



Comparing Housing Market “Hotness”: Austin vs Dallas

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Based on three factors, which of the two cities is hotter?

Austin, TX



Dallas, TX



Factors used for comparison

- Days on Market
- Housing availability (Inventory)
- Pricing (Median Sale Price)

A “hot market” is a real estate market with low inventory combined with lots of buyers looking for the perfect place.

Source: [Nolo: Legal Encyclopedia](#)

Factor definitions:

Inventory

- Total number of active listings on the last day of a given time period.

Median Sale Price

- The final home sale price covering all homes with a sale date during a given time period where 50% of the sales were above this price and 50% were below this price.

Days on Market

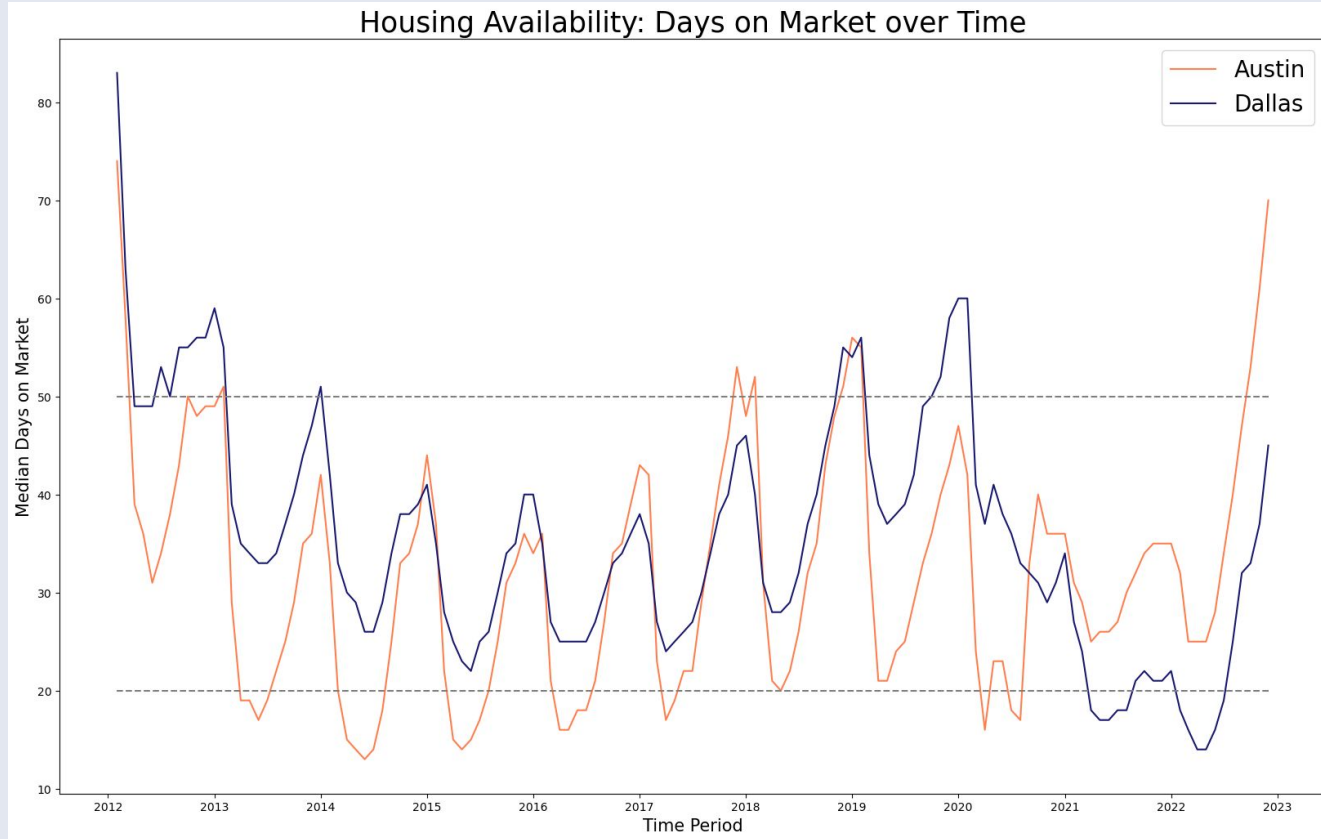
- The number of days between the date the home was listed for sale and when the home went off-market/pending sale covering all homes with an off-market date during a given time period where 50% of the off-market homes sat longer on the market and 50% went off the market faster. Excludes homes that stay on the market for more than 1 year.

