The Administrative Data Snapshot – Experimental housing statistics from linked administrative data

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United Nations Network of Economics Statisticians – Housing Sprint 23 Oct 2024

Australian Bureau of Statistics
Informing Australia's important decisions

Outline

- Administrative Data Snapshot product
- Focus on experimental dwelling “activity” statistics

Background: Census and Administrative data

- Linked Administrative Data used to support the Australian Census

Linked Population Data

Person Level Integrated Data Asset (PLIDA) from 2006-present

Tax registrations
Health registrations
Benefit registrations
Much more…

Linked Housing Data

ABS Address Register
Electricity data
Address level derivations from linked person data

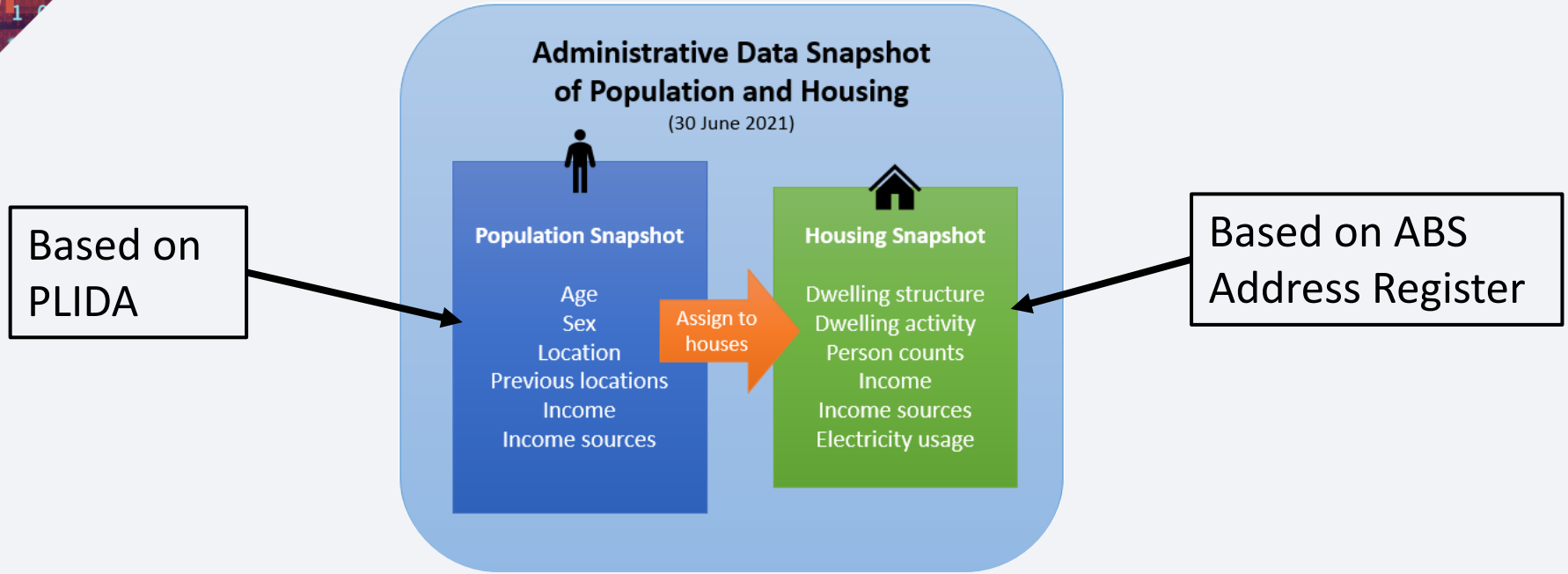
Background: Census and Administrative data

- Created a population snapshot to support the 2021 Census
  - Improved counts for missing responses
  - Independent source to check Census data during Quality Assurance

- Census of population AND housing… used a similar snapshot for houses using the ABS Address Register
  - Helped predict Census-night occupancy

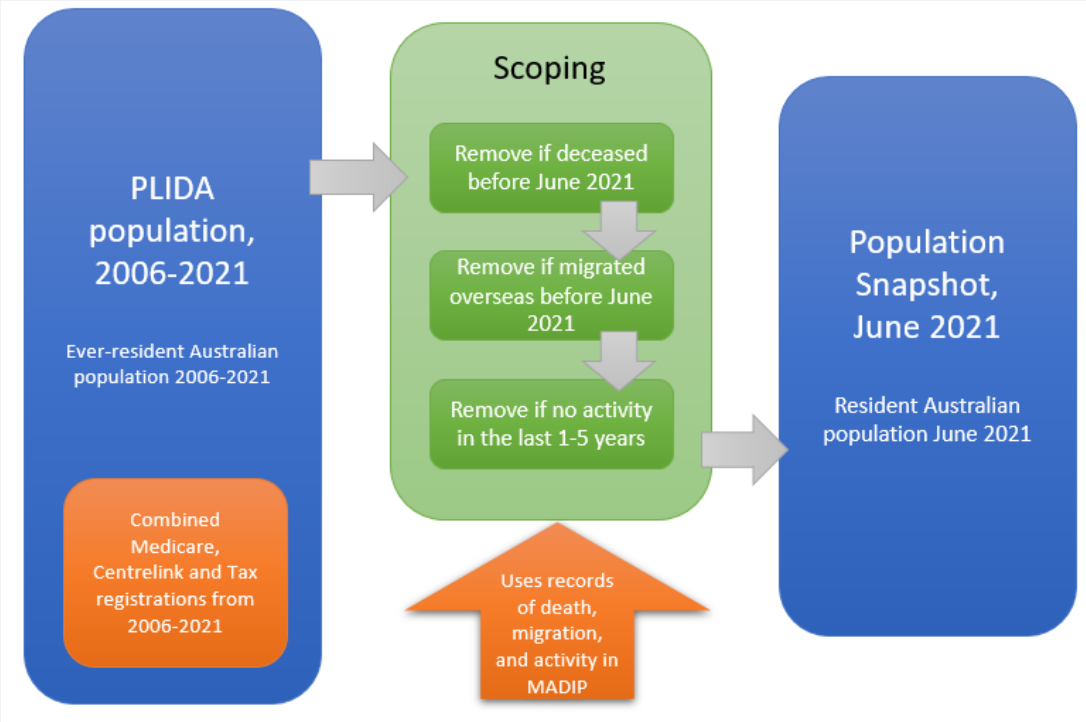
- Decided to release an **experimental** product as at June 2021
  - Released August 2023

The Administrative Data Snapshot of Population and Housing – a Census-like dataset

