

EDA Housing – Assignment

Spiced – Data Science Bootcamp

Paul Petersohn – 21.05.2025

Amy Williams

- Amy Williams
- Seller
- A Mafiosi, sells several central houses(top10%) over time, needs average outskirt houses over time to hide from the FBI
- Sell houses central (grade top 10%)
- Needs to average (median/mean grade) buy houses at the outskirts
- Transaction should take place to the right point of time.

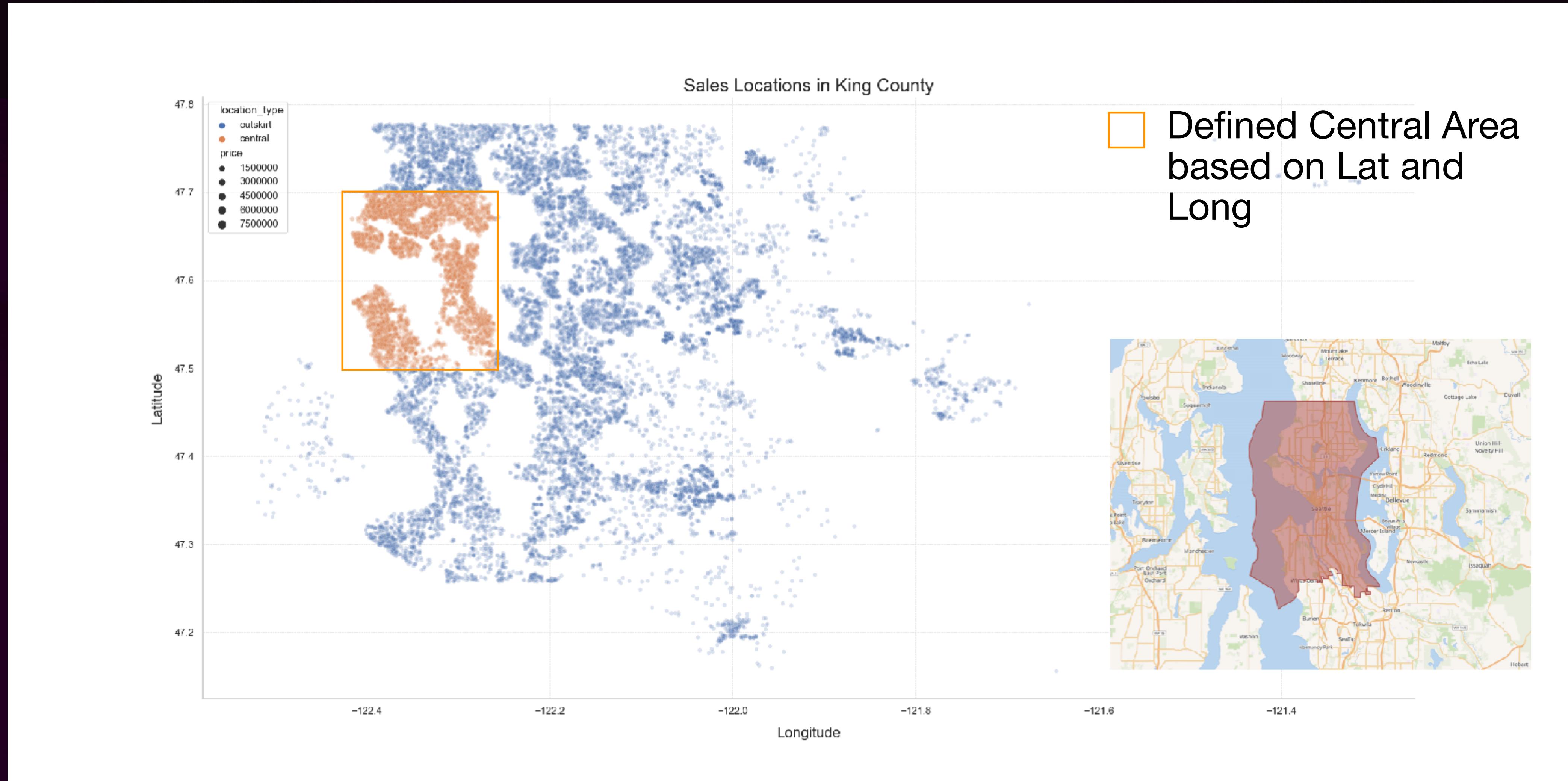
Sales Data King County

- **Source:** King County, Washington, USA (Seattle area)
- **Scope:** Residential property sales
- **Timeframe:** Sales from 2014 to 2015
- **Size:** Over 20,000 transactions
- **Key Variables:**
 - **Transaction Details:** Sale date, price, zipcode, latitude, longitude
 - **Property Features:** Bedrooms, bathrooms, living area (sqft), lot size, floors, waterfront, view, condition, grade, year built, year renovated
 - **Geographical:** Zipcode, lat, long

