Topic Proposal

Title: Housing prices in Seattle: Assessing the impact of distance to public transportation

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Research Question: Housing prices affected by access to public resources (measured in distance). Does the distance from the listed property to the closest light rail station impact the listing price?

Data:

* <https://www.redfin.com/city/16163/WA/Seattle>
* <https://data.seattle.gov/Community/Light-Rail-Map/5f4s-t4jf/data>
* <https://en.wikipedia.org/wiki/University_of_Washington_station> coordinates for UW station
* Coordinates for public schools in Seattle region (given by redfinDat range)
* Coordinates for public parks in Seattle region (given by redfinDat range)
* Coordinates for public hospitals in Seattle region (given by redfinDat range)

Variables:

* Dependent variable
  + Price per square foot (using redfinDat, divide price by square footage)
* Independent variables
  + Number of Bedrooms
  + Number of Bathrooms
  + Lot Size (square feet) may have collinearity with price per square foot
  + Year Built (years)
  + Property Type (factor level variables)
    - Condo/Co-op
    - Mobile/Manufactured Home
    - Moorage
    - Multi-Family (2-4 Unit)
    - Multi-Family (5+ unit)
    - Other
    - Single Family Residential
    - Townhouse
    - Vacant Land
  + Distance to closest light rail station (as the crow flies in miles)
    - Calculated by taking lat/lon coordinates of both listing price and all possible stations, then minimizing the results to select for closest station
  + Distance to closest public school (will need more data)
  + Distance to nearest public hospital (will need more data)
  + Distance to nearest public park (will need more data)