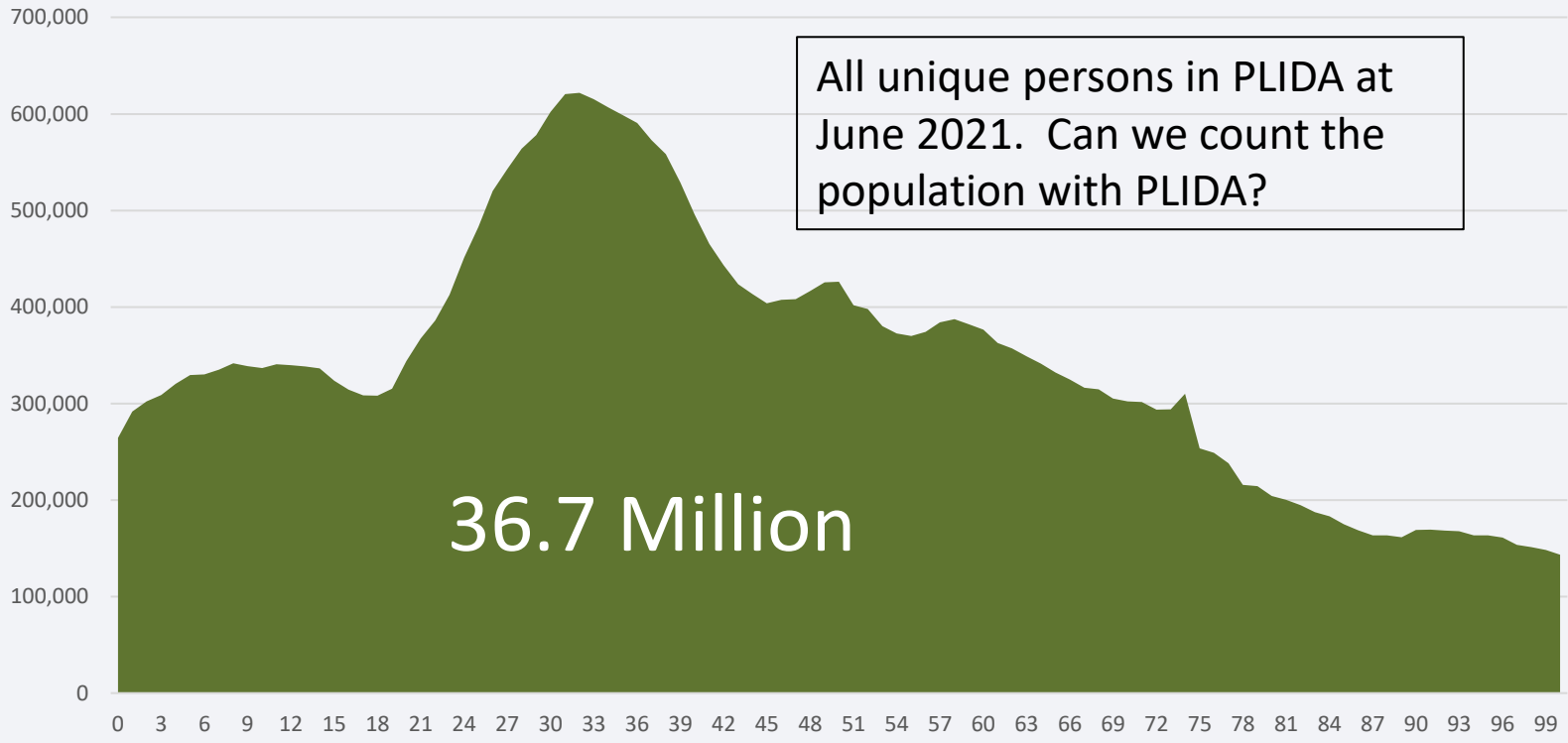


[Administrative data snapshot of population and housing | Australian Bureau of Statistics (abs.gov.au)]

Creating the population snapshot – “scoping”



How many people in Australia in August 2021?



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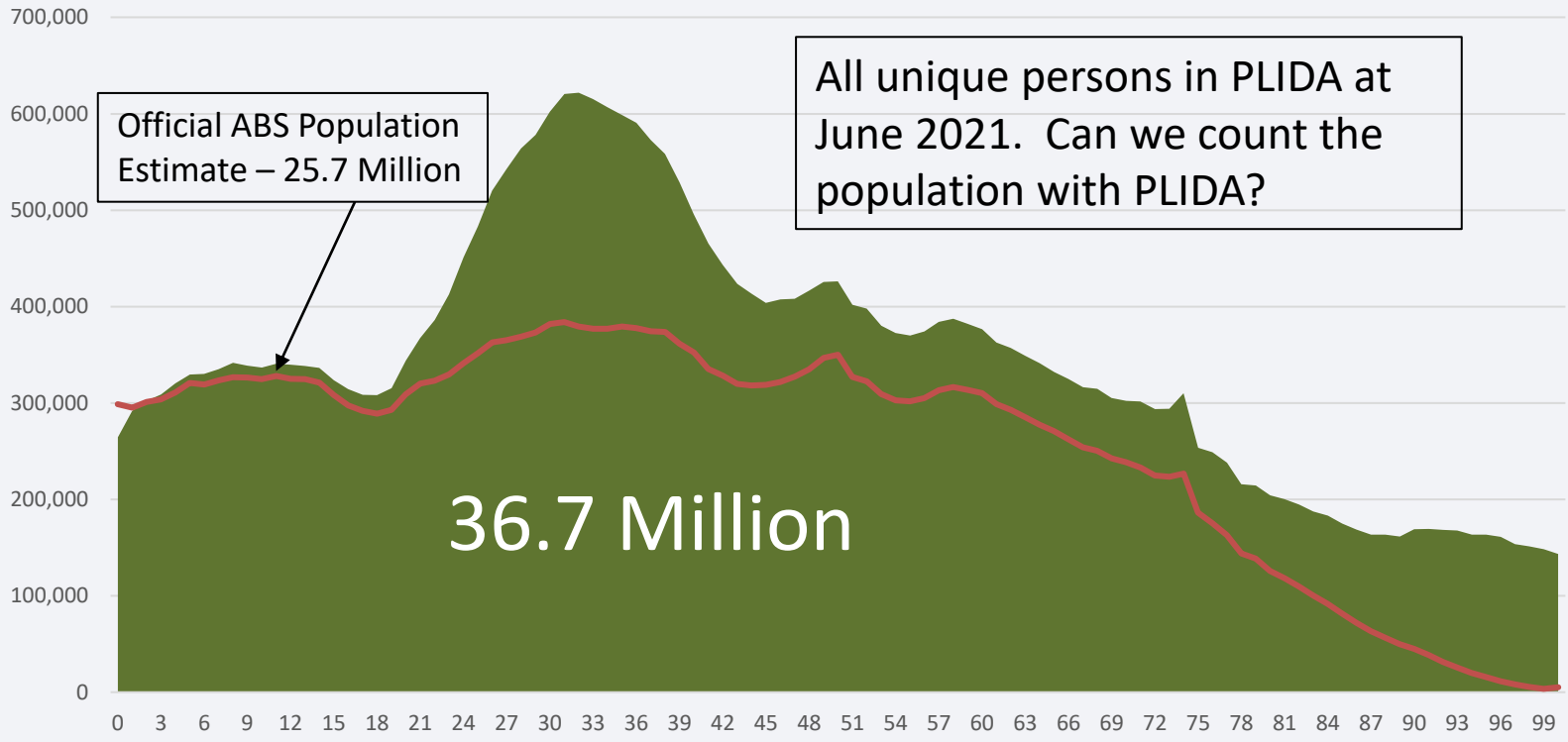