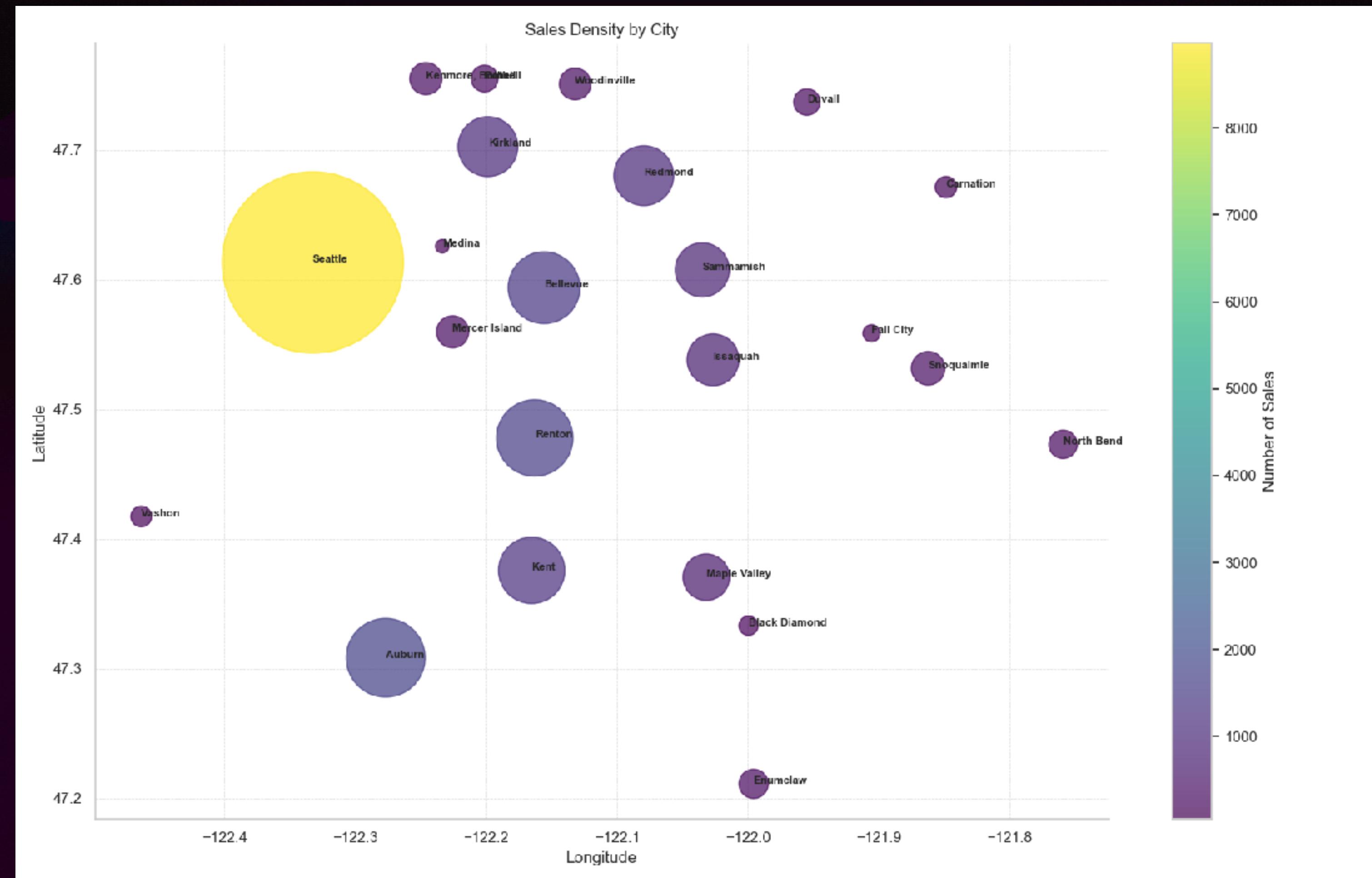
Hypothesis

- H1:** The geographic distribution of sales shows no major difference between Central and Outskirt homes.
- H2:** There is a significant difference in the time intervals between central property sales and outskirt property transactions compared to monthly timing.
- H3:** There is a difference between the value/price ratio of central to outskirts property sales compared to the overall market ratio over a 12 month period.

