

# Ames, IA Housing Sale Prices



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# Ames, Iowa

Population: 67,155

Iowa State University: 36,321

“Best Places to Live” 2010

Housing Units: 27, 578

Dataset: 2930

Housing Sales 2006-2010





**Which variables are strong predictors of housing sale prices in Ames?  
What other features can contribute to the price?**

# Methodology

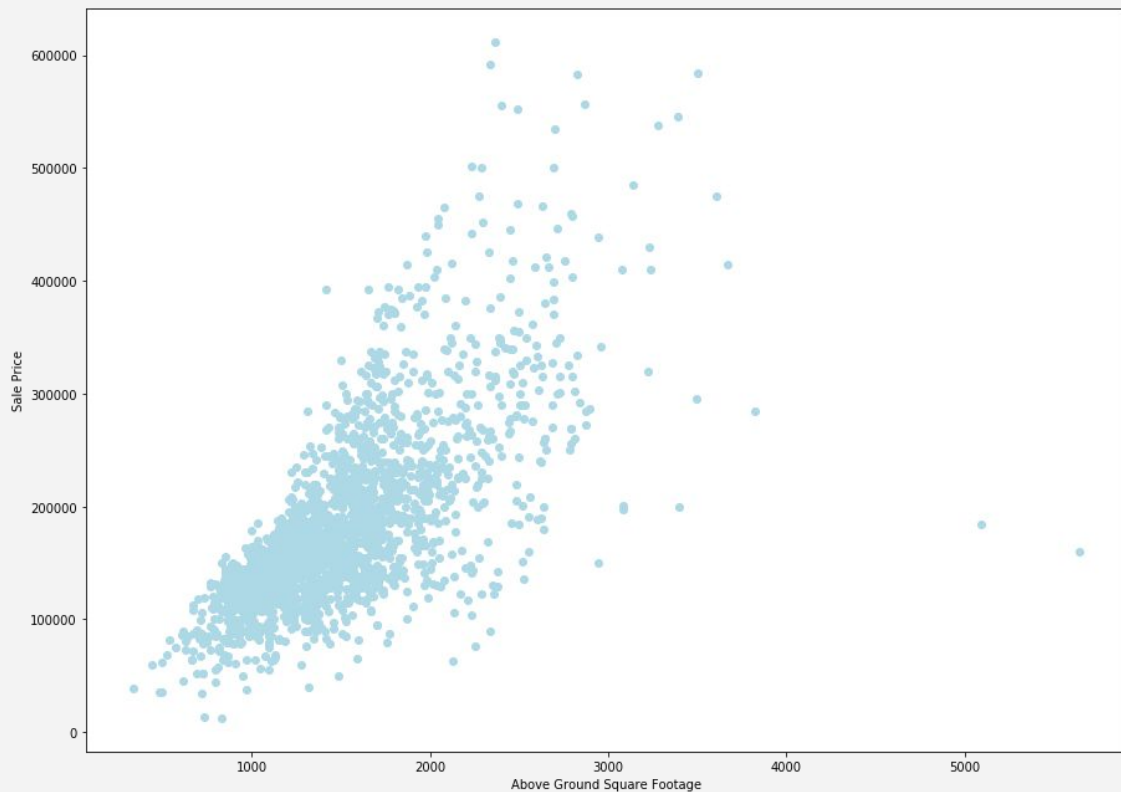
1. Import & clean data
2. Exploratory data analysis
3. Feature Engineering
4. External Research
5. Modeling
6. Conclusions



