EDA Project

14.04.2025

Twinkle

Client : Bonnie Brown

The seller aims to maximize profit by selling their house in a middle-class neighborhood.

Hypothesis :

1. Timing Impacts Sale Price

The month or season when a house is sold significantly impacts the sale price.

2. Location Influences House Value

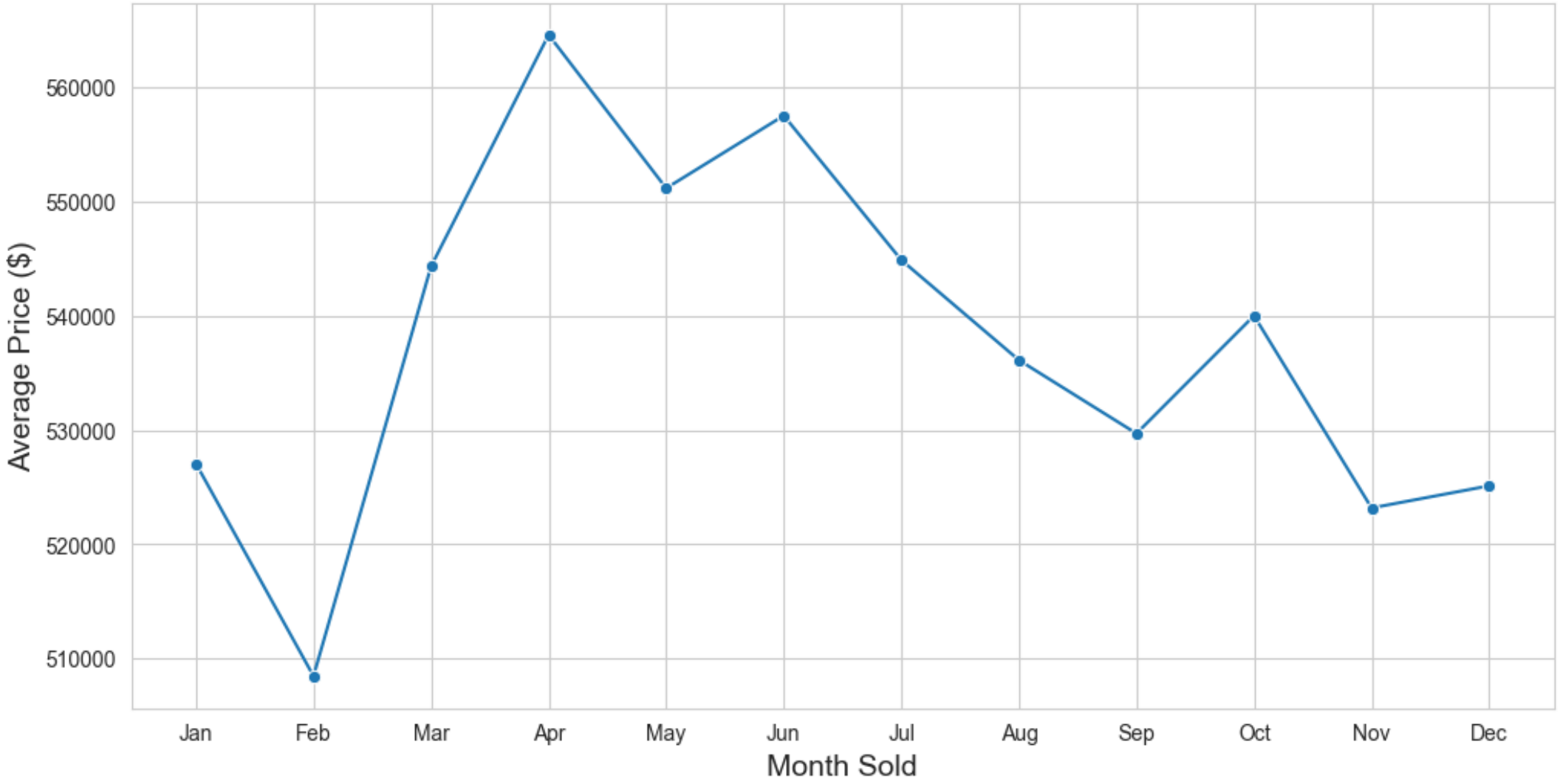
The geographical location of the house positively influences the price per square foot.