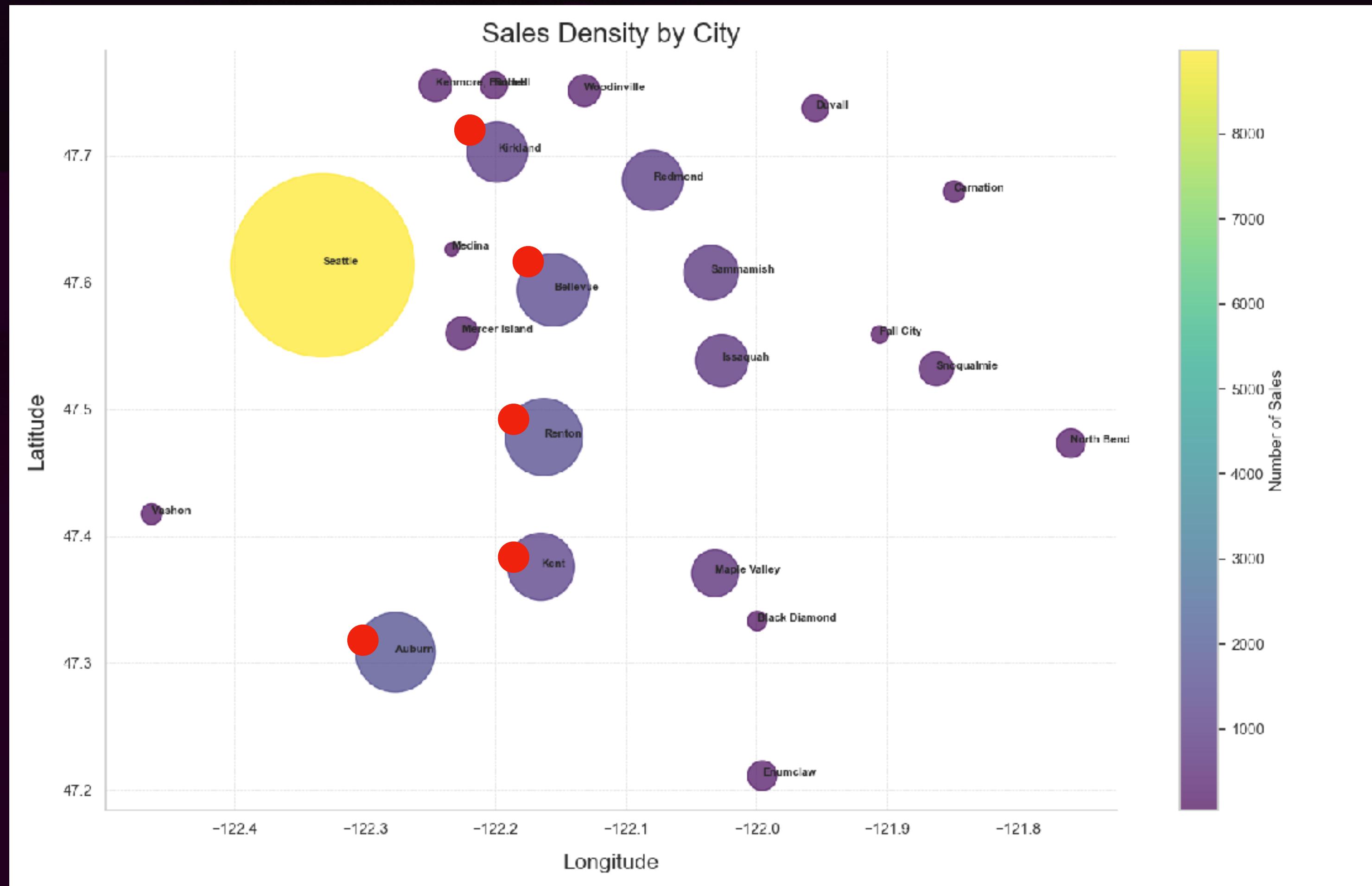
Geographic distribution of Sales



Geographic distribution of Sales