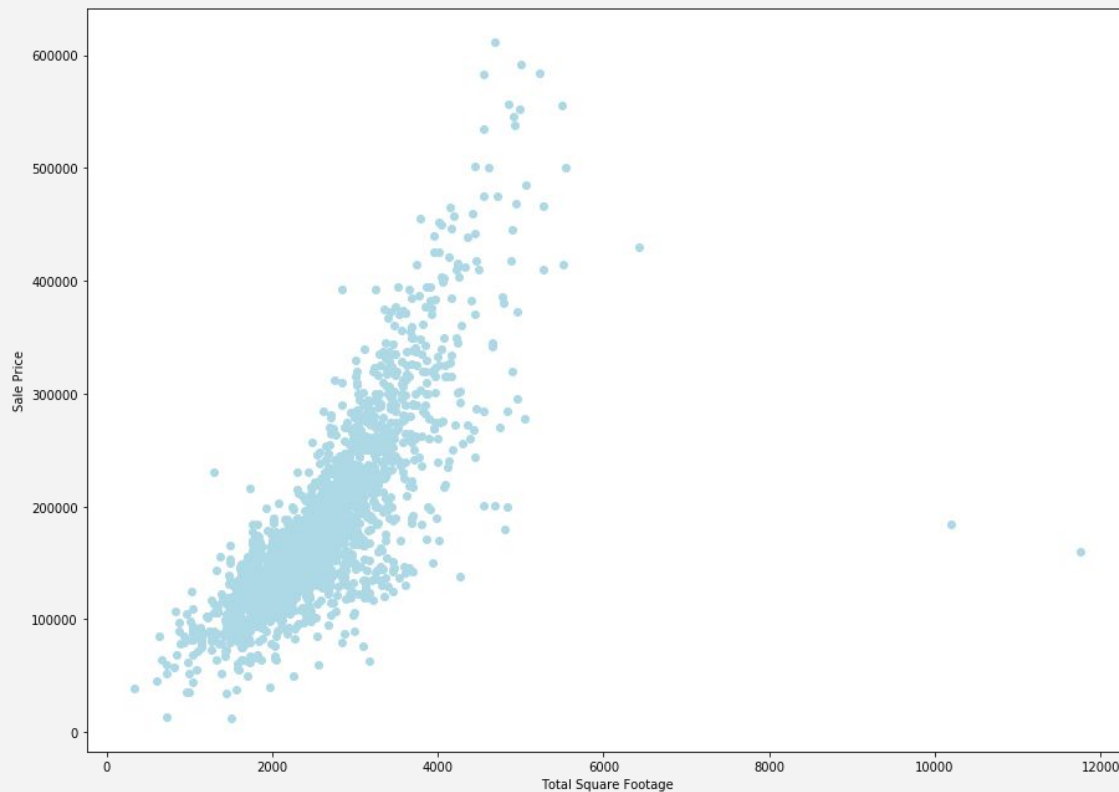
# Features

- Overall quality
- Basement quality
- Exterior quality and condition
- Bathrooms & Bedrooms
- Outdoor/Above Ground/Total SF
- Garage Space and Fireplaces
- Neighborhood
- Pool Area & Deck
- Kitchen
- Year Built/Remodeled
- Paved Drive

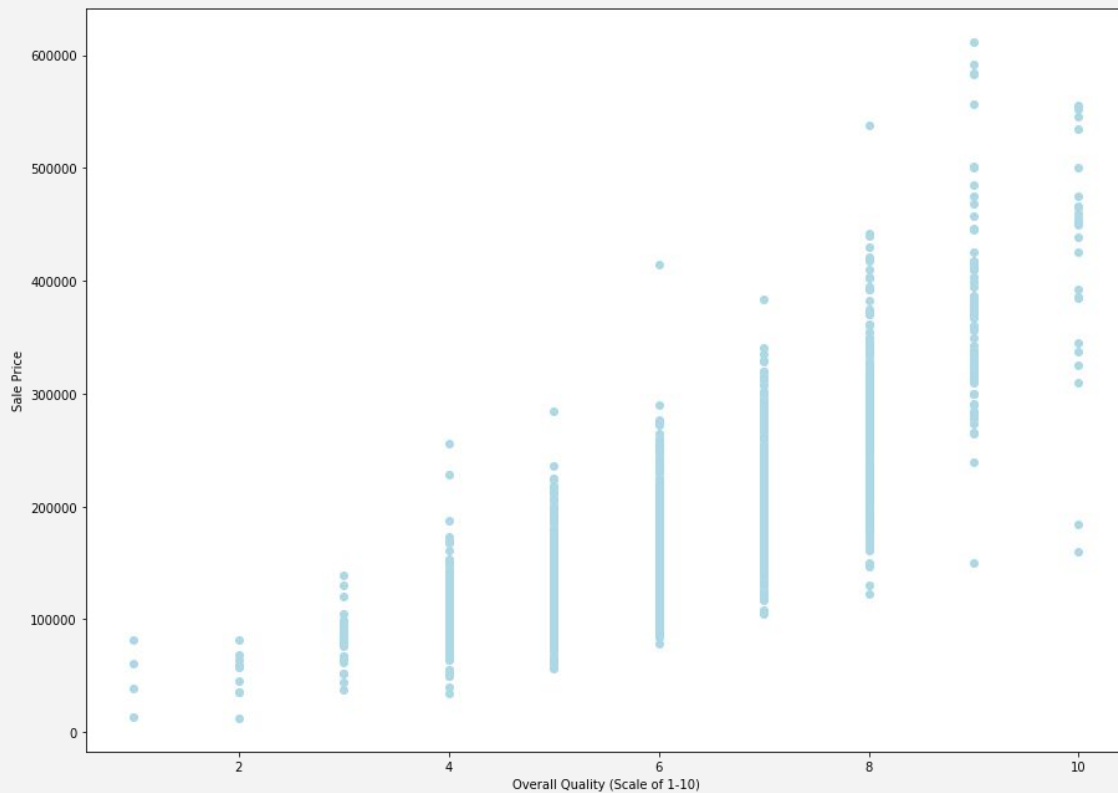
# Strong Predictor: Above Ground Square Footage