3. House Characteristics Affect Sale Price

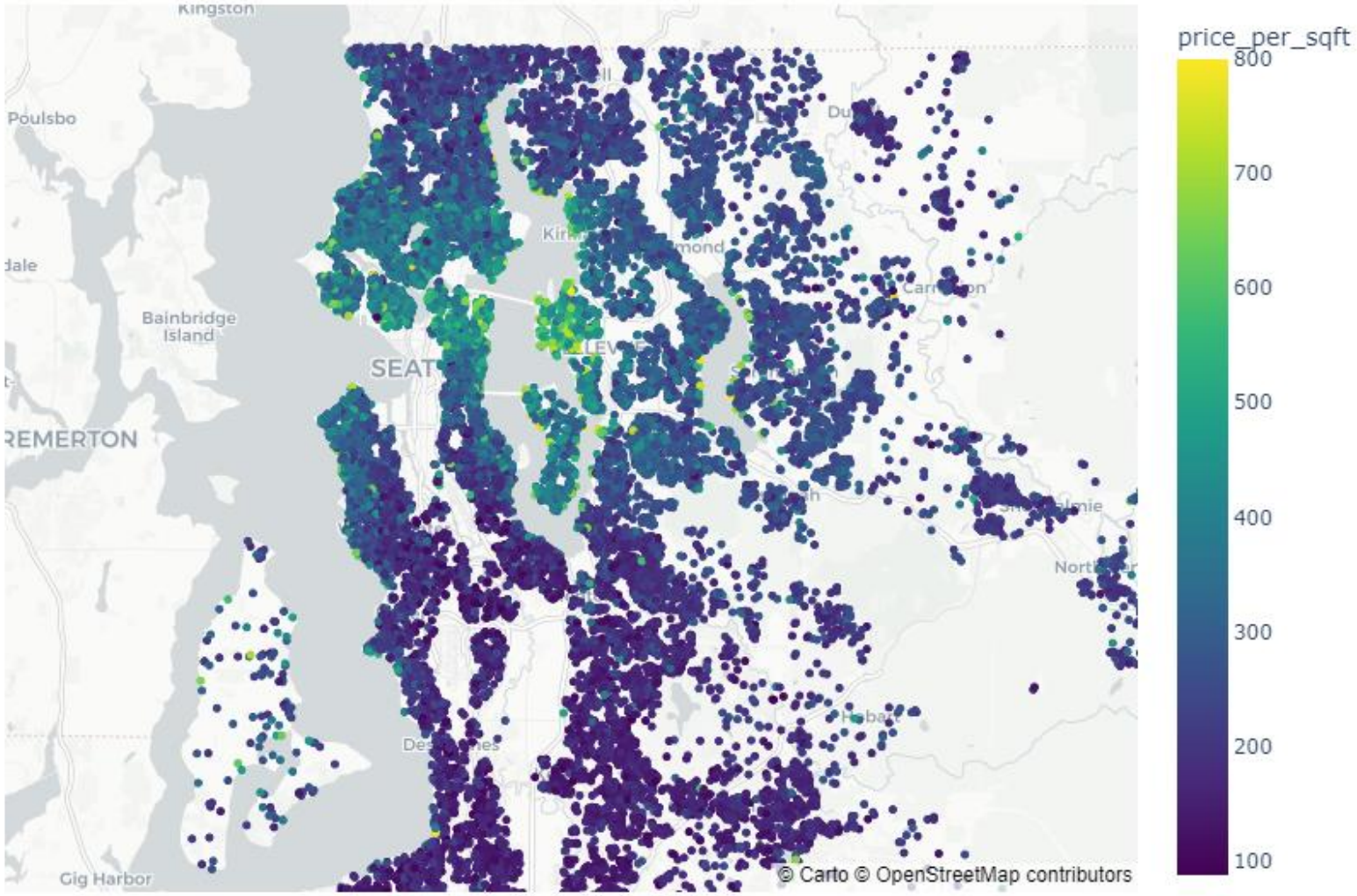
Specific house features — such as grade, living area size, and renovation status — have a significant impact on the final sale price.