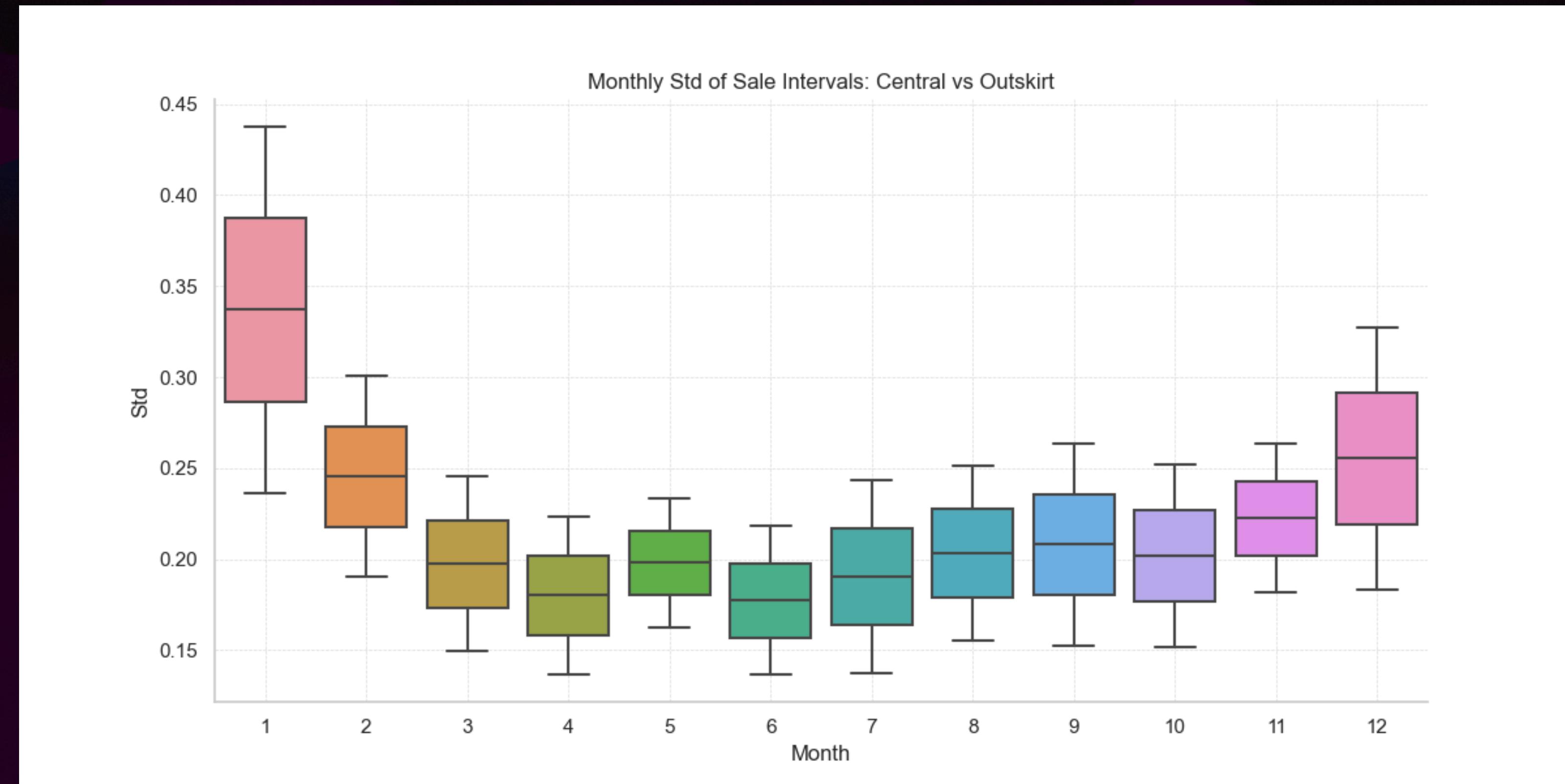
Recommendation to Client



Buys should be focused on Kirkland, Bellevue, Renton, Kent and Auburn