Who has the hotter real estate market? Austin or Dallas

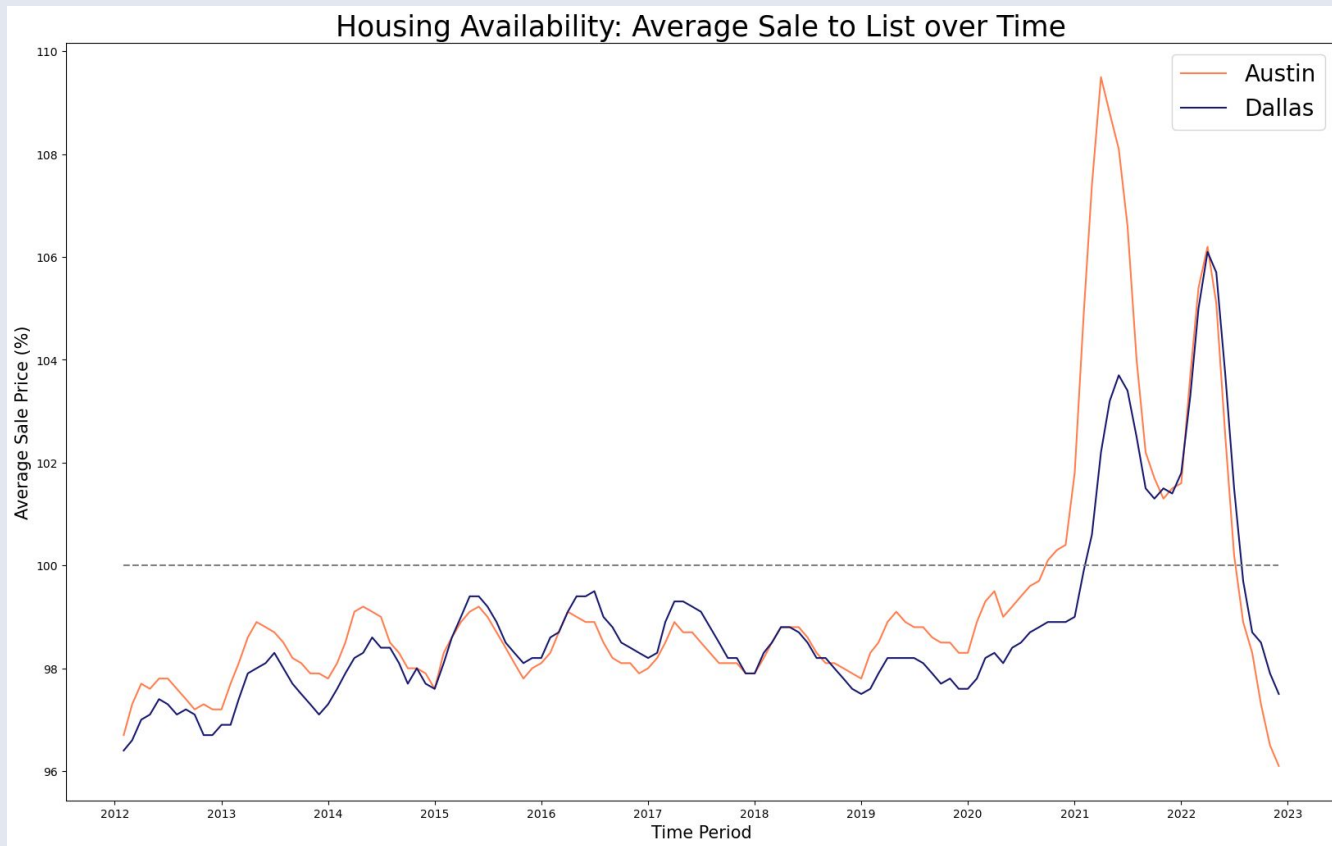
- House inventories will be higher in Dallas than Austin
- Homes in Dallas stay on the market longer than in Austin
- The Median Sale Price for homes in Dallas will trend with having more inventory and longer times on the market compared to Austin.