Features	Summary
Total houses	21,420
Average price	$540,739
Price range	$78,000 — $7,700,000
Average living space	2,083 sqft
Living space range	370 sqft — 13,540 sqft
Bedrooms	Average 3–4 bedrooms
Bathrooms	Average 2–3 bathrooms
Floors	Mostly 1–2 floors
Waterfront properties	Extremely rare (~0.7%)
Year built	Ranges from early 1900s to recent
Average grade	7–8 (medium-high quality)
Price per sqft (avg)	$264

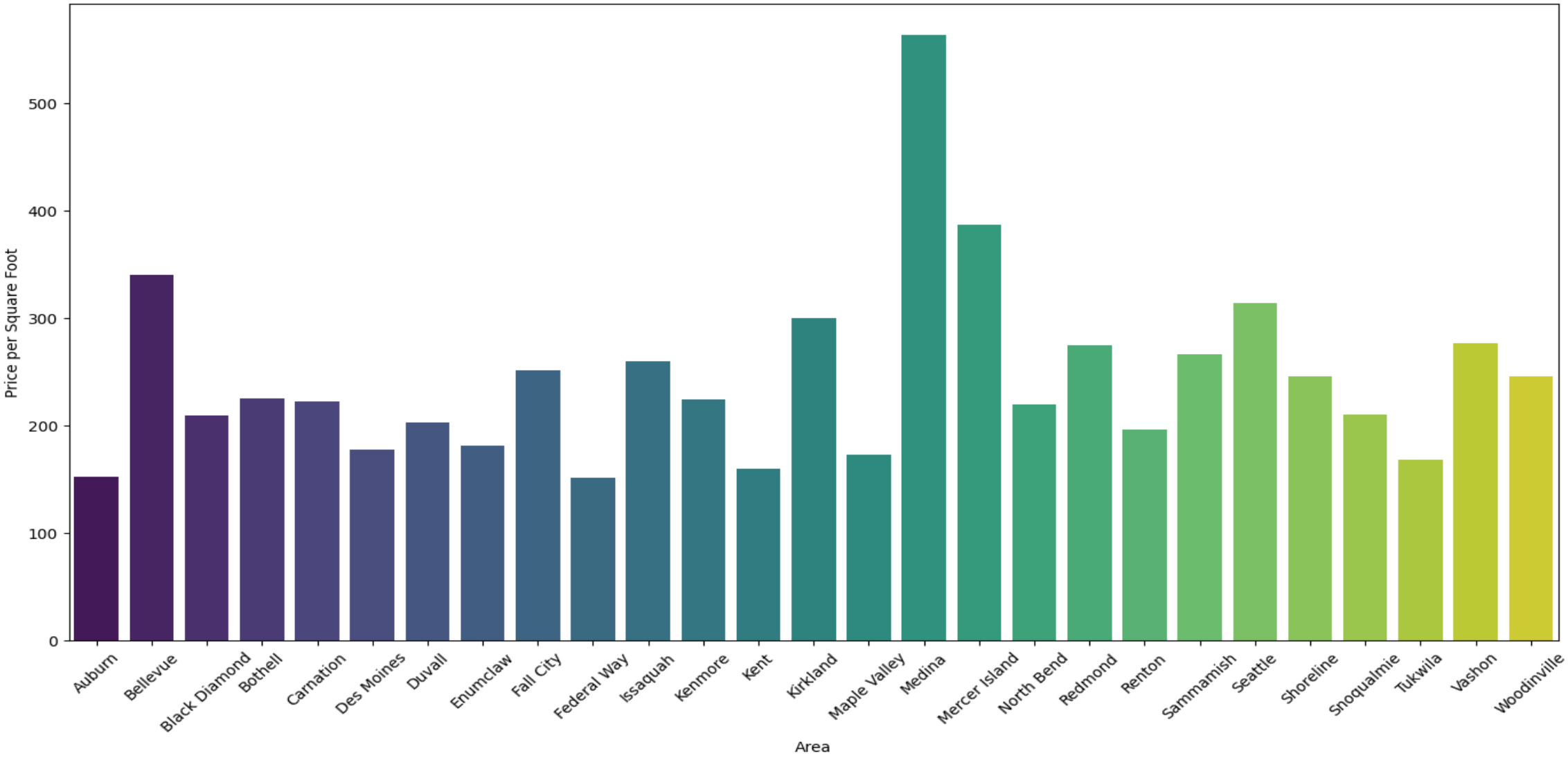
Average Home Price Trends (Monthly)