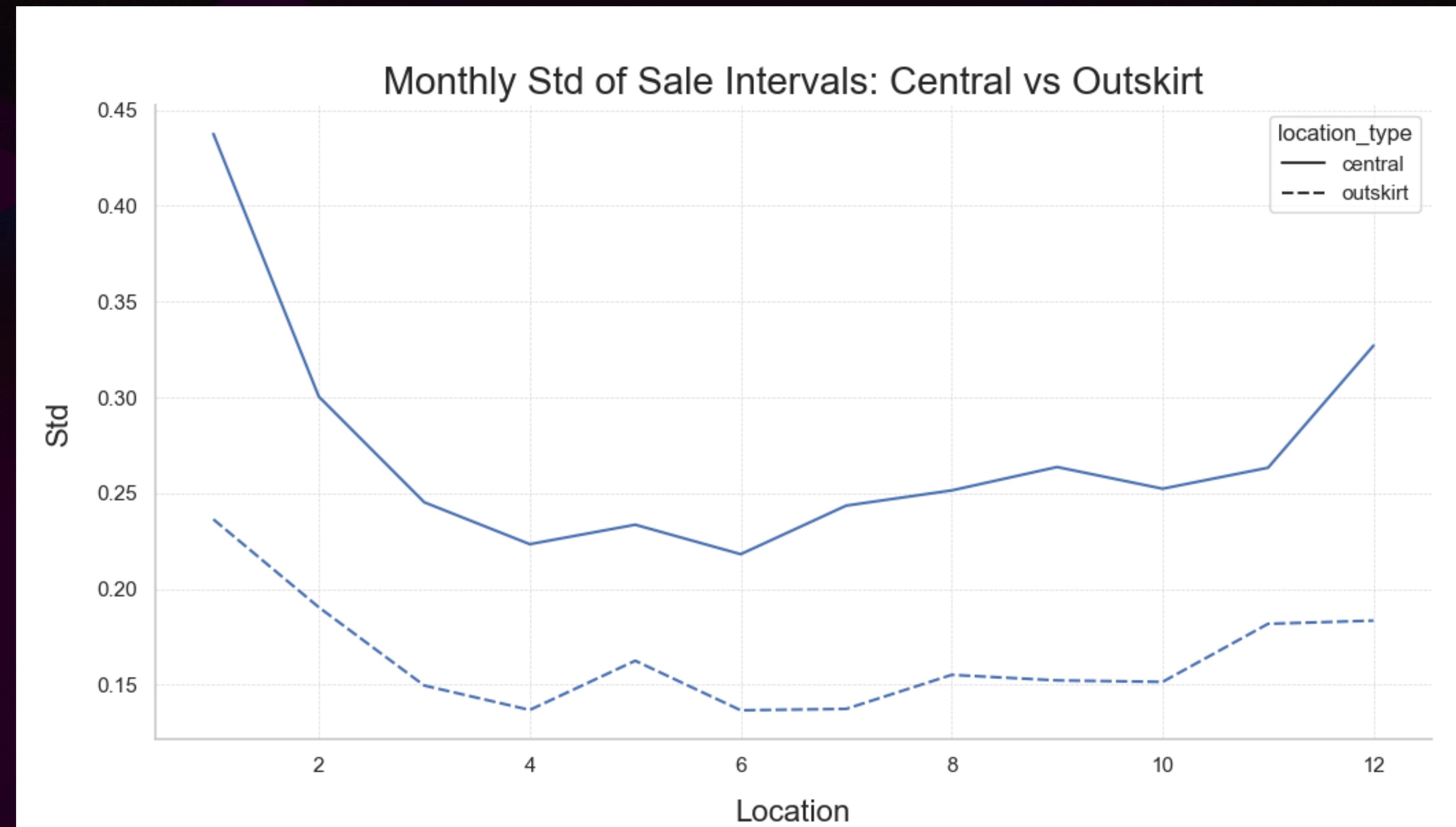
Monthly Sales intervals

Low std indicates a steady predictable pattern each month.



