



# King County House Sales Dashboard – Project Report

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## 1. Executive Summary

This report outlines the development and key insights derived from the **King County House Sales Dashboard**, an interactive Tableau visualization tool designed to analyze housing transactions in King County, WA. The primary goal is to provide stakeholders with clear, actionable insights into real estate trends, price dynamics, and geographic patterns based on publicly available housing data from 2014 to 2015.

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## 2. Objectives

The objectives of this dashboard project were to:

- Analyze housing market trends across King County
  - Identify high-value zip codes and property attributes influencing sale price
  - Provide an interactive tool for real estate professionals, buyers, and policy makers
  - Deliver meaningful insights via KPIs and visual storytelling
  - Enable filtering, comparison, and exploration of historical sales data
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## 3. Tools and Technologies

- **Data Visualization:** Tableau Desktop
  - **Data Source:** King County House Sales dataset (Kaggle)
  - **File Format:** Tableau Packaged Workbook (.twbx)
  - **Data Size:** ~21,600 records
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## 4. Dataset Summary

FEATURE	DESCRIPTION
ID, DATE, PRICE	Basic transaction identifiers
BEDROOMS, BATHROOMS	Home configuration
SQFT LIVING, SQFT LOT	Size metrics
WATERFRONT, VIEW, GRADE	Quality/performance features
ZIPCODE, LATITUDE, LONGITUDE	Geographic info
YEAR BUILT, YEAR RENOVATED	Temporal housing attributes

Data was cleaned to remove duplicates, correct data types, and ensure consistency for accurate visualization.

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## 5. Dashboard Layout and Features

### a. Key Performance Indicators (KPIs)

- Total Houses Sold
- Total Sales Value
- Average Price
- Price per Square Foot

### b. Trend Analysis

- Monthly sales and price trends plotted over time
- Helps identify seasonal peaks and troughs

### c. Geographical Mapping

- Choropleth map showing average sale prices by zip code
- Tooltip-enhanced for interactivity

### d. Feature-Based Analysis

- Sale price by number of bedrooms, condition, and waterfront access
- Visual comparison of feature impact on pricing

### e. Price Distribution

- Histograms and scatterplots visualizing the spread and concentration of prices
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## 6. Interactivity

- **Filters:** Zipcode, date range, price range, home features
  - **Drill-down functionality:** All visuals respond to selections
  - **Hover tooltips:** Provide contextual data without cluttering visuals
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## 7. Key Findings

- Homes with **waterfront access** command significantly higher prices
- **Grade** and **condition** have a strong correlation with sale price
- High-density areas such as zip codes in **Seattle** showed both higher volume and price
- Most home sales occurred during the **spring and summer months**

- Price per square foot varied widely across zip codes, indicating localized market behavior
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## **8. Limitations**

- Data limited to 2014–2015; may not reflect current trends
  - No external economic or demographic data integrated
  - Zip-code-level aggregation may overlook neighborhood-specific nuances
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## **9. Future Recommendations**

- Extend dataset to recent years for temporal comparison
  - Integrate external indices like Zillow HVI or crime/school data
  - Add predictive modeling to forecast house prices based on input features
  - Implement user authentication and cloud hosting for public or client access
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## **10. Conclusion**

This dashboard provides a valuable tool for exploring and understanding the housing market in King County. With its interactive components, comprehensive KPIs, and geographic visualizations, it helps users make informed decisions and identify market trends. Enhancing it with more data and predictive capabilities could further transform it into a decision-support platform for real estate professionals and analysts alike.

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