Small Area Housing Change

Resource Demonstration

California State Data Center Virtual Meeting

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SDC
The U.S. Census Bureau's
Premier Local Partner

DEPARTMENT OF FINANCE
CALIFORNIA

Background

- The California Department of Finance (DOF) produces annual housing estimates at city and county scale.

- Smaller regional estimates are prepared by request for those administrative areas ill-represented by city boundaries.
  - Require investigative lead time, data curation, and collaboration for an effective result.
  - Often supporting data, specialist knowledge, and lead time are unavailable for a request.

- This work explores a normalized method of normalizing and combining multiple open-source housing datasets at Census block scale for the entire State.

- The result is a self-service application that produces housing estimates instantaneously when a longform request is not possible.

Datasets

- Incorporates multiple open-source datasets available for the entire state
  - City and County Estimates
  - Census Address Counts (CAC)
  - Annual Progress Reports (HCD)
  - Damage Inspection Surveys
  - 5-year ACS data

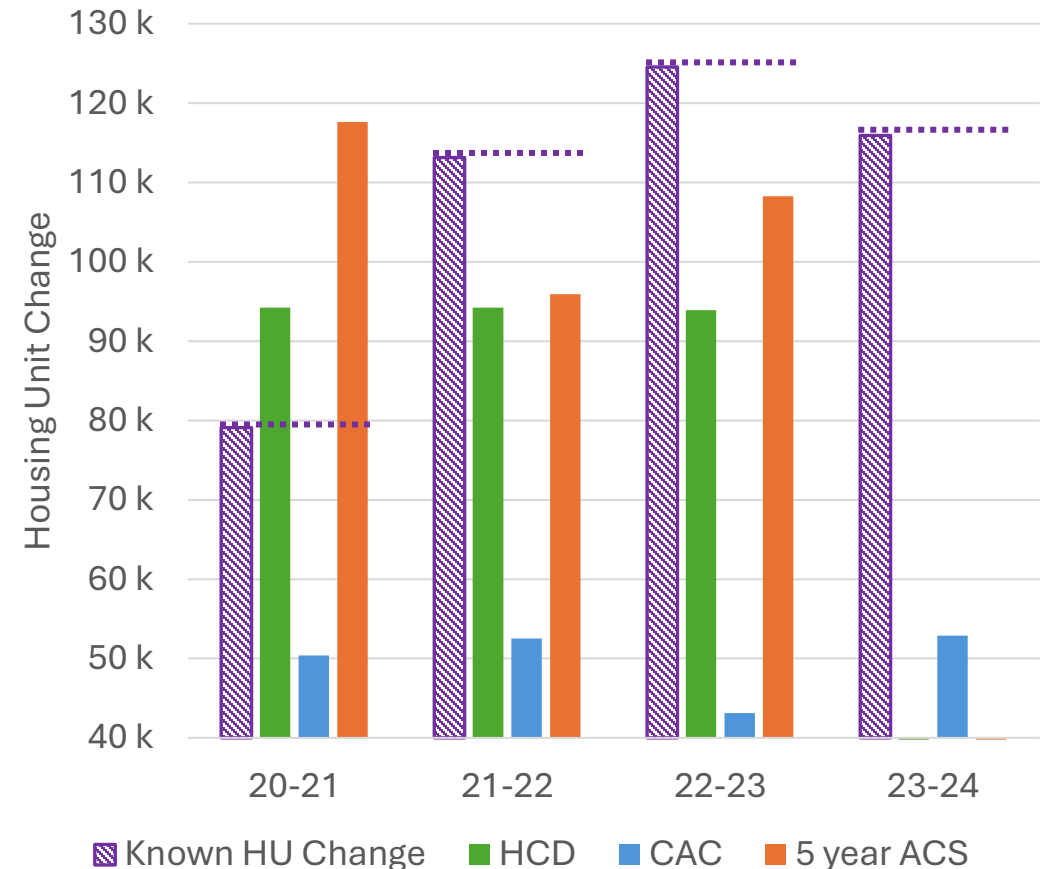- No individual dataset perfectly quantifies the change reported by cities.

Figure a. Net housing change in California as reported by different data sources by year. Chart highlights known housing unit change as described in the DOF E5 City / County estimate series.

Method

- Top-down allocation of housing change as reported by individual cities.

- Locations of change are determined by sequential differencing.

- When change has been adequately described for a city, its geography drops from the model.