Property listings: Days on Market



Buyer willingness to pay over listed price



Inventories in Austin and Dallas

Trend

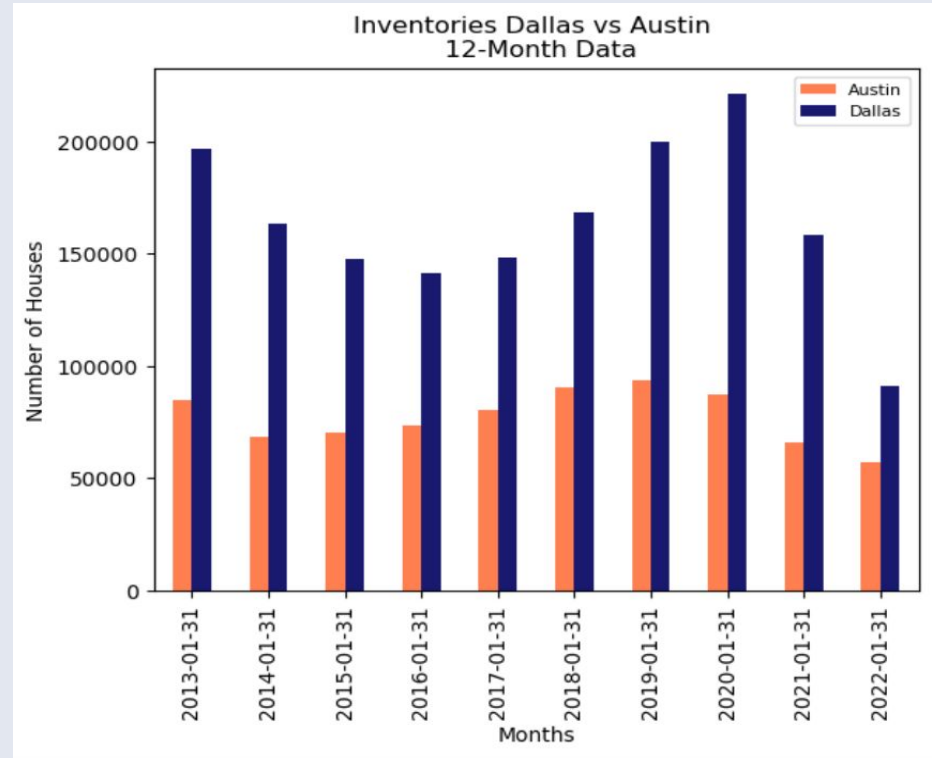
- Dallas has a higher inventory overall.
- After 2020 variables in both cities begun looking more alike.

Pandemic

- After 2020 inventories in Dallas decreased at a faster rate than those in Austin.

Variability

- Dallas has the bigger variance in its data and the amount of inventory have decreased 41% in the period analyzed.



Relation between variables 2012-2022

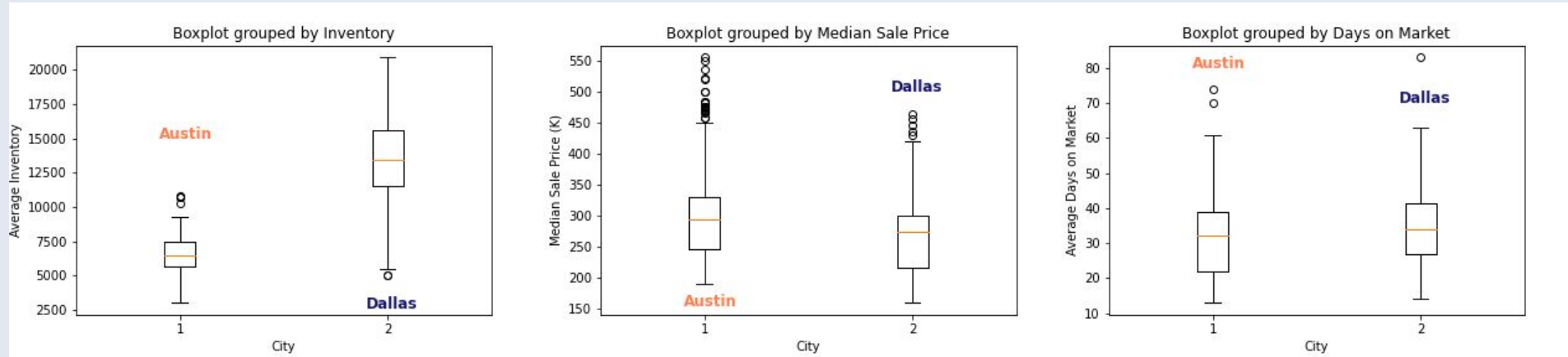
City	Inventory Mean	Median Sale Price Mean	Days on Market Mean	Inventory Var	Median Sale Price Var	Days on Market Var
Austin	6,567.34	311.88	32.17	2,375,870.932	8,187.57	150.86
Dallas	13,396.07	273.70	35.68	12,150,398.43	5,284.64	148.27

Austin seemed a more competitive market until the pandemic

After it Dallas variables have shown an improvement against Austin's.