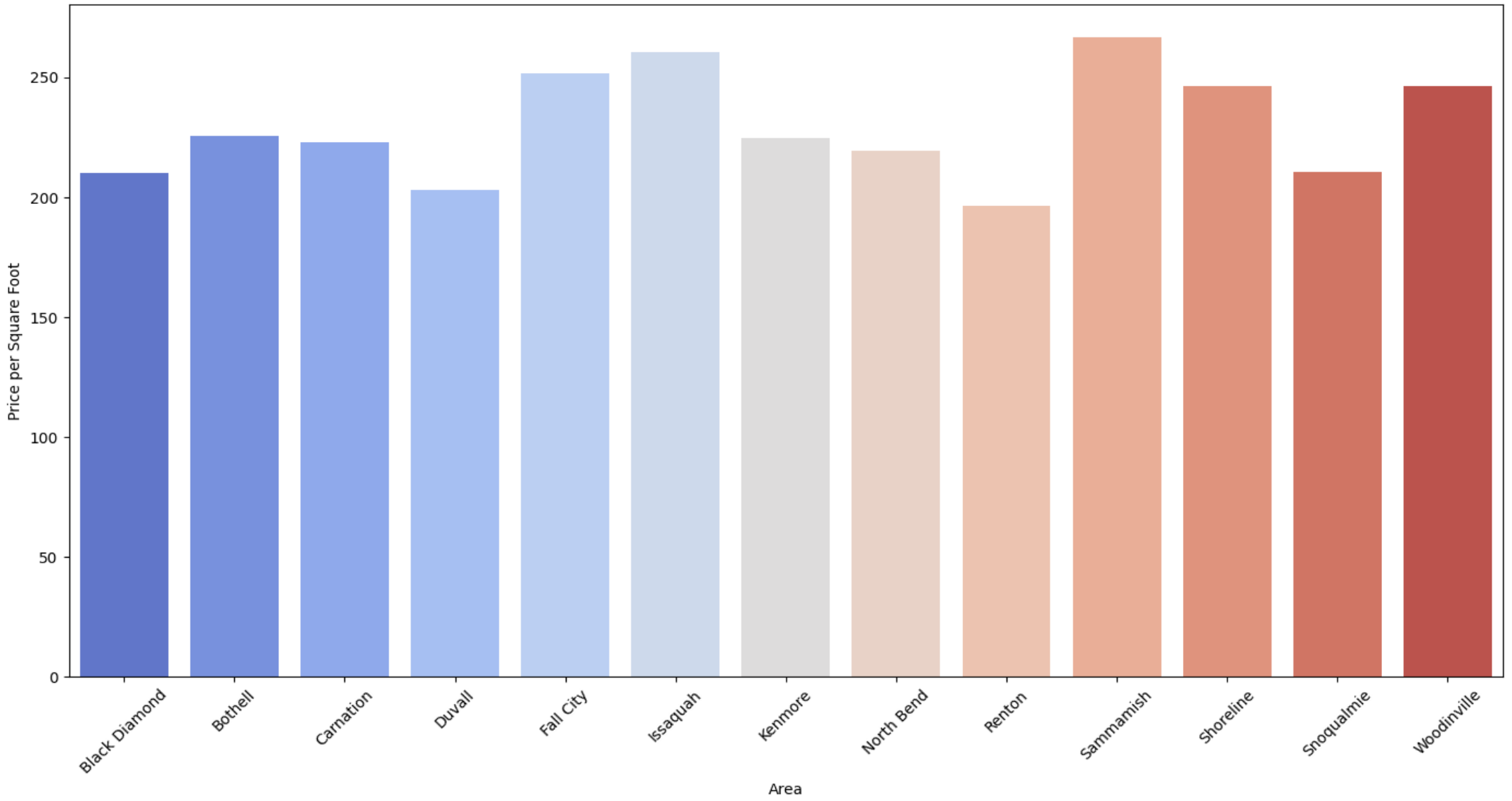
Housing Prices in King County: A Spatial View



