

Analysis of Housing Sale Prices in Iowa

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Purpose

- What do we want to do?
- How should we allocate dollars earmarked for investment into MBS (mortgage-backed securities)?
- What factors drive home prices?
- How can we increase OUR profits?

What factors drive home prices?

- Common Factors
 - Neighborhoods
 - Lot Area
 - Year Built
 - Number of Bedrooms
 - Number of Bathrooms
- Other Factors
 - Fireplace
 - Pool
 - Materials and quality
 - Elevator or Shed
 - Roof Material



Data Analyzed

- Data for 1460 houses
 - Built between 1872 - 2010
 - 25 neighborhoods in Iowa
 - Quality of materials, condition of house, type of basement, elevators, pools, heating, etc.
- [Raw data here](#)





Hypotheses for Investment & Profit

- #1: Houses near the Railroad are cheaper than houses in Briardale
- #2: Houses in Brookside are cheaper in price than houses in Sawyer
- #3: Houses without central air are cheaper than houses with central air
- #4: Houses without a fireplace are cheaper than houses with a fireplace
- #5: Houses with a higher overall condition are more expensive than houses with a lower overall condition
- #6: Houses that contain 3 or less bedrooms are cheaper than their alternative

Background on Houses

- Northridge is one of the most expensive neighborhoods (AVG >\$300,000)
 - Northridge Heights
 - Stone Brook
- There are 5 neighborhoods that are cheap (AVG <\$130,000)
 - Meadow Village
 - Iowa DOT & Rail Road
 - Briardale
 - Brookside
 - Edwards



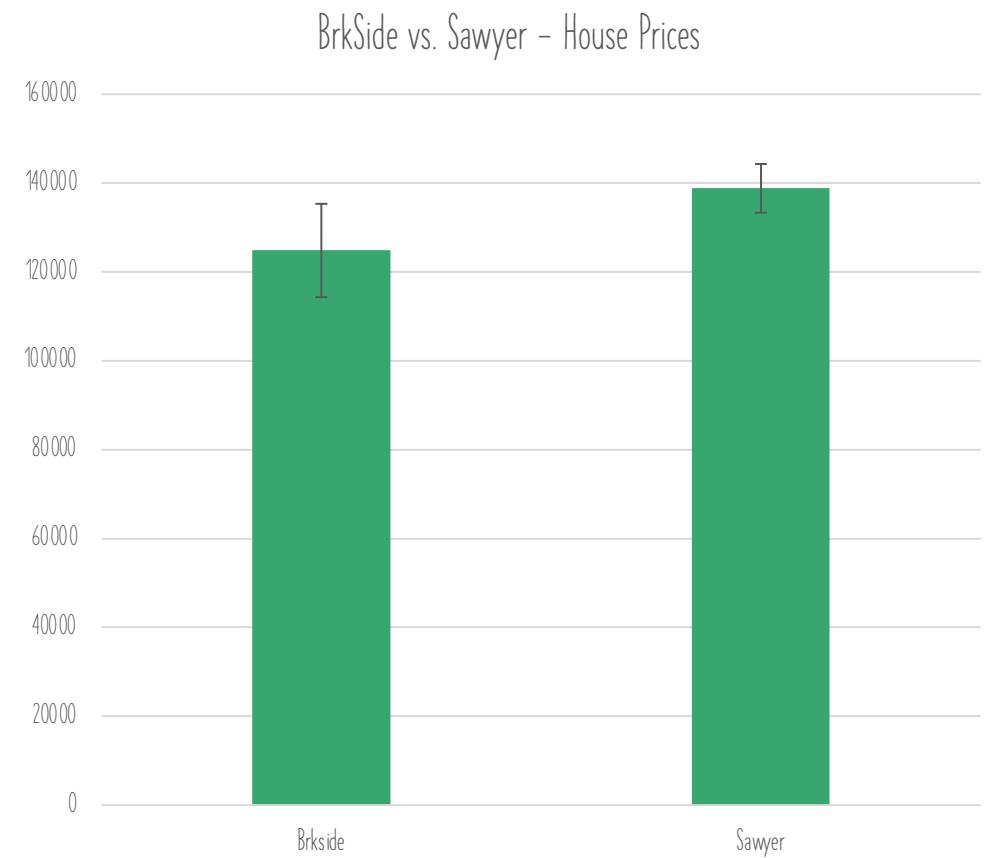
#1: Houses are significantly cheaper near a railroad

- Not statistically significantly
- Iowa DOT & Rail Road (IDOTRR) vs. Briardale (BrDale)
- Average Sale Price
 - \$100,124 (IDOTRR)
 - \$104,494 (BrDale)
- It may be noisy but livable
- Invest in houses near or away from a railroad