# Strong Predictor: Total Square Footage

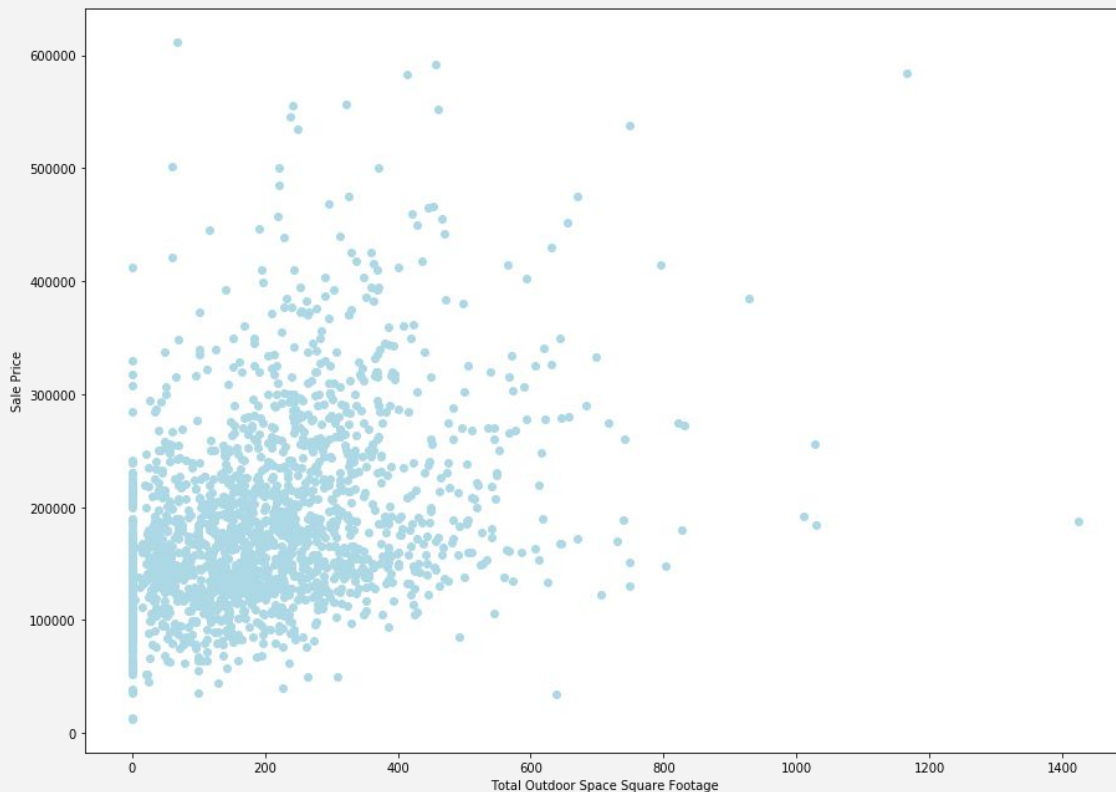


# Strong Predictor: Overall Quality