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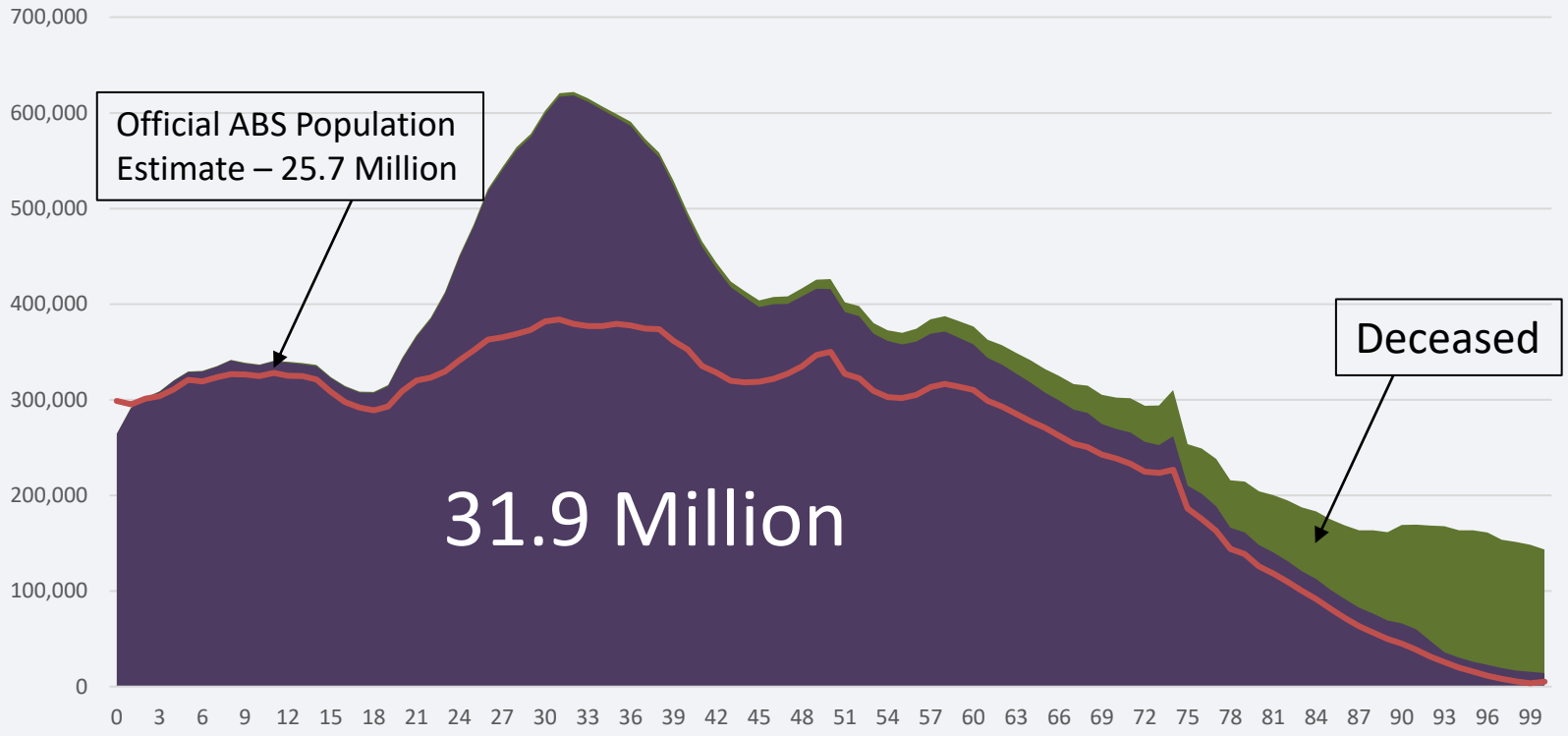

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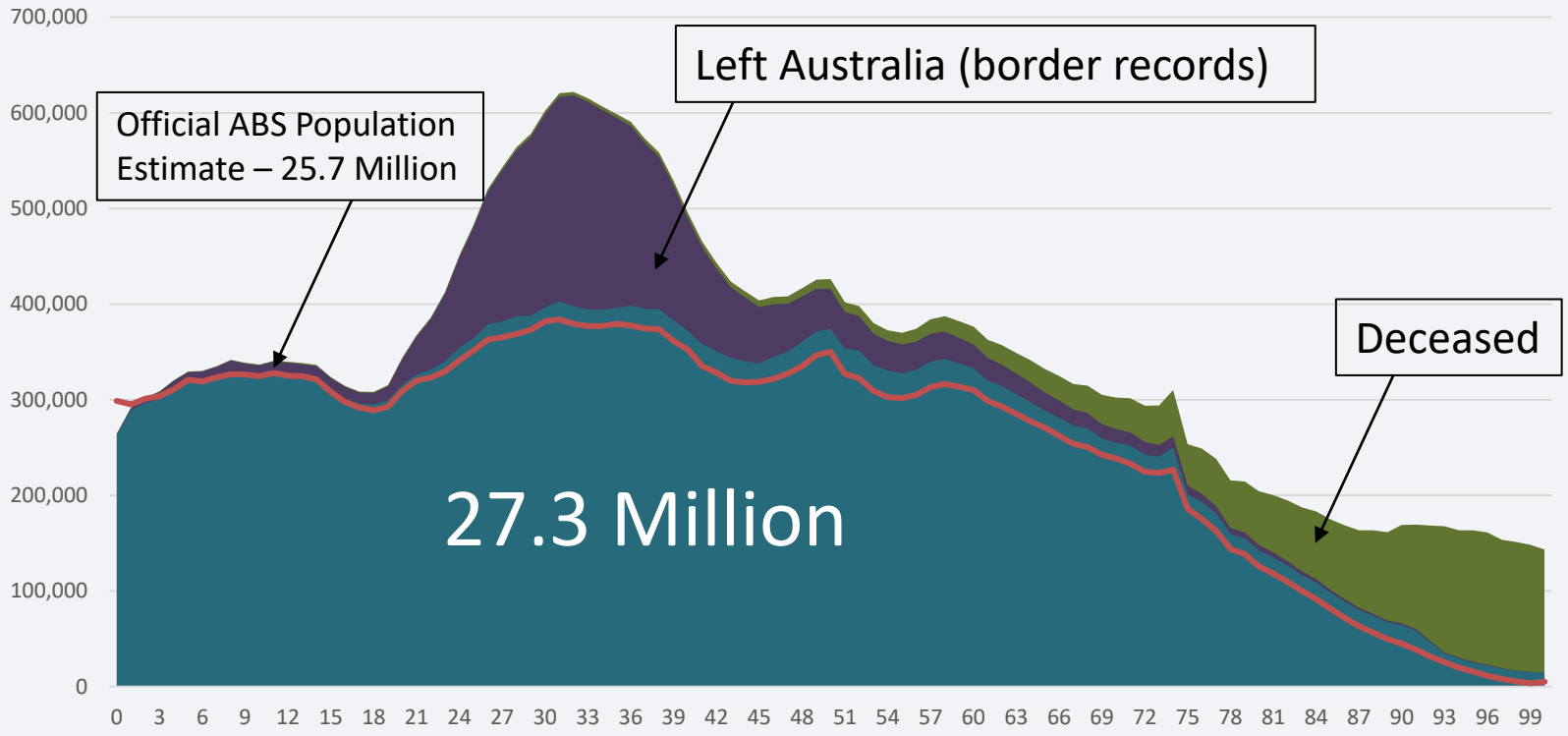

