

SI 649: Narrative viz project proposal

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1. Project Description

This project will produce an explorable article about how housing prices and affordability have changed across the United States since the early 1990s, with events like the early-2000s boom, the 2008 crash, and the COVID-19 surge. We will illustrate how sustained price growth, when not matched by income growth, feeds into rising cost burdens and barriers to homeownership. Furthermore, we will emphasize a key insight that there is no single U.S. housing crisis in which affordability challenges vary dramatically by region. Some metros struggle with extreme demand and supply constraints, and others face stagnation and affordability driven by low incomes rather than high prices.

Our interactive visualizations will let readers select regions, compare trends, and focus on specific time periods, not to focus on a single housing crisis but multiple, geographically distinct affordability problems. The piece will combine clear explanatory text with interactive time-series and comparison charts built using tools such as Pandas, Altair, and Tableau, included in a web-based article. The goal is for a general reader to come away with an intuitive sense of how and where housing has become less affordable, and how these patterns connect to current policy debates about supply, zoning, and subsidies.

2. Data resources

1. Housing Affordability Data System (HADS)

- **Source:** U.S. Department of Housing and Urban Development (HUD)
- **Description:** National dataset derived from the American Housing Survey, including measures of rent and owner costs, income categories, and housing cost burden

2. USA Housing Dataset (Kaggle)

- **Source:** Kaggle
- **Description:** Micro-level housing dataset with variables such as average area income, house age, number of rooms/bedrooms, area population, and house price.

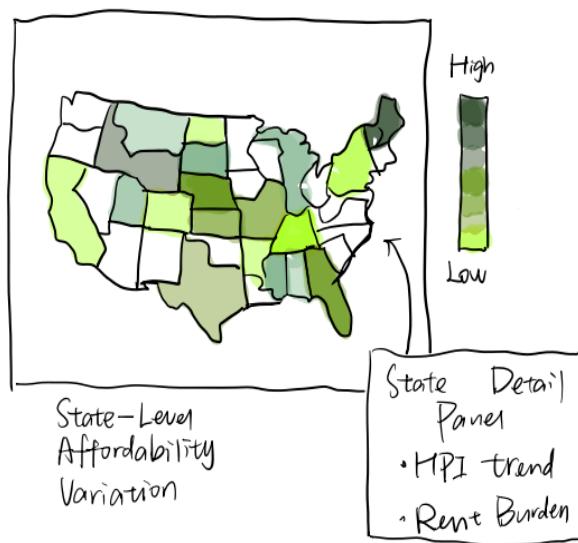
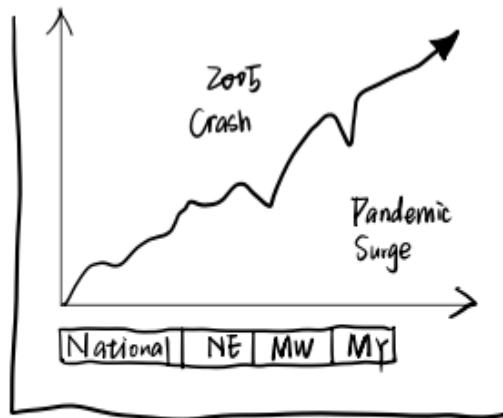
3. Zillow Research Data

- **Source:** Zillow Research
- **Description:** Market-level indicators such as Zillow Home Value Index (ZHVI), rent indices, and inventory for different geographies (national, state, metro, ZIP code).

4. FHFA House Price Index (HPI)

- **Source:** Federal Housing Finance Agency (FHFA)
- **Description:** Long-run, repeat-sales house price index for the U.S., states, and metropolitan areas, available at quarterly and monthly frequencies.

3. Preliminary Sketches



Income VS Rent
Burden Simulation

Income:

Rent:

Result

Cost burden

Severely burden

National distribution