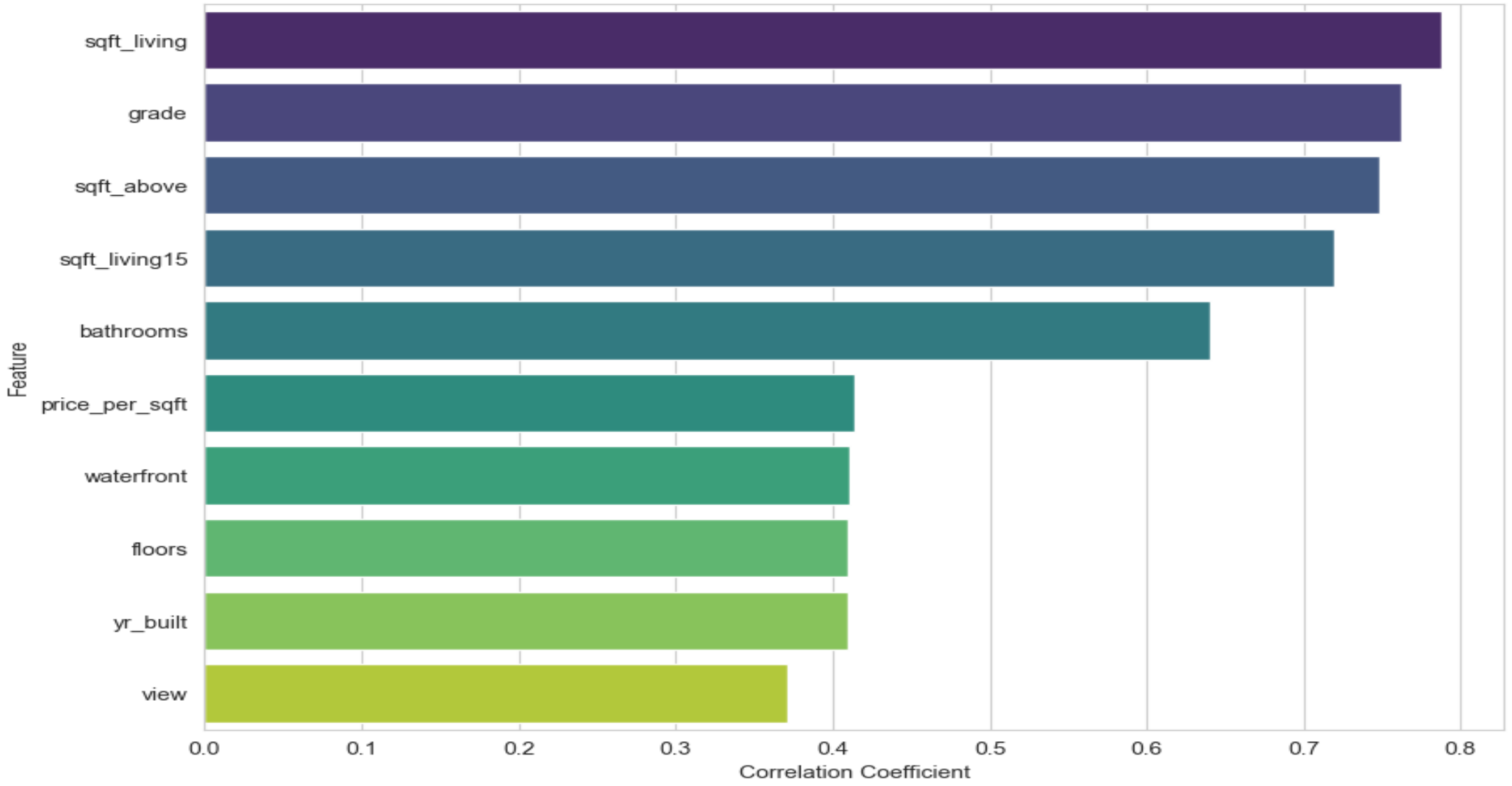
Price per Square Foot by Neighbourhood

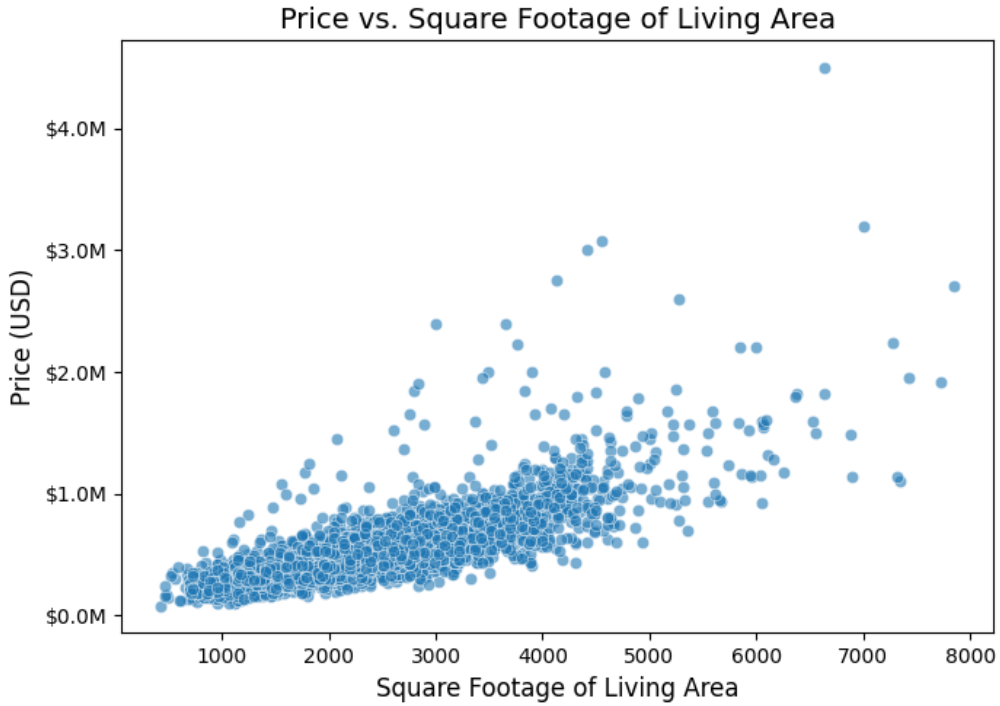