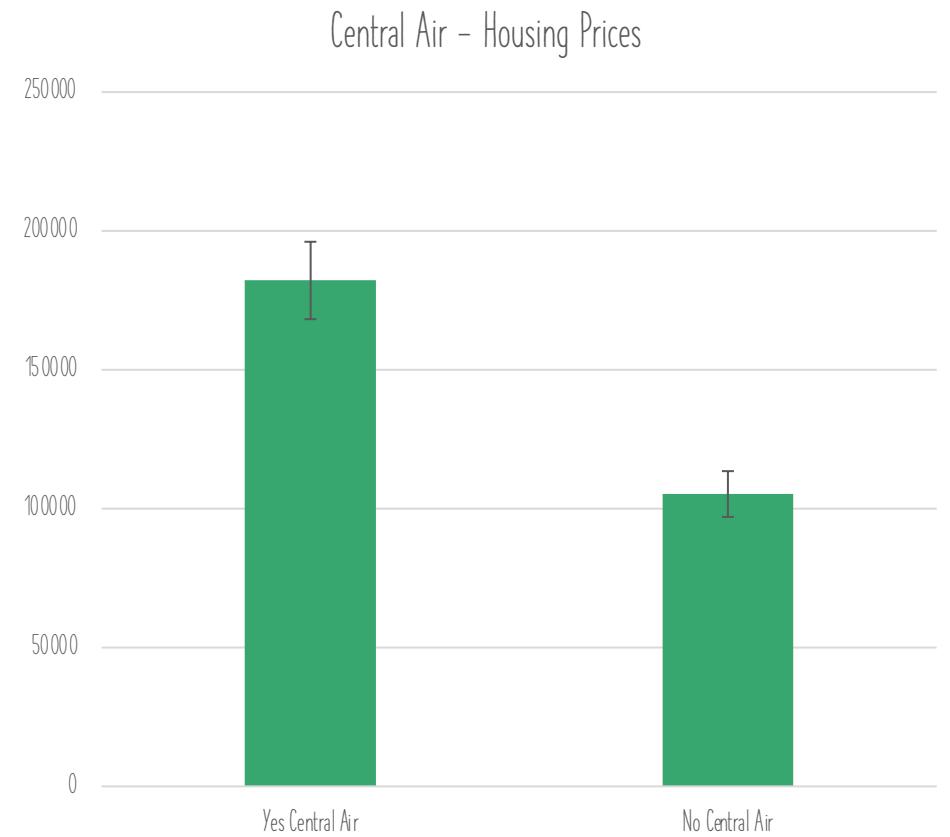
#2: Houses in Brookside are cheaper in price than houses in Sawyer

- Statistically significant difference between Sawyer and Brookside (Brkside) neighborhoods
- Average Sale Price
 - \$136,793 (Sawyer)
 - \$124,834 (Brkside)
- With 95% confidence, the average sale price for Sawyer is \$17,821 to \$25,814 higher than Brookside
- Invest in Brookside houses or neighborhoods like Brookside



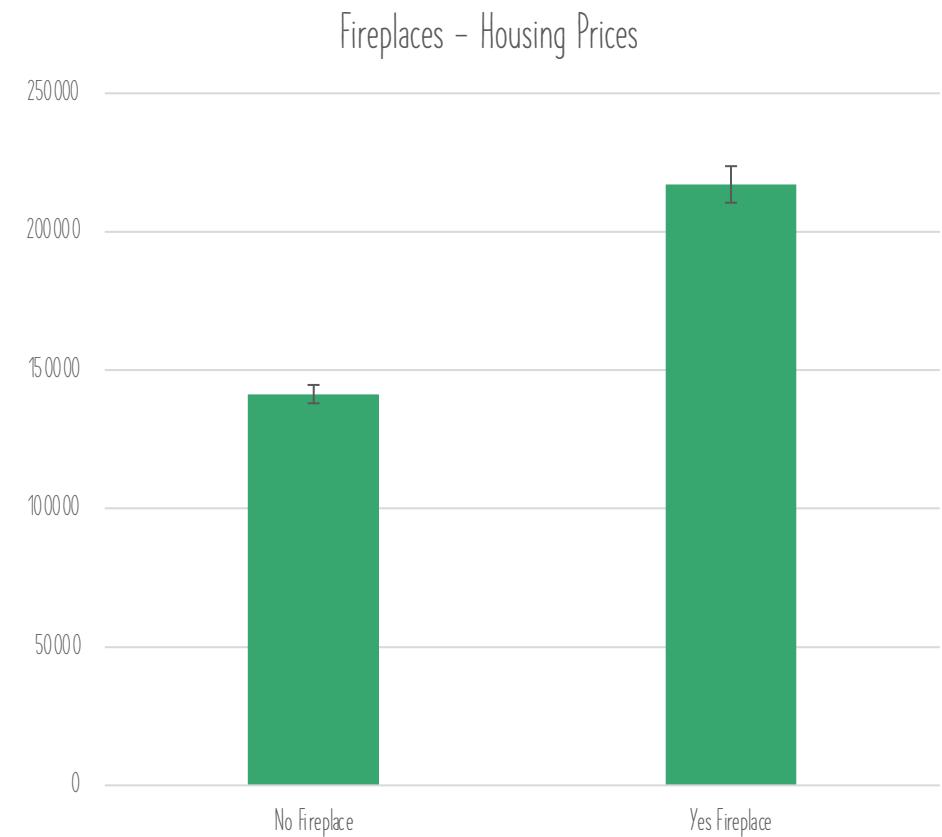
#3: Houses without central air are cheaper than houses with central air