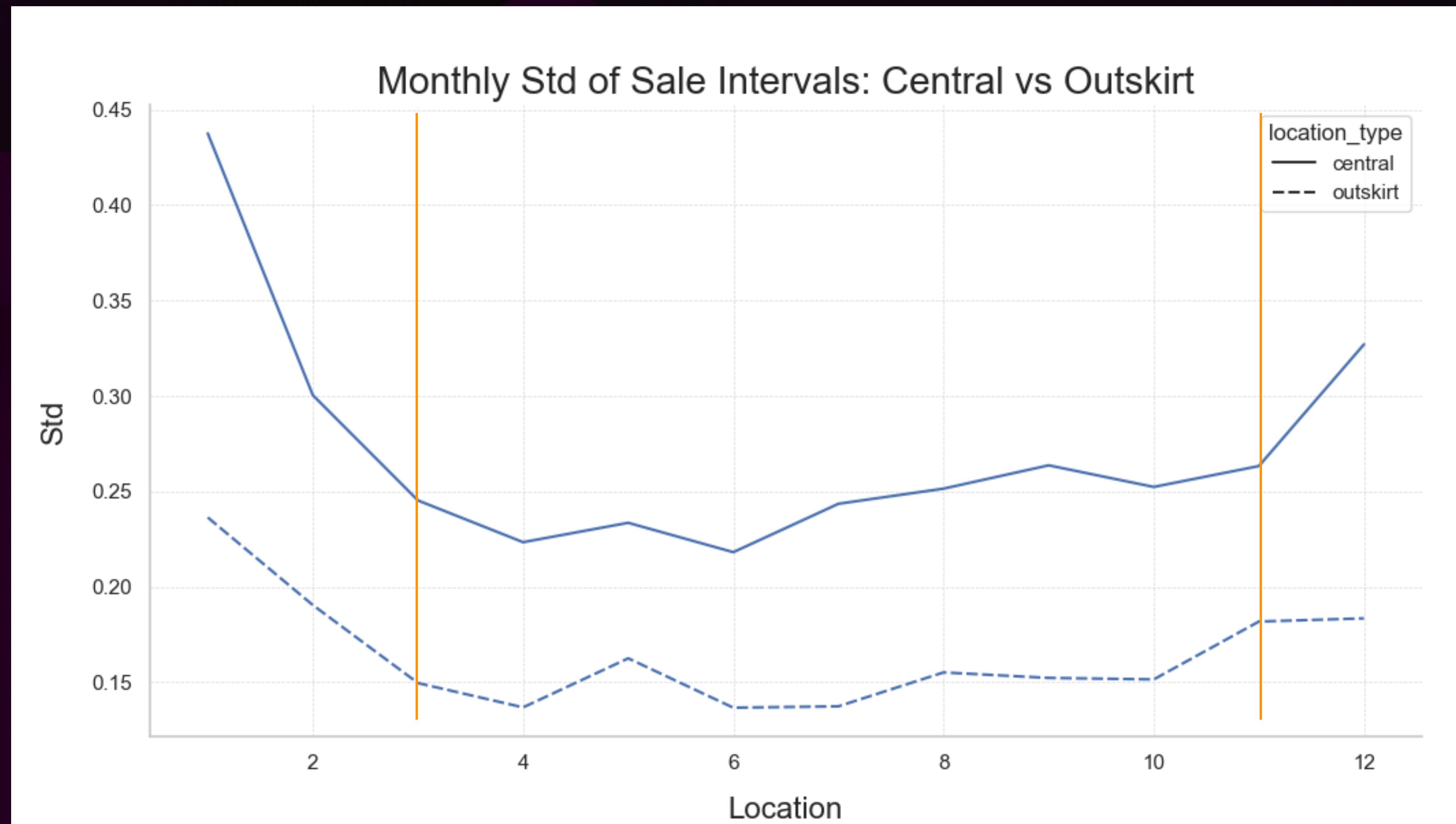
Monthly Sales intervals between Areas

Low std indicates a steady predictable pattern each month.