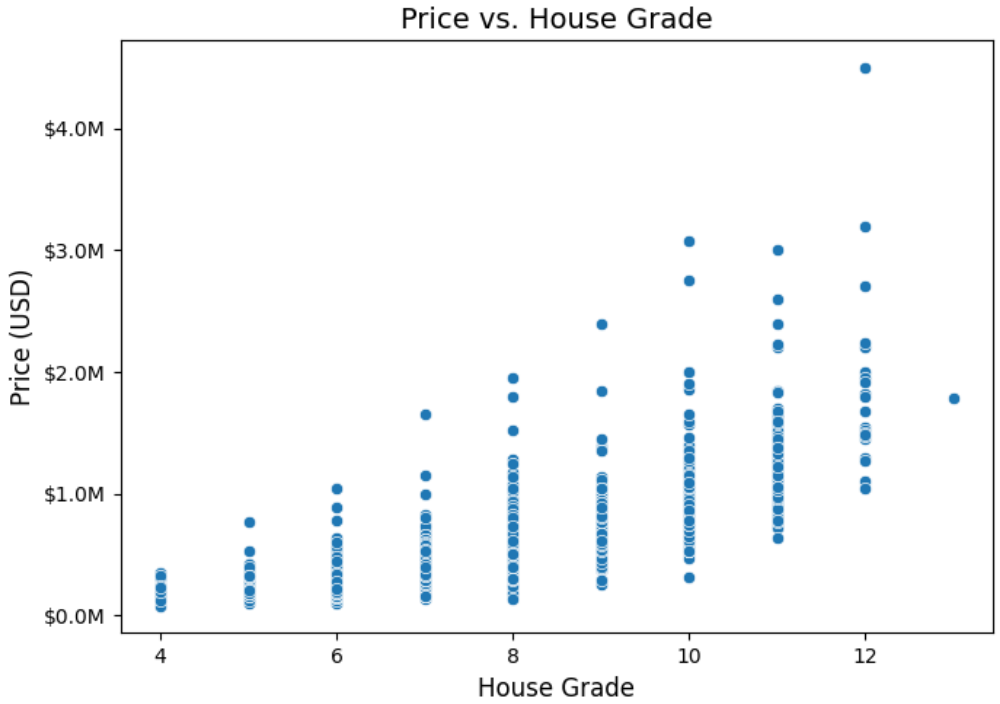
Price per Square Foot: Middle-Class Neighbourhoods