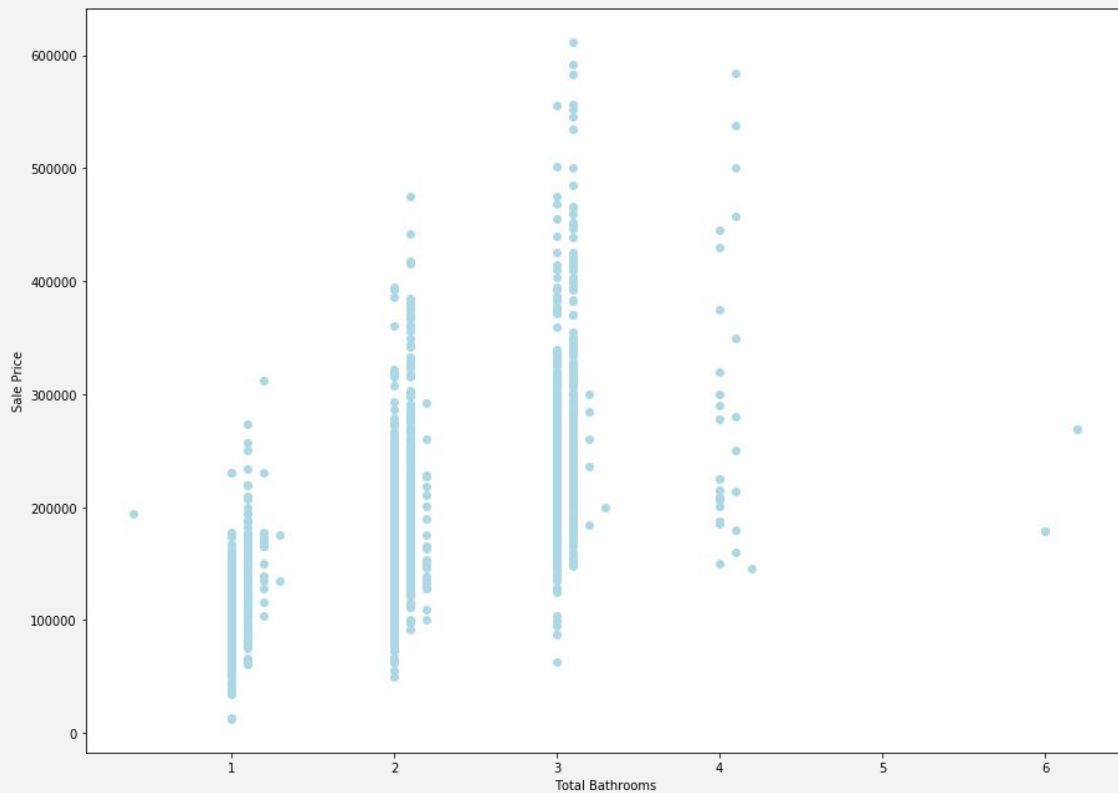




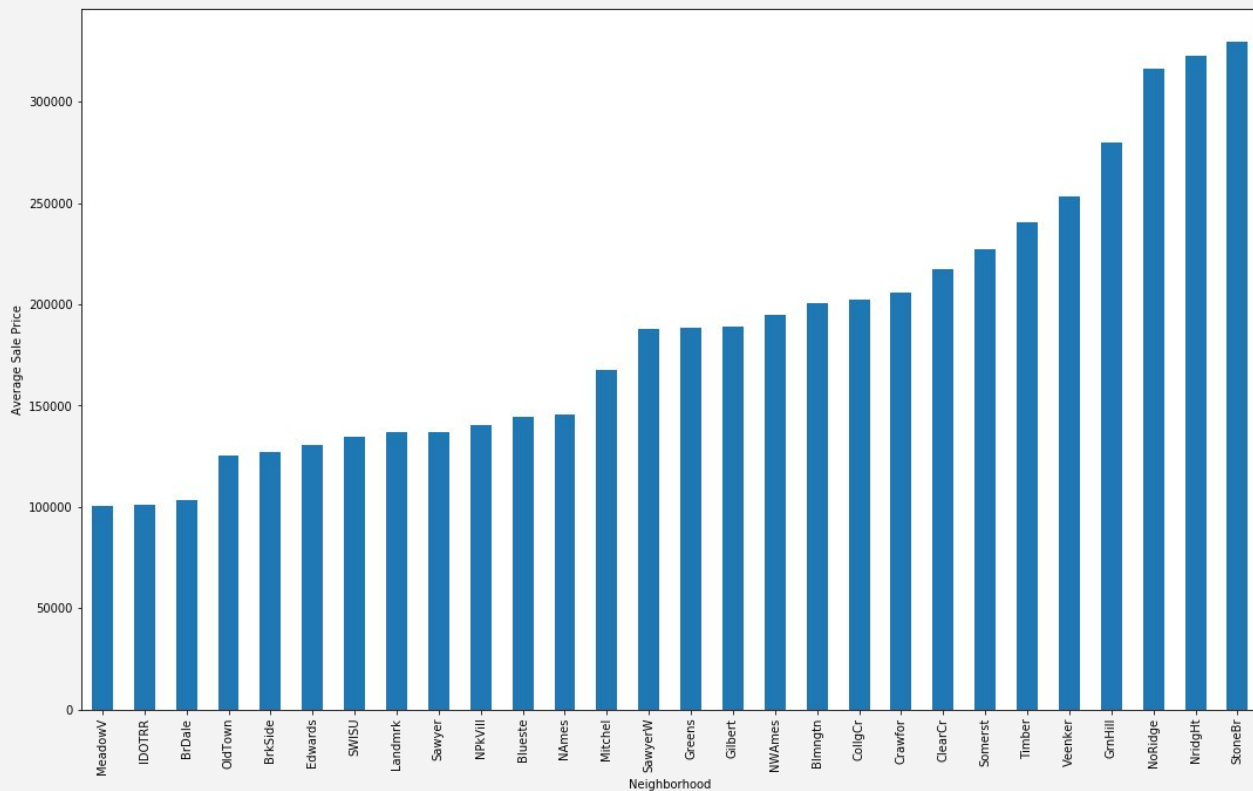
# Strong Feature: Outdoor Space Square Footage