Monthly Sales intervals between Areas

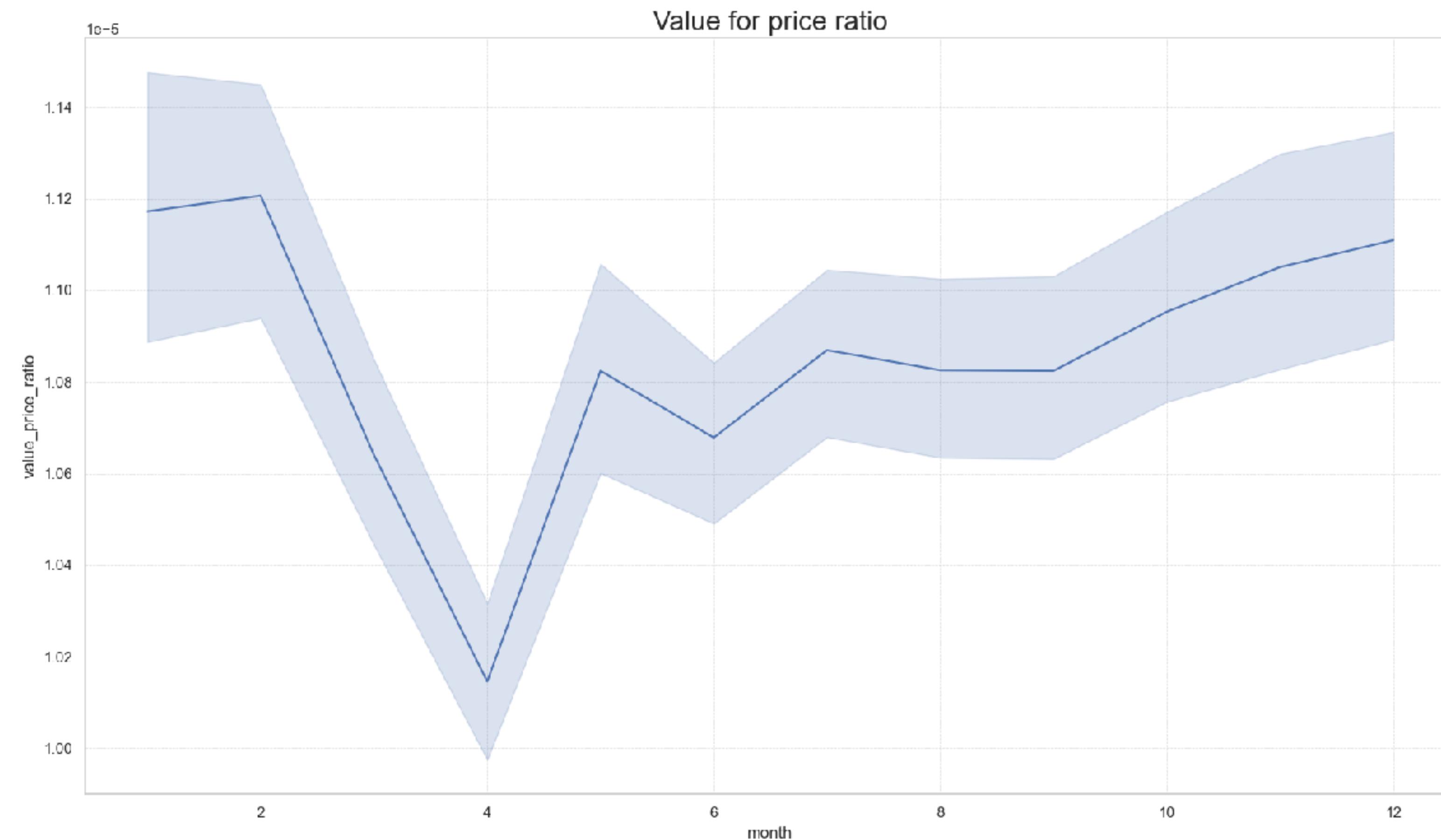
Low std indicates a steady predictable pattern each month.



Between March and November sales follow a pattern.