- Statistically significant difference in prices for houses with central air
- With 95% confidence, the average sale price for houses with central air is \$60,704 to \$93,086 higher
- Invest in houses with no central air
 - Install central air to improve value



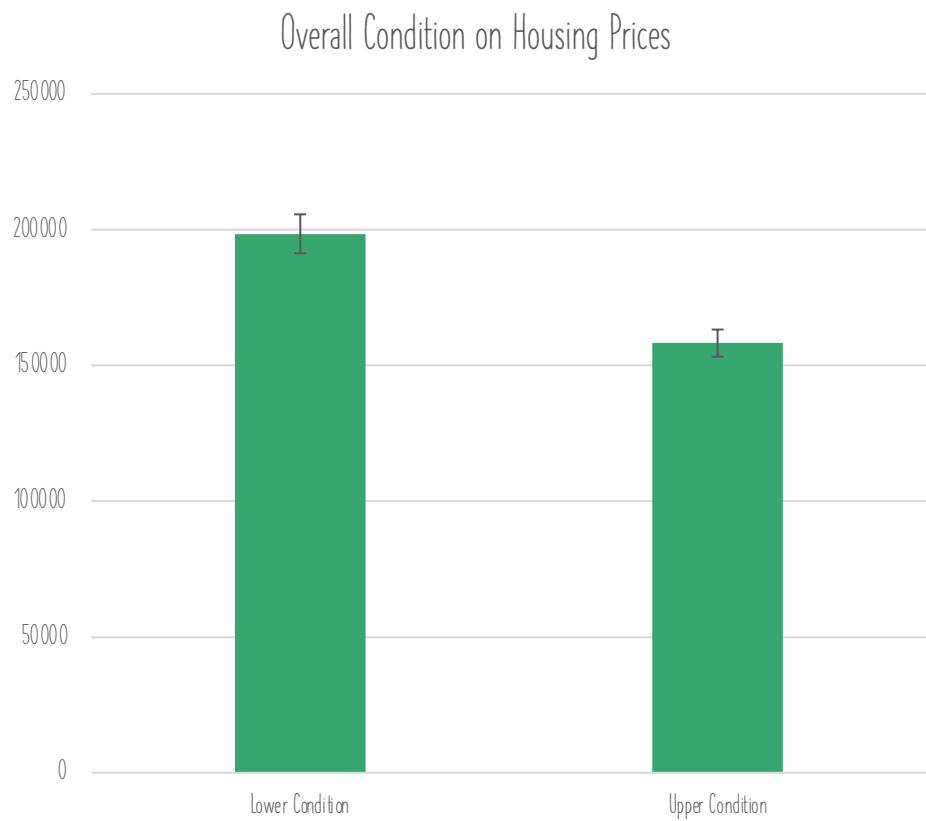
#4: Houses without a fireplace are cheaper than houses with a fireplace

- Statistically significant difference in prices for houses with fireplaces
- With 95% confidence, houses with a fireplace are \$63,364 to \$83,129 higher per average
- Invest in houses without a fireplace



#5: Houses with a higher overall condition are more expensive than houses with a lower overall condition

- Lower Condition
 - 1-5 rating (average and below)
- Upper Condition
 - 6-10 rating (above average and higher)
- Statistically significant difference in prices
- With 95% confidence, houses that are above average in condition are \$13,198 to \$31,530 more expensive
- Invest in lower condition houses
 - Improve them
 - Place back on the market



#6: Houses that contain 3 or less bedrooms are cheaper than their alternative

- Statistically significant difference in prices regarding bedrooms
- Houses with 3 or less bedrooms are much cheaper than houses with 4 or more
- Invest in houses with 3 or less





Final Comments

- Invest in houses that are cheaper and improve
 - Cheaper neighborhoods
 - No fireplaces
 - No central air
 - 3 or less bedrooms
 - Buy low and sell high
- Future insights
 - Pools
 - Larger data set
 - Larger sample size

Questions?