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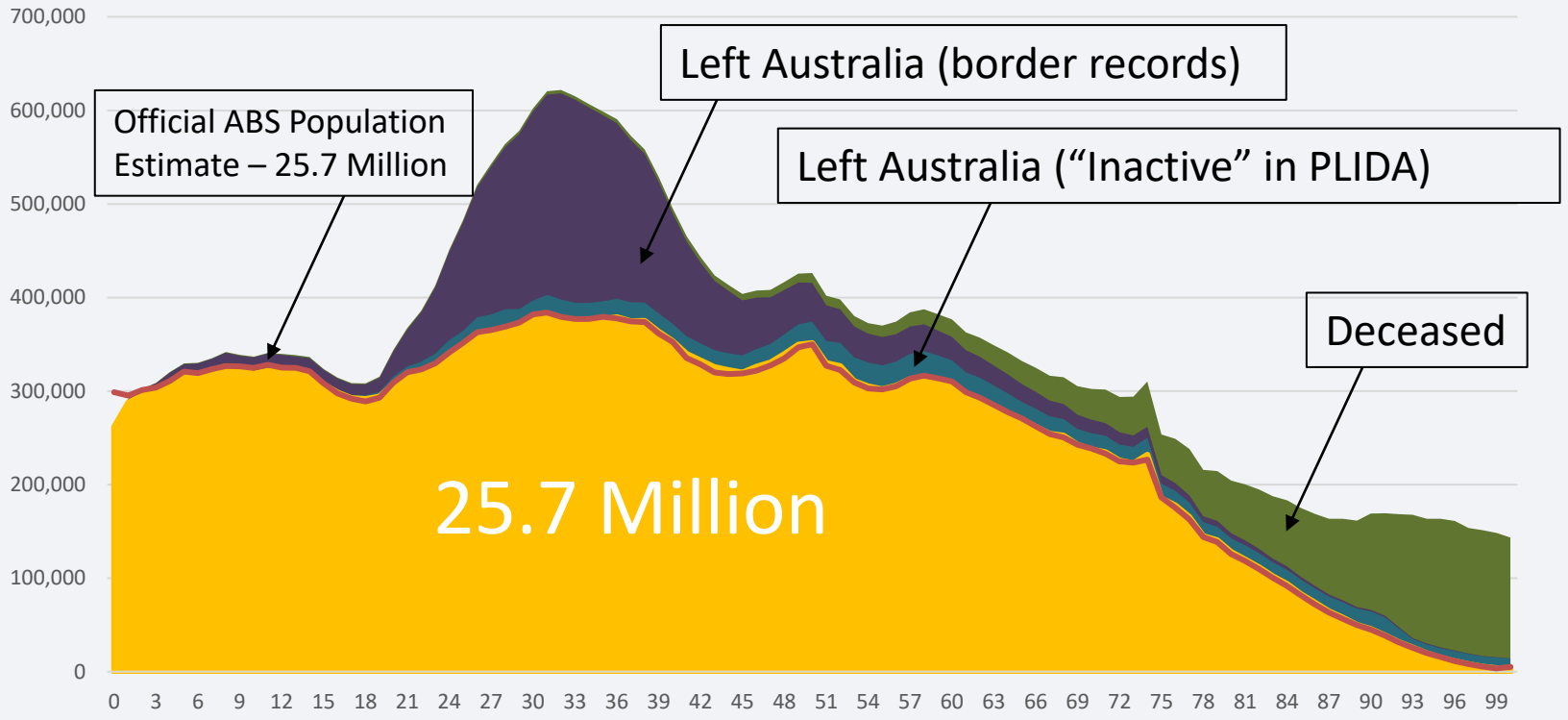
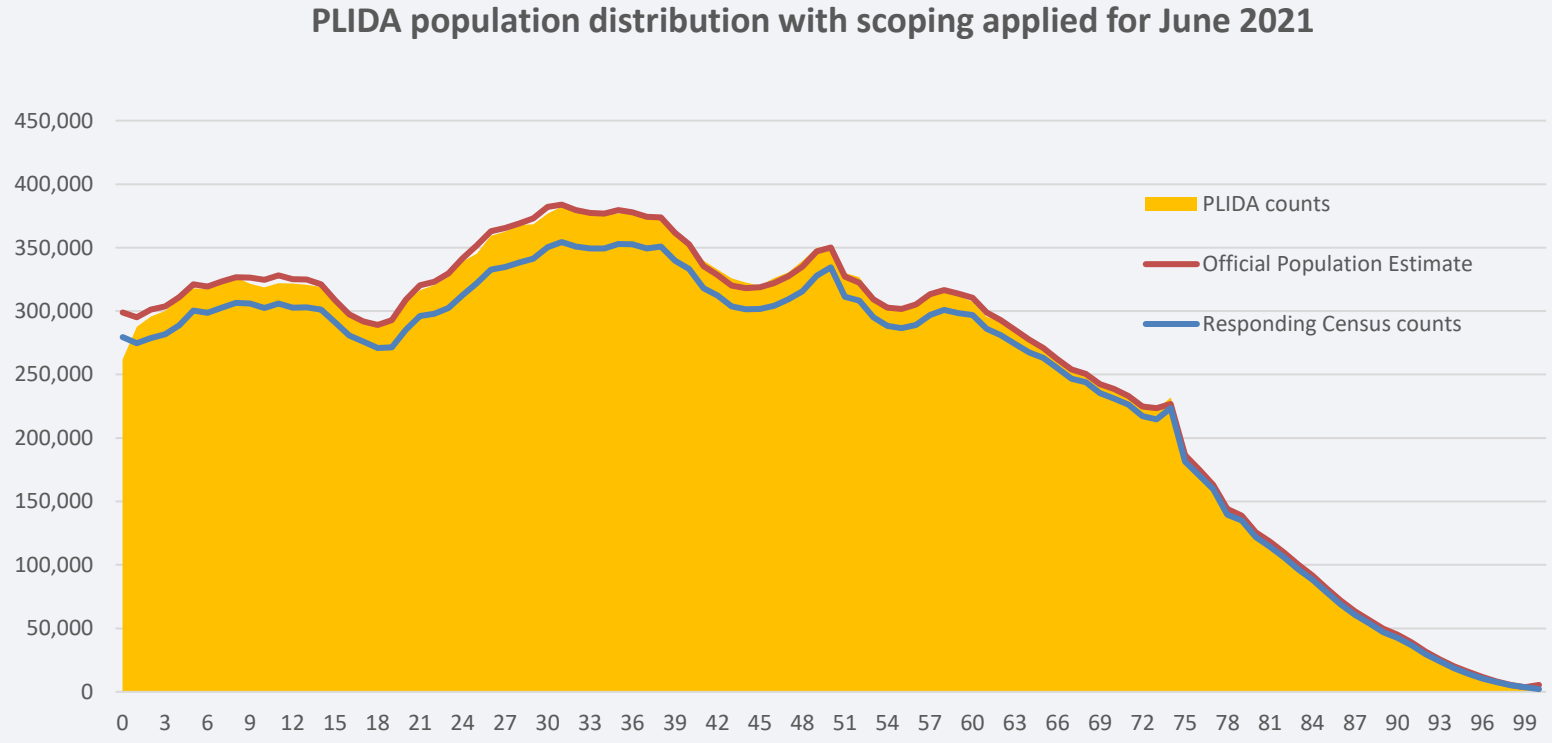
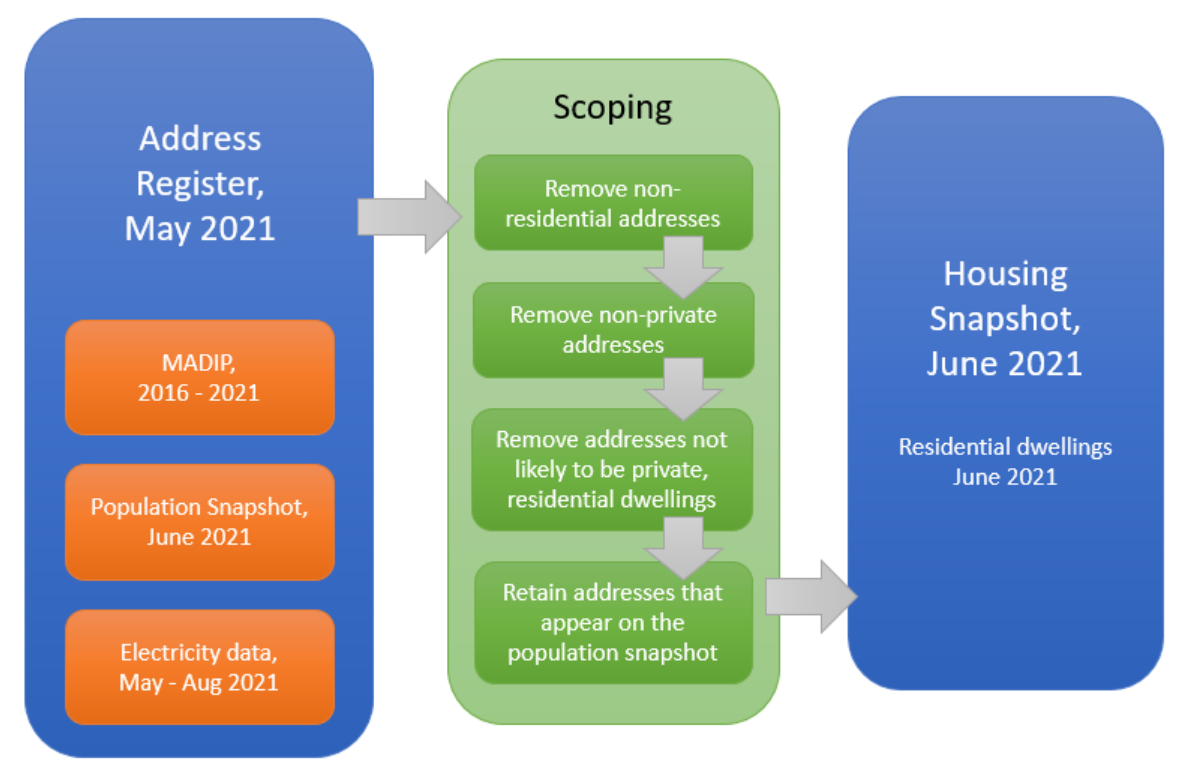