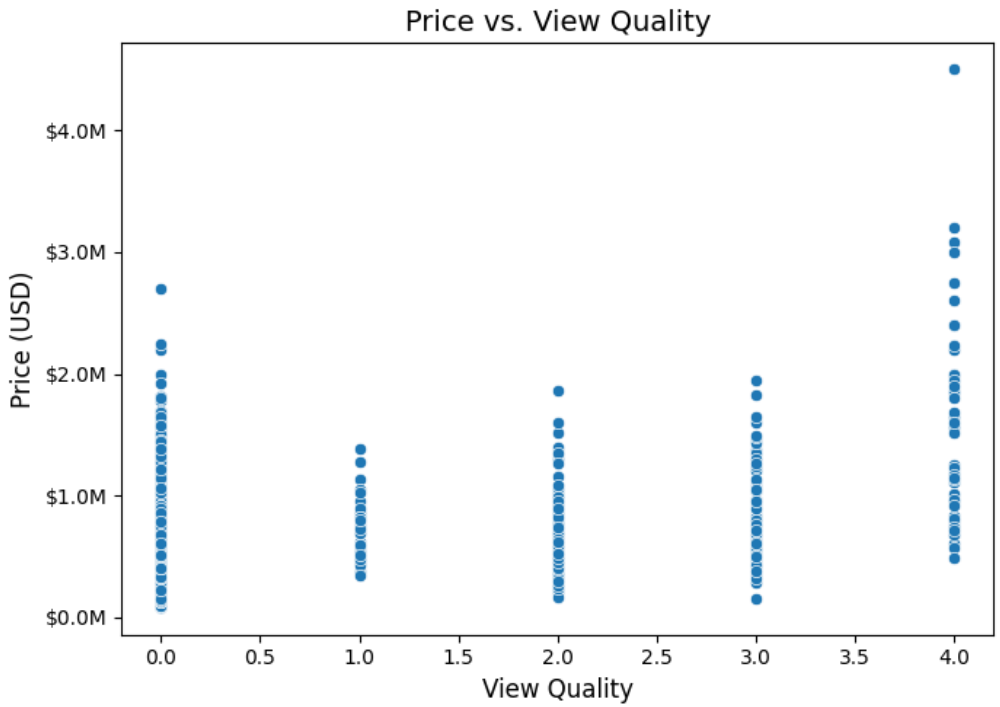


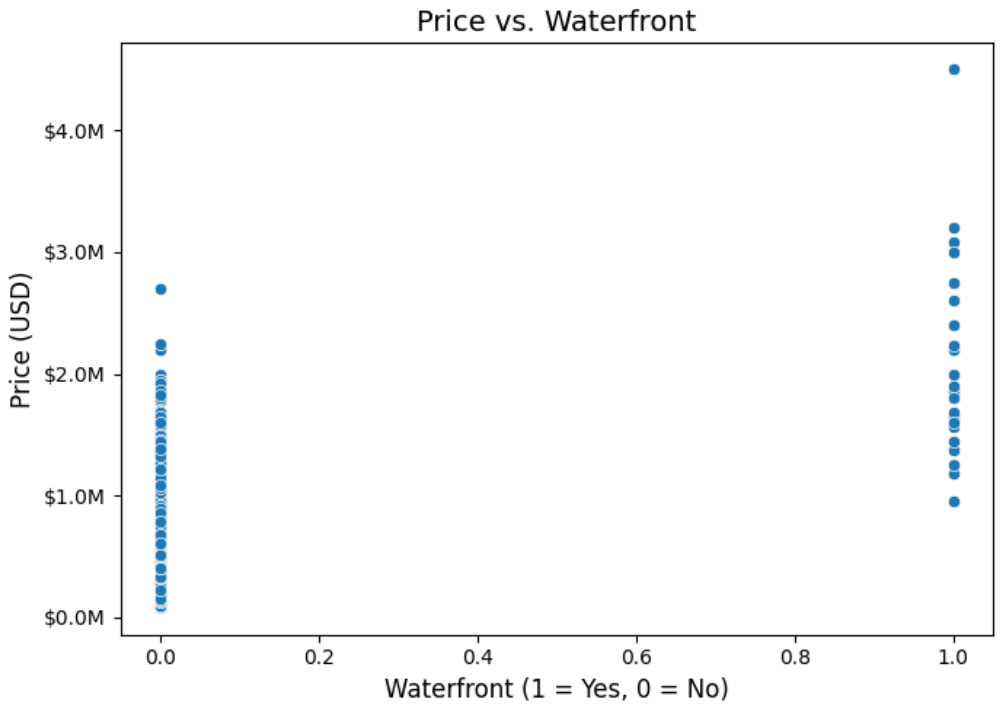
Top Features Influencing Middle-Class Home Prices




Price vs. Square Footage of Living Area
Price (USD)
$0.0M
$1.0M
$2.0M
$3.0M
$4.0M
1000
2000
3000
4000
5000
6000
7000
8000
Square Footage of Living Area