- The result is a granular description of housing change that favors geographic specificity and only considers block group and city adjustments if necessary.
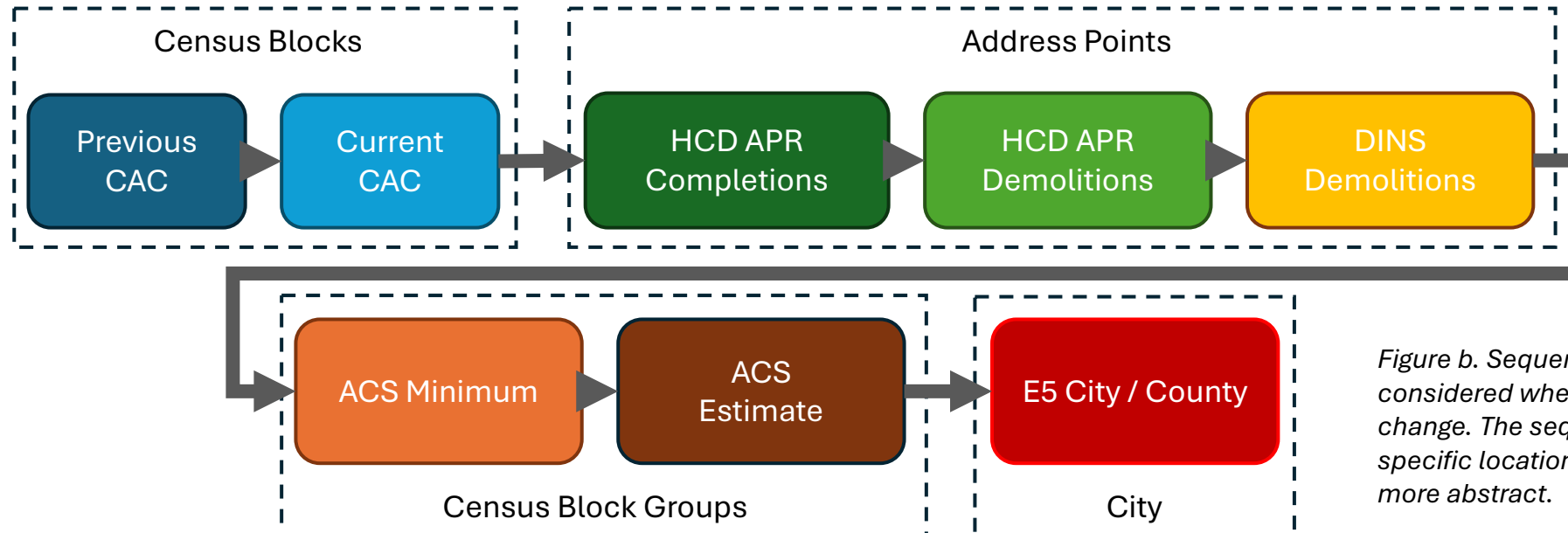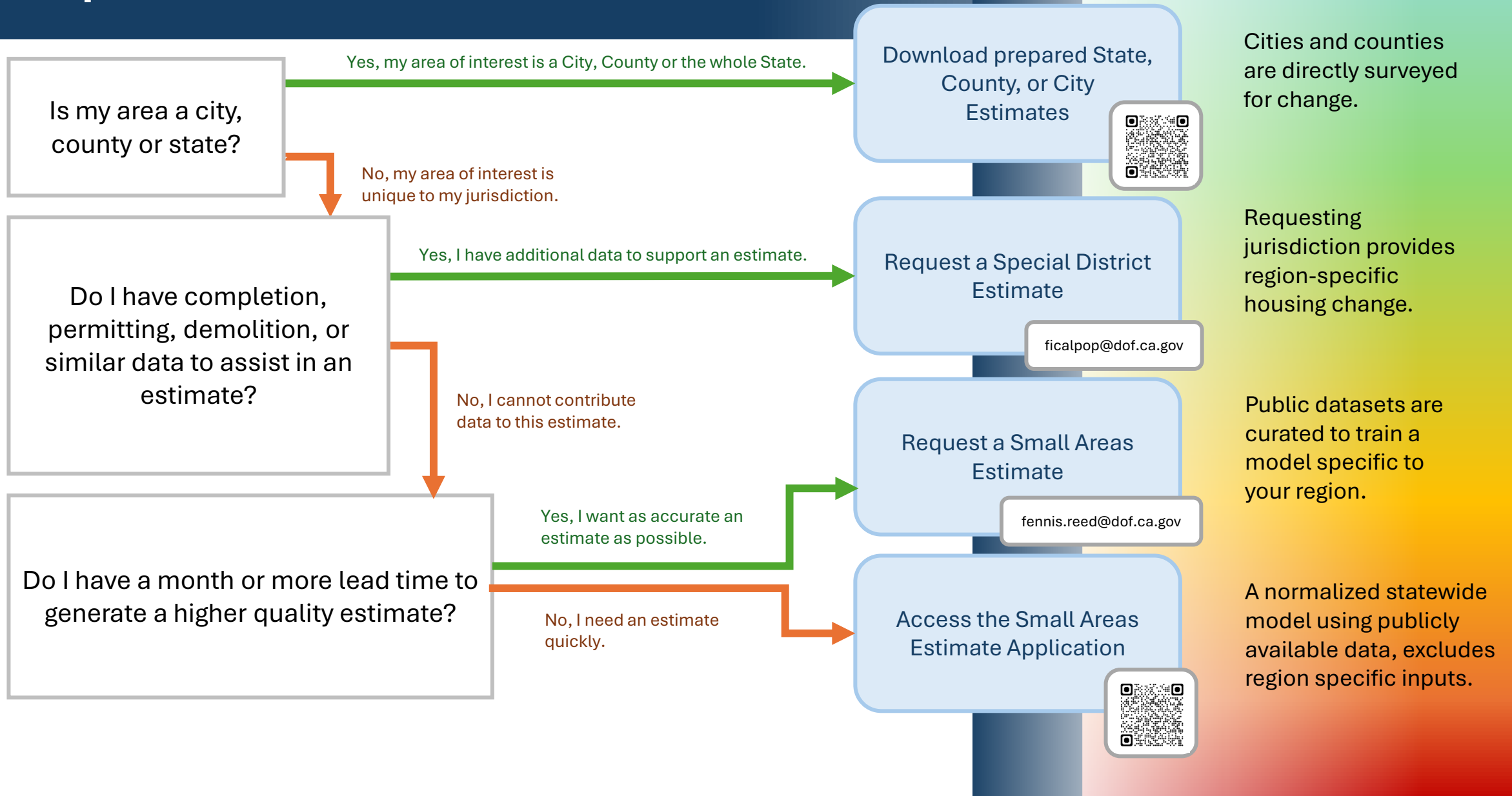