A population snapshot of PLIDA at June 2021



Creating the housing snapshot – “scoping”



Comparison to official ABS counts

Compare to Census-based population estimates

Population estimate **25,685,000**

Snapshot **25,745,000**

0.2% higher

Compare to Census-based dwelling stock

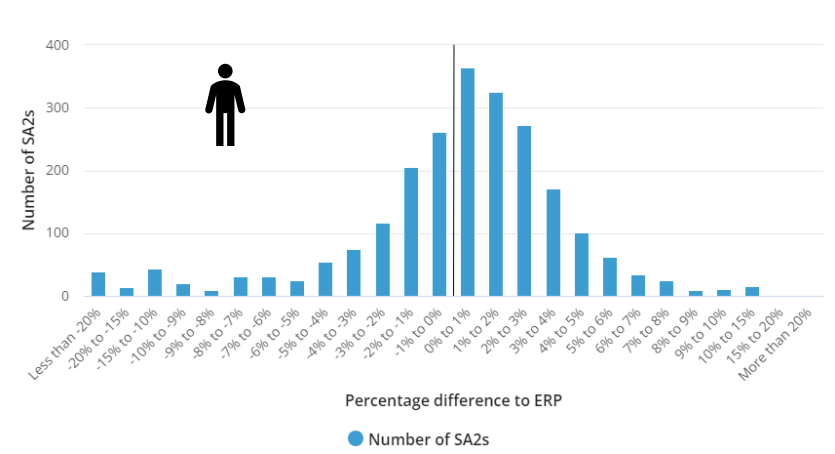
Dwelling Stock **10,732,000**

Snapshot **10,816,000**

0.8% higher

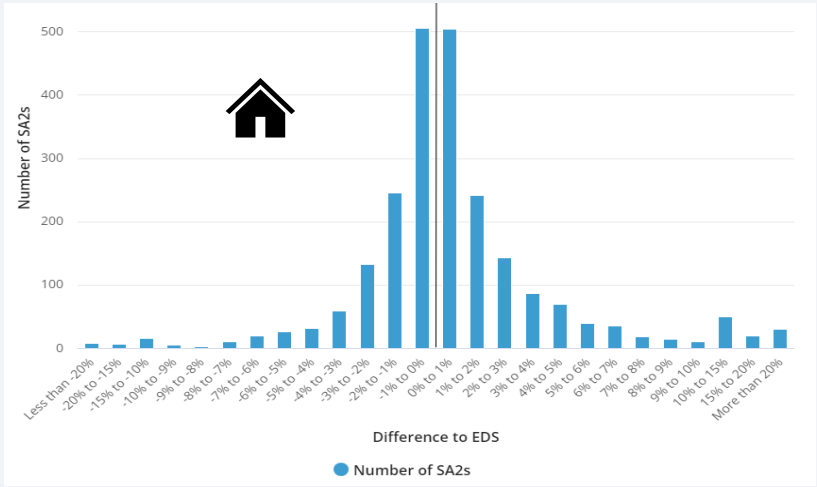
Small area comparison to official ABS counts

Compare to Census-based population estimates



+/- 4%

Compare to Census-based dwelling stock



+/- 3%

Assigning people to houses

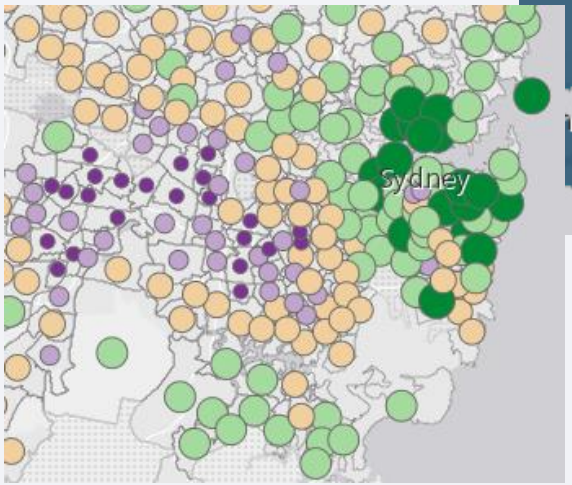
- Very simple methodology at this stage… persons with the same address are in the same household, with a few rules
  - No more than 8 people
  - At least one person over 15
  - Private dwellings only
  - People with no private dwelling address put in an area (9% of persons)
- Slightly higher household size than Census (2.6 persons vs 2.5)
- ABS working on family relationship indicators. In future these will be used to assign more appropriate household groupings

