 'Sheet 1', 'Sheet 2', 'Dashboard 1', 'Sheet 3', and 'Sheet 4'. The bottom navigation bar includes 'Data Source' and tabs for 'Story 1' and other sheets.

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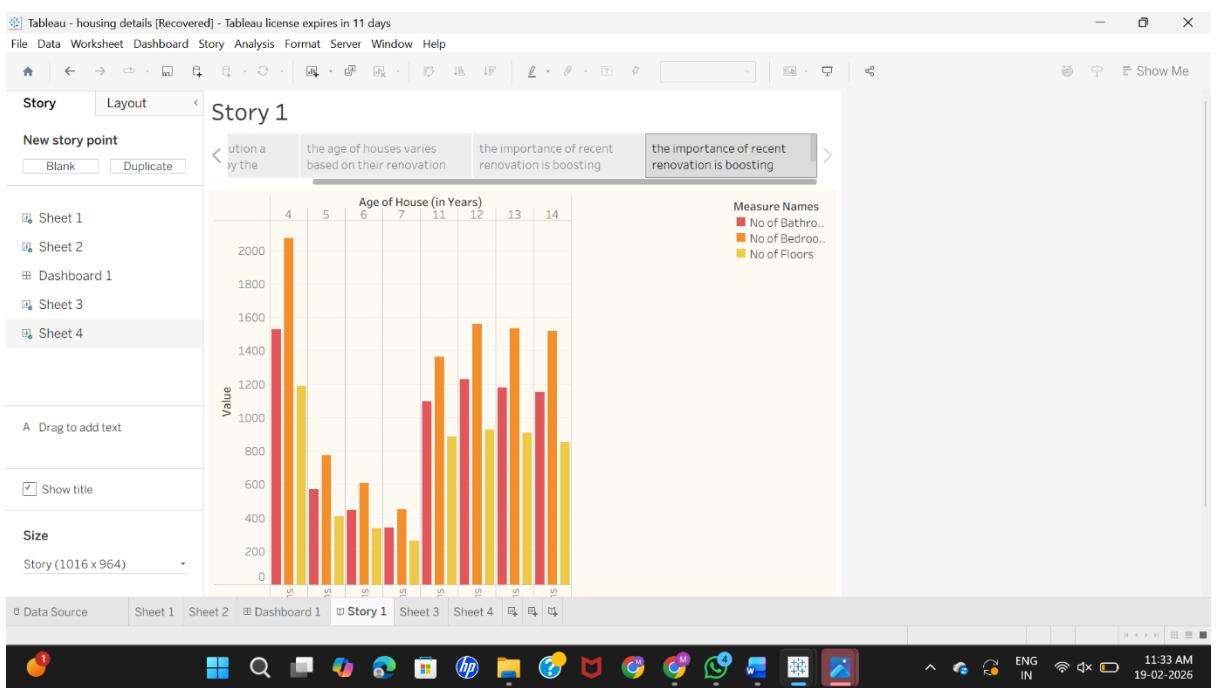
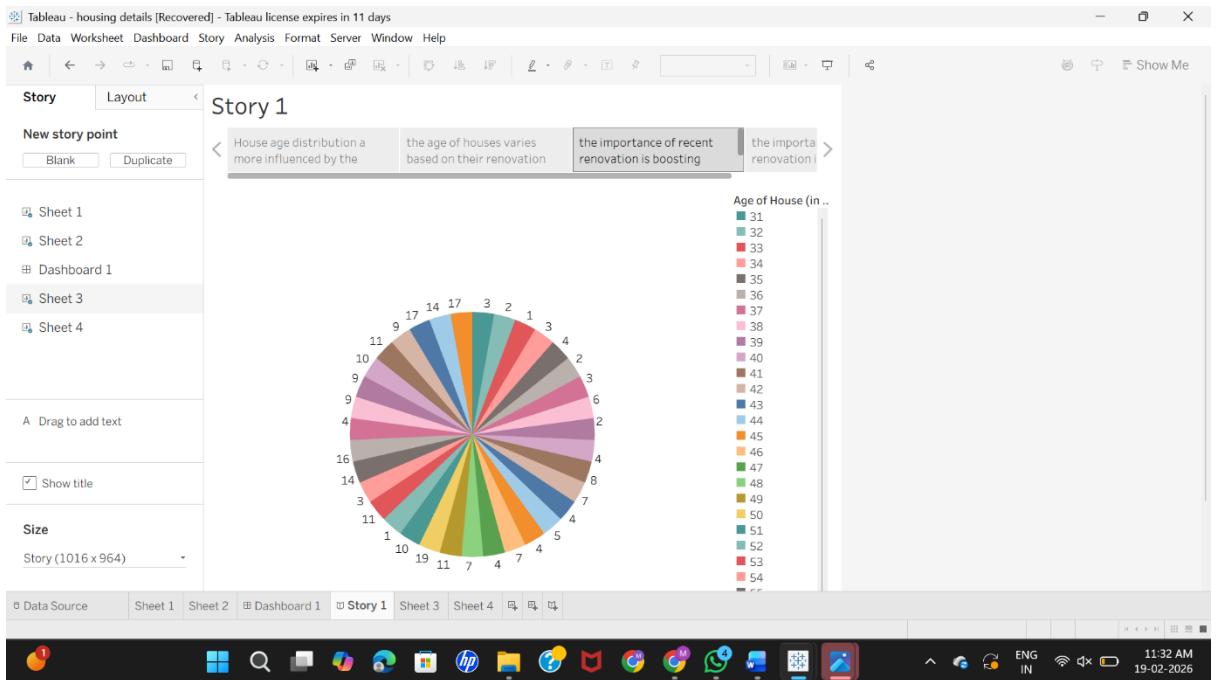
Size Story (1016 x 964)

Sale Price (bin)

Years Since Ren. 0 2,787

Count of Sale Price

This screenshot shows a histogram in Tableau Story 1. The x-axis represents 'Sale Price (bin)' and the y-axis represents 'Count of Sale Price'. The histogram shows a distribution of house prices, with the highest frequency in the \$24,61,42-42,422 bin. The color scale for 'Years Since Ren.' ranges from 0 (red) to 2,787 (yellow). The sidebar on the left lists 'Sheet 1', 'Sheet 2', 'Dashboard 1', 'Story 1', 'Sheet 3', and 'Sheet 4'. The bottom navigation bar includes 'Data Source' and tabs for 'Story 1' and other sheets. The system tray at the bottom right shows the date and time as 11:31 AM on 19-02-2026.



Conclusion

This project demonstrates how data visualization using Tableau can uncover valuable insights in the housing market. The findings can help buyers, sellers, and real estate analysts make informed decisions.

Future Improvements

- Add predictive modeling
- Integrate real-time housing data
- Perform regression analysis
- Compare regional markets