Monthly Sales Value to Price Ratio

Low ratio indicates less attractive sale month



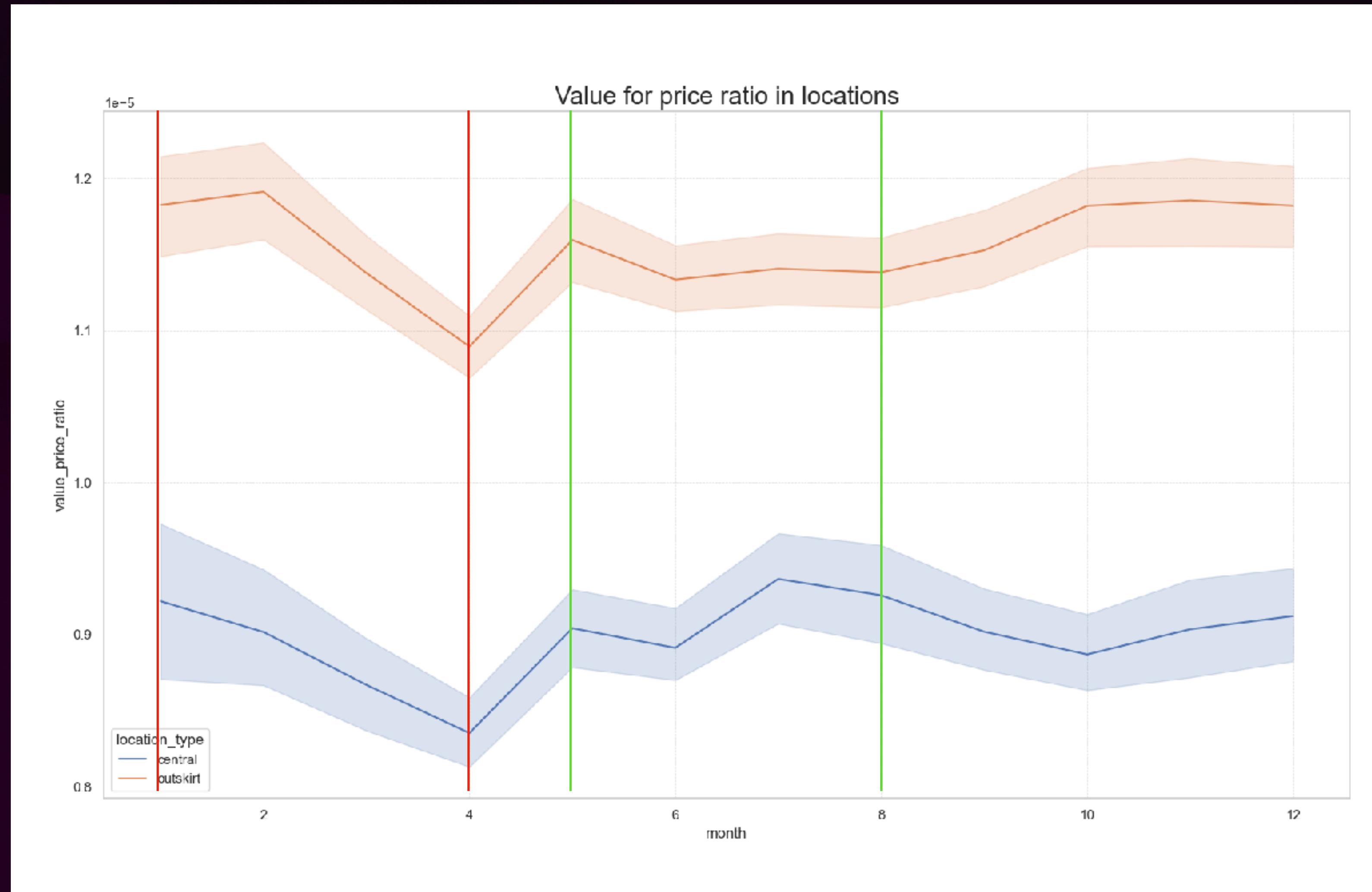
Monthly Sales Value to Price Ratio (Location)

Low ratio indicates less attractive sale month



Monthly Sales Value to Price Ratio (Location)

Low ratio indicates less attractive sale month



Buys should be focused between May and August.

Sells are most profitable between January and April

Recommended average houses

Recommendation based between 40th and 60th quantile.