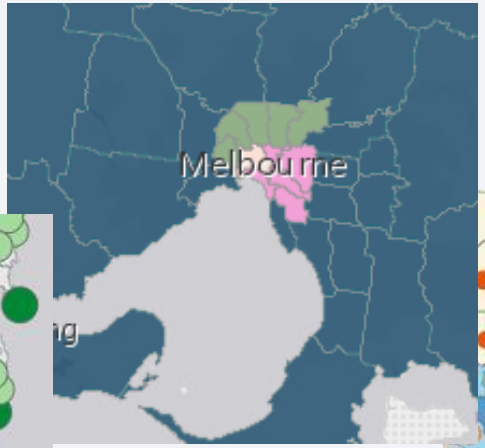
Experimental housing statistics

- Dwelling activity
- Household equivalised income
- Electricity consumption
- Looking at more things in the context of additions to the 2026 Census…

Snapshots lend themselves to Maps!

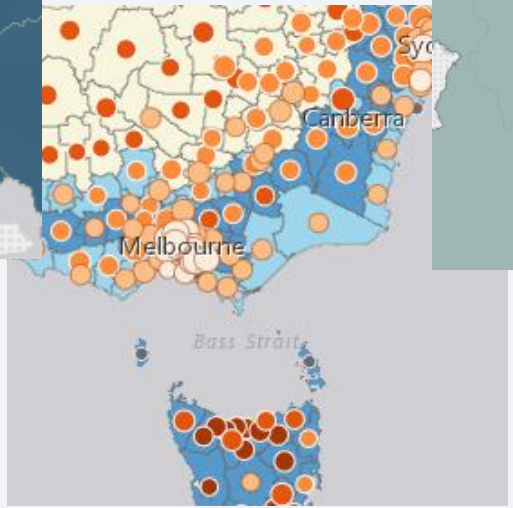
Income levels around Sydney

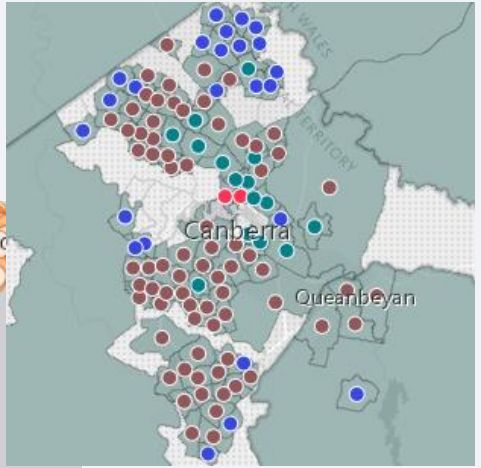




Housing activity around Melbourne

Electricity consumption in SE Australia





Government benefits around the Capital

Attribution: ESRI, HERE, Garmin, USGS

Focus: dwelling “activity”