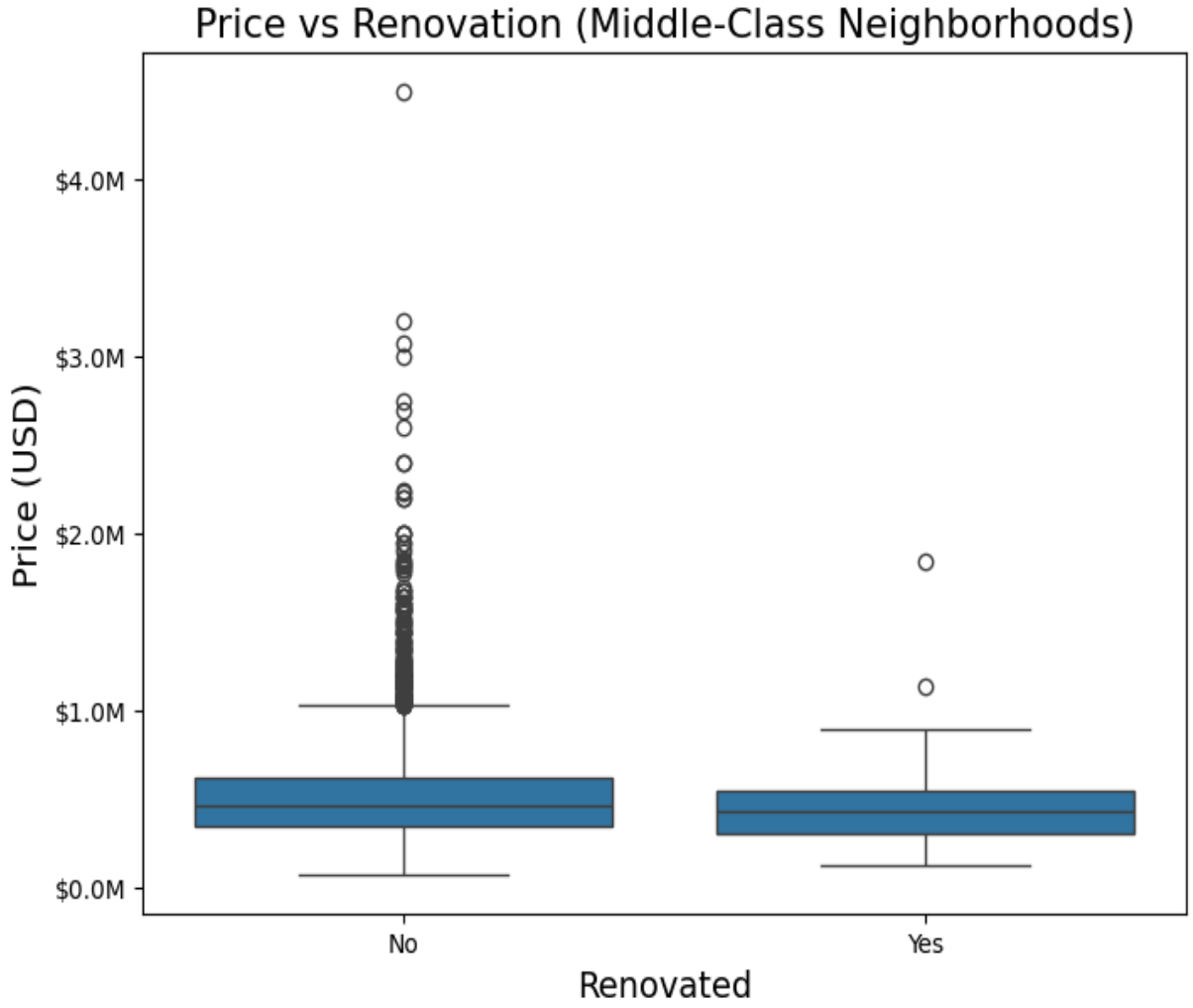

Price vs. House Grade
Price (USD)
$0.0M
$1.0M
$2.0M
$3.0M
$4.0M
4
6
8
10
12
House Grade


Price vs. View Quality
Price (USD)
$0.0M
$1.0M
$2.0M
$3.0M
$4.0M
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
View Quality


Price vs. Waterfront
Price (USD)
$0.0M
$1.0M
$2.0M
$3.0M
$4.0M
0.0
0.2
0.4
0.6
0.8
1.0
Waterfront (1 = Yes, 0 = No)

Renovation Impact on Home Values

- **Renovated homes exhibit a lower median sale price.**
- **Unrenovated properties show greater price variance.**
- **High-value outliers are more common among unrenovated homes.**



Conclusion

Recommendations:

Sell in Spring (April to June).

Focus on visible improvements — living space and grade.

Avoid costly renovations unless necessary.