# Strong Feature: Total Bathrooms



# Strong Feature: Average Sale Price by Neighborhood



# Conclusions

- Determining a sale price is complex!
- Elementary school data
- Age demographics of home buyers



# Sources

- Photo: [https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwiv6fzjnYLIhUPhOAKHYBmA4kQjRx6BAgBEAQ&url=%2Furl%3Fsa%3Di%26source%3Dimages%26cd%3D%26ved%3D%26url%3Dhttps%253A%252F%252Fwww.realtor.com%252F realestateandhomes-detail%252F3717-Ashton-Dr\\_Ames\\_IA\\_50010\\_M88896-43936%26psig%3DAOvVaw36U8dqzFNjRjIMg3k7v5jc%26ust%3D1570265683232504&psig=AOvVaw36U8dqzFNjRjIMg3k7v5jc&ust=1570265683232504](https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwiv6fzjnYLIhUPhOAKHYBmA4kQjRx6BAgBEAQ&url=%2Furl%3Fsa%3Di%26source%3Dimages%26cd%3D%26ved%3D%26url%3Dhttps%253A%252F%252Fwww.realtor.com%252F realestateandhomes-detail%252F3717-Ashton-Dr_Ames_IA_50010_M88896-43936%26psig%3DAOvVaw36U8dqzFNjRjIMg3k7v5jc%26ust%3D1570265683232504&psig=AOvVaw36U8dqzFNjRjIMg3k7v5jc&ust=1570265683232504)
- Photo: <https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwjPr5PXs4LIhVESN8KHeCWDIsQjRx6BAgBEAQ&url=https%3A%2F%2Fwww.housingwire.com%2Farticles%2F43754-historic-iowa-military-barracks-transformed-in-to-affordable-housing-community&psig=AOvVaw2qk1SKegQ6RkfrqkfqQdB6&ust=1570271548521444>
- Image: [https://www.music.iastate.edu/files/resize/page/images/campanile\\_spring\\_2018\\_0-675x506.jpg](https://www.music.iastate.edu/files/resize/page/images/campanile_spring_2018_0-675x506.jpg)
- Ames City: <https://www.cityofames.org/about-ames/about-ames>
- Census data: <https://data.census.gov/>
- Ames City Wikipedia: [https://en.wikipedia.org/wiki/Ames,\\_Iowa](https://en.wikipedia.org/wiki/Ames,_Iowa)
- “Best Places to Live”: <https://money.cnn.com/magazines/moneymag/bplive/2010/>
- Dataset: <http://jse.amstat.org/v19n3/decock/DataDocumentation.txt>
- Journal of Statistics Education: <https://www.tandfonline.com/doi/full/10.1080/10691898.2008.11889569>
- Image: [https://www.uniquevenues.com/sites/uniquevenues.com/files/imagecache/2015\\_venue\\_flexslider/venues/slideshow/CurtissHallCentralCampus.jpg](https://www.uniquevenues.com/sites/uniquevenues.com/files/imagecache/2015_venue_flexslider/venues/slideshow/CurtissHallCentralCampus.jpg)