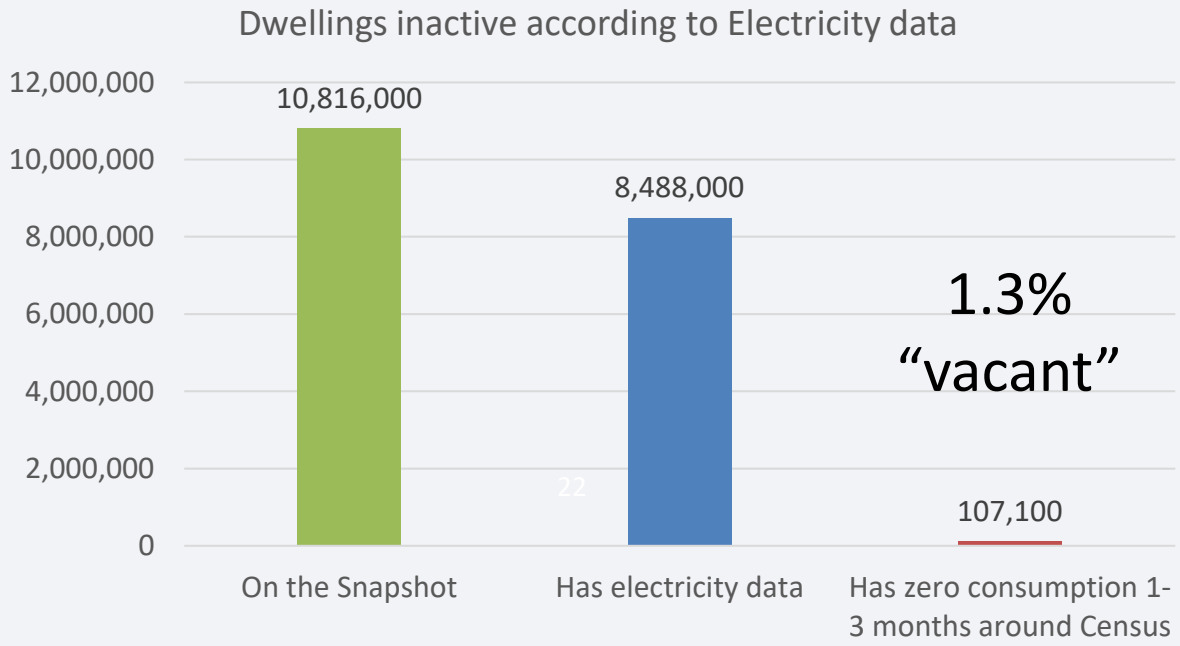
Housing “crisis” in Australia

Inactive or “vacant” dwellings

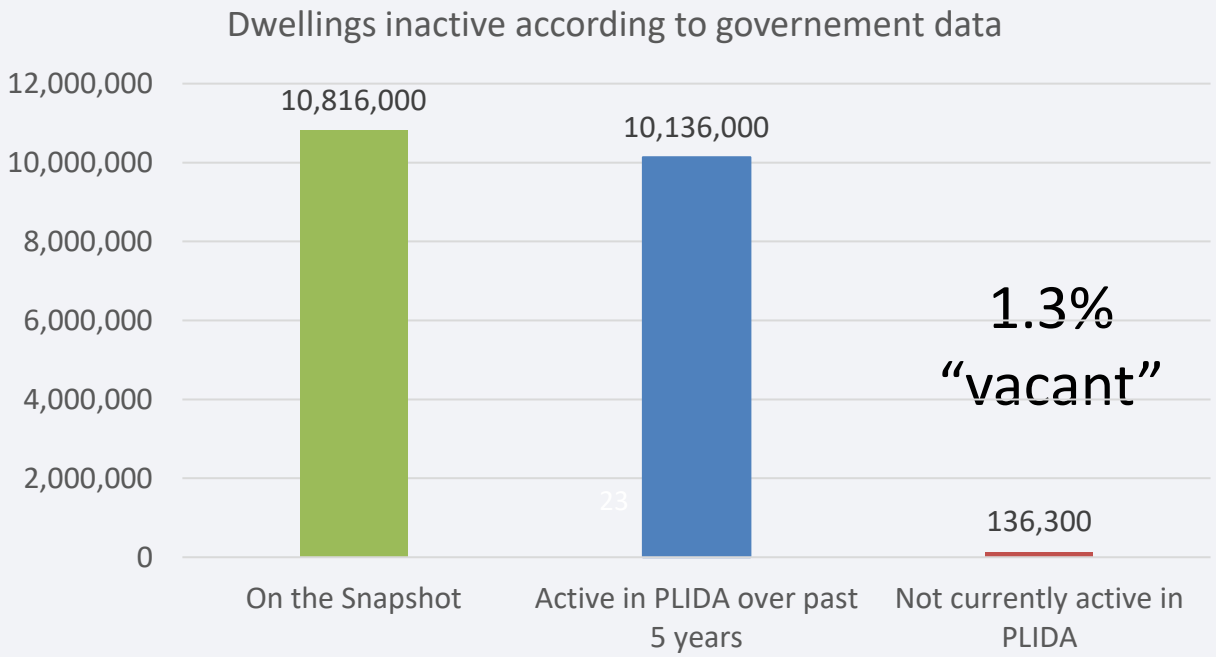
- Common confusion: Census night unoccupancy rate is about 10%... Seems way too high for a vacancy rate and it is ☺ Lots of reasons houses are unoccupied on Census night.

- Two measures of inactive or “vacant” dwellings on the snapshot
  - One based on zero electricity consumption over 1-3 months
  - The other based on dwellings currently “inactive” in PLIDA government sources

Electricity-based “vacancy”



PLIDA-based “vacancy”

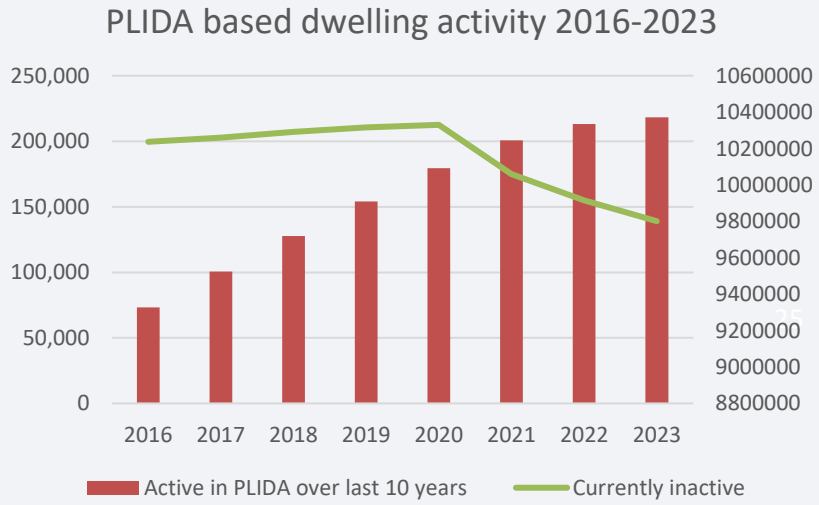


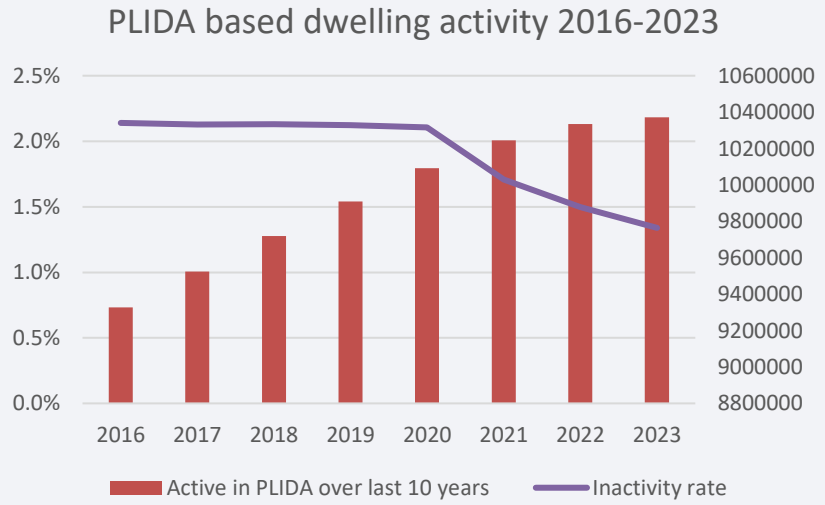
Comparing the two measures

- Electricity more reflective of point in time
- PLIDA more reflective of a longer-term average
- Despite national “vacancy rate” being the same (1.3%), big differences at local level
- Lower vacancy in rural areas according to electricity data – makes sense given COVID lock-downs at August 2021
- Only have electricity data as a “one off” used for Census, but have regular PLIDA data…