Figure b. Sequence in which datasets are considered when quantifying housing change. The sequence favors highly specific locations of change over the more abstract.

Key Takeaways

- As with any estimation technique, your results are only as good as your inputs. If unique additional datasets are available for your region, then they should be used within your model.

- Developing methodologies that are robust to newly acquired datasets is vital. Inputs are not updated with the same frequency, and retroactive updates are required to sustain this approach.

- Duplication between data sources and years can occur and is not easily mitigated in a normalized statewide model.

- The closer to present year, the greater reliance on city or block group dasymetric processes.

- It is the responsibility of DOF to understand the limitations of all methods available to us, to make recommendations based on data and funding constraints of our collaborators.

So, you want an estimate from the Department of Finance...

High quality estimates need high quality data.

Is my area a city, county or state?

— Yes, my area of interest is a City, County or the whole State. →

Download prepared State, County, or City Estimates

Cities and counties are directly surveyed for change.

— No, my area of interest is unique to my jurisdiction. ↓

Do I have completion, permitting, demolition, or similar data to assist in an estimate?

— Yes, I have additional data to support an estimate. →

Request a Special District Estimate

ficalpop@dof.ca.gov

Requesting jurisdiction provides region-specific housing change.

— No, I cannot contribute data to this estimate. ↓

Do I have a month or more lead time to generate a higher quality estimate?

— Yes, I want as accurate an estimate as possible. →

Request a Small Areas Estimate

fennis.reed@dof.ca.gov

Public datasets are curated to train a model specific to your region.

— No, I need an estimate quickly. →

Access the Small Areas Estimate Application

A normalized statewide model using publicly available data, excludes region specific inputs.
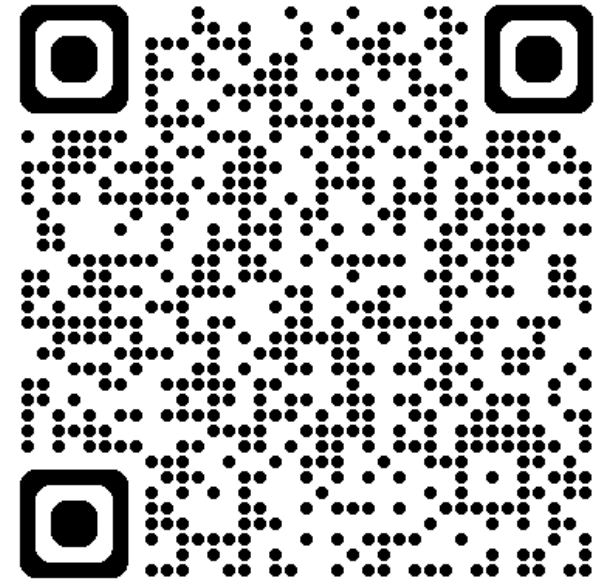
Thank You!

Fennis Reed

Demographic Research Unit
California Department of Finance

fennis.reed@dof.ca.gov

Launch the Data HUB

https://dru-data-portal-cacensus.hub.arcgis.com/