AUSTIN			
	Inventories	Price	Days on Market
2012-2019	-15.92%	68.95%	-41.89%
2012-2022	6.27%	141.05%	-5.41%
2019-2020	-40.68%	14.95%	-16.28%
DALLAS			
2012-2019	-12.70%	85.00%	-30.12%
2012-2022	-40.60%	151.25%	-45.78%
2019-2020	-45.37%	8.11%	-46.55%

Boxplots- Austin and Dallas



Inventory

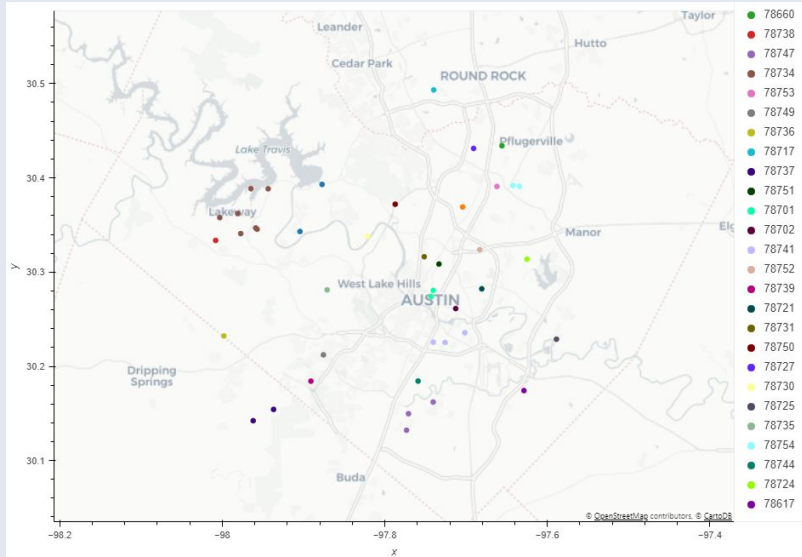
Sale Price

Days on Market

Hypothesis Testing

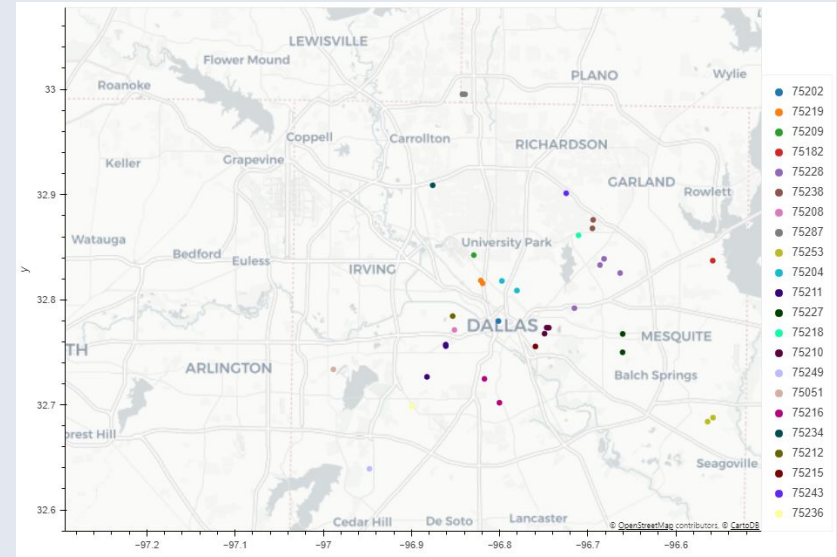
- Calculations for the **Inventory** t-test: t-statistic(-20.5068), p-value (0.0000)
- Calculations for the **Median Sale Price** t-test: t-statistic(3.7645), p-value (0.0002)
- Calculations for the **Days on Market** t-test: t-statistic(-2.3642), p-value (0.0188)

API Zip Code Mapping



Austin

Map generated by data from
"Realtor.com Scraper" on February 11th



Dallas

Map generated by data from
"Realtor.com Scraper" on February 11th

API Source

API

Realtor Scraper and hvPlot to collect data and map



Realtor.com Scraper

“Free” scraper to collect data about houses on sale



Other factors influencing the conclusion

1. Dallas is geographically larger compared to Austin. Dallas metro is made up of 19 counties however Austin has only 5
2. COVID 19/Pandemic- Market trends began to change and the housing market is still changing
3. Population Influxes- How many people were moving to and from each of these areas
4. New Construction- How many residential new builds were added
5. Average Income

Note: Based on articles published by fed reserve and government aids, US households accumulated more savings in 2020 and through the summer of 2021, given that without the spending components such as travel, leisure etc was shut down, indirectly driving buyers to compete against the market competition to secure a place they can call their own. These buyers could have contributed to the outliers in the dataset.

Final Conclusion

- Based on our data we were able to confirm that Dallas does have more inventories than Austin.
- The homes in Dallas were on the market longer up until the pandemic in 2019, after the pandemic the market had a major shift and home were not lasting very long on the market.
- The buyer spending pattern over listed price is close across both cities until 2019. During the pandemic, around 2021 is when real estate in Austin saw a huge shift of customers willing to pay a premium over listed price. This trend lasted for about an year and the customer pattern of paying over listed price is declining.

Research references

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