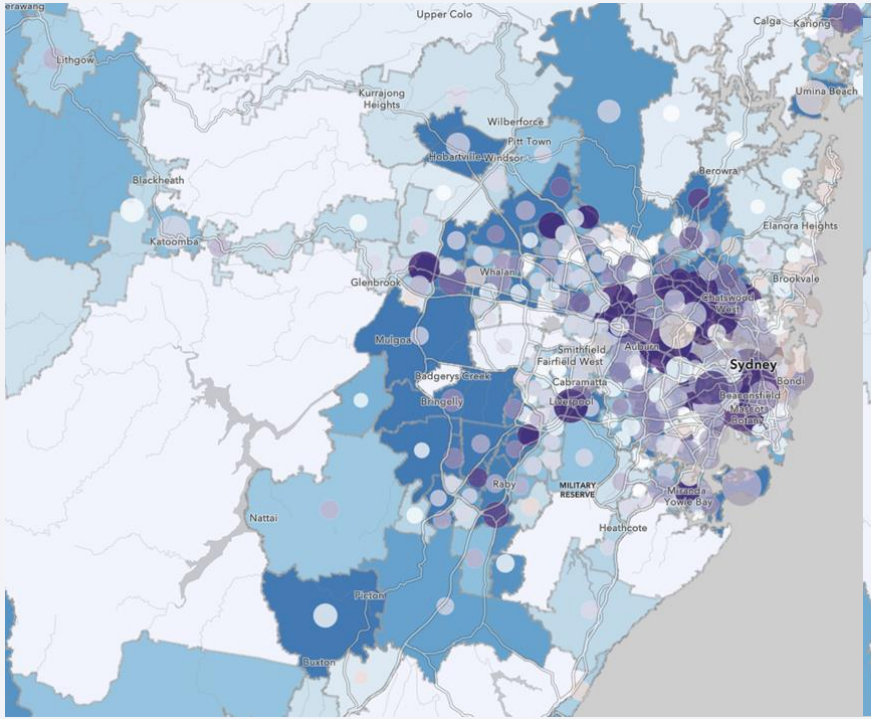
Extending PLIDA based results over time

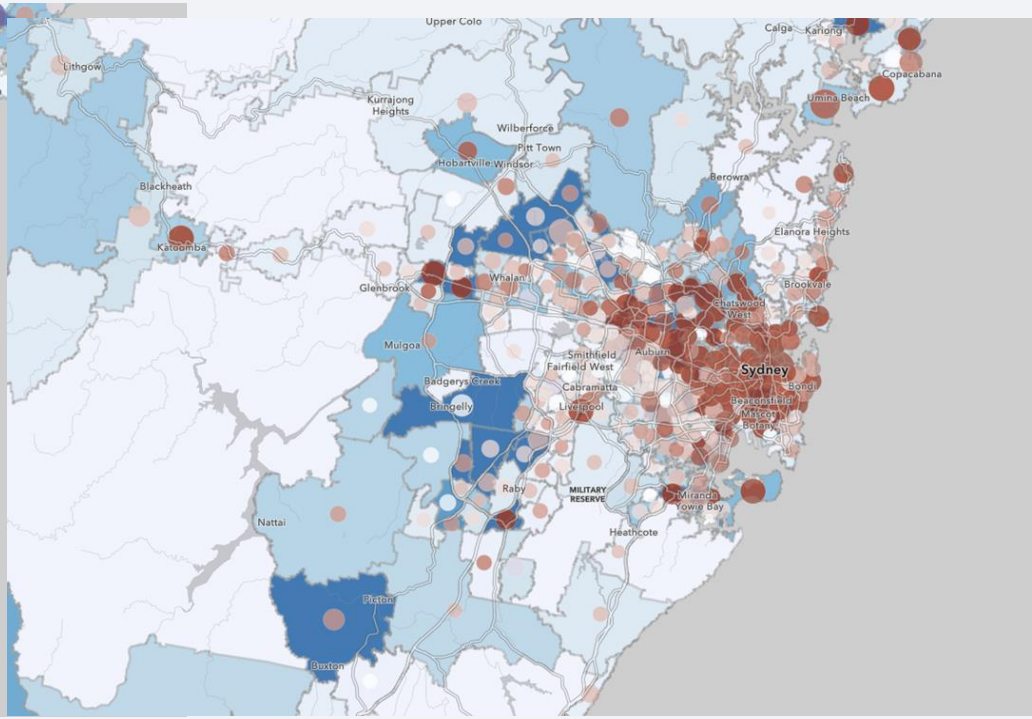
- Time-series of PLIDA dwellings and “inactivity” 2016-2023
- Note change since COVID, alignment with housing crisis





Mapping “inactivity” before and after COVID - Sydney





Dwelling activity around ABS office in Canberra

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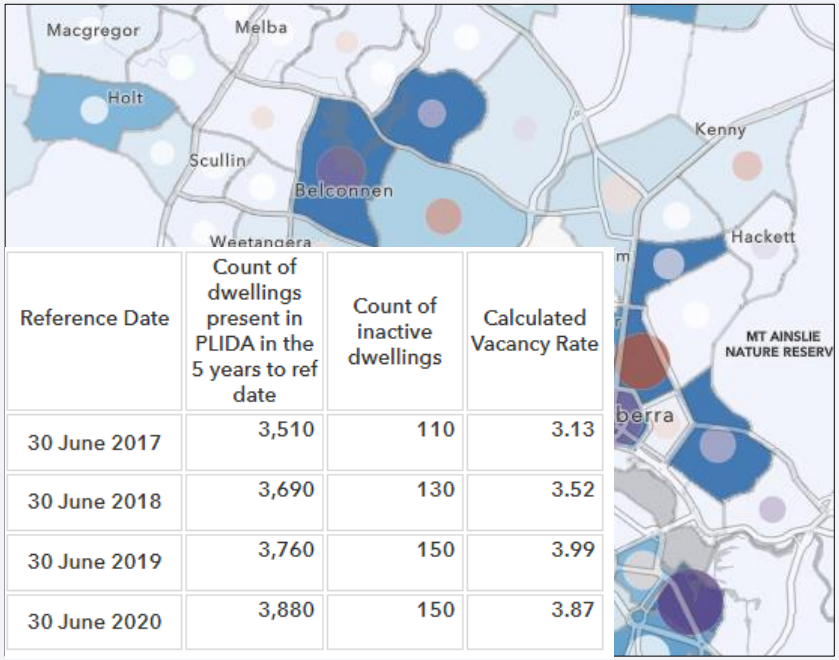
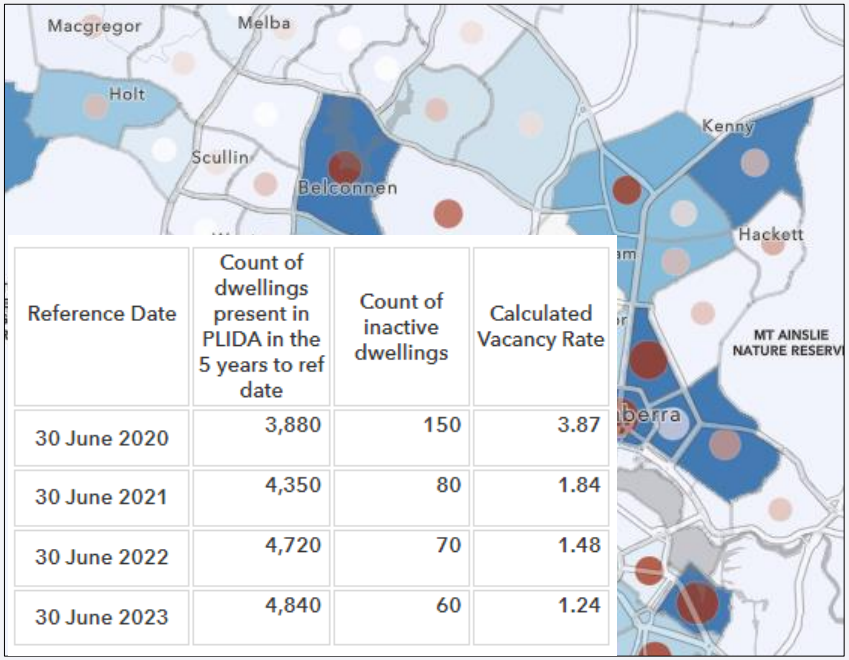
Before COVID (2017-2020)



Reference Date	Count of dwellings present in PLIDA in the 5 years to ref date	Count of inactive dwellings	Calculated Vacancy Rate
30 June 2017	3,510	110	3.13
30 June 2018	3,690	130	3.52
30 June 2019	3,760	150	3.99
30 June 2020	3,880	150	3.87

Since COVID (2020-2023)



Reference Date	Count of dwellings present in PLIDA in the 5 years to ref date	Count of inactive dwellings	Calculated Vacancy Rate
30 June 2020	3,880	150	3.87
30 June 2021	4,350	80	1.84
30 June 2022	4,720	70	1.48
30 June 2023	4,840	60	1.24

Ongoing research

- Time window over which dwellings are considered active in PLIDA
- Longer time window can pick up more derelict housing
- Point in time “activity” vs “dwelling utilisation” over a time period
  - E.g. one area may have higher “vacancy” than another area when measured at a point in time but a higher “utilisation” over a given time period

Got questions? email ross.watmuff@abs.gov.au