Domain / Why / Who

This visualisation dashboard explores the domain of Australian migration and population change, with a focus on how overseas migration contributes to state-level growth and how the composition of visa categories has shifted through time. Migration plays a critical role in shaping Australia's economy, workforce, and demographic structure, particularly in major cities like Sydney and Melbourne. The aim of this dashboard is to clearly communicate trends in migrant arrivals, shifts in visa programs, and differences across states before, during, and after the COVID-19 border closures.

The intended audience includes policy-makers, students and academics, and the general public who are interested in understanding how immigration influences Australia's future population strategy. This work also assists users in identifying patterns, disruptions, and rebounds in migration, helping them make more informed interpretations.

What (Data)

The dashboard uses multiple official, credible datasets, sourced and cleaned from:

- Australian Bureau of Statistics (ABS): State migration and population growth drivers

- Department of Home Affairs : Migration Program Reports Visa category data

- data.gov.au : Historical visa and migration statistics

https://data.gov.au/data/dataset/historical-migration-statistics/resource/b59a15df-86ea-4c4c-95be-4dd9fc9f8ac4

https://www.abs.gov.au/statistics/industry/tourism-and-transport/overseas-arrivals-and-departures-australia/latest-release

https://www.abs.gov.au/statistics/people/population/overseas-migration/latest-release

https://www.homeaffairs.gov.au/research-and-stats/files/report-migration-program-2023-24.pdf

Data preparation involved transforming all datasets into tidy formats, removing commas and text formatting from numeric fields, unifying year formats, and merging multiple spreadsheets for state-level mapping. TopoJSON files were processed using MapShaper to produce a lightweight and accurate Australian map. This allowed seamless integration with Vega-Lite through a lookup transformation.

How (Design Rationale & Special Features)

Four visualisations:

Map: Arrivals by State
 Shows *where* migrants settle geographically, highlighting strong east-coast concentration. A dropdown filter enables users to compare pre- and post-pandemic migration levels. A warning note clarifies years with missing data due to border closures.

Stacked Bar Chart: Drivers of Population Growth (2025)
 Breaks down *what* drives population increases: natural increase, interstate migration, and overseas migration. A stacked design clearly shows dominance of overseas migration in most states.

Stacked Area Chart: Visa Type Arrivals Over Time
 Illustrates long-term structural changes in migration programs. The COVID-19 dip becomes visually striking due to the stacked format, reinforcing the major impact of border policies. Uses percentage formatting and colour encoding to distinguish visa types.

Interactive Multi-Line Chart: Migration Outcomes by Visa Stream (1984-2024)
 Allows detailed comparison between visa categories. Checkbox filters enable users to focus on specific streams. A vertical annotation line at 2020–21 highlights the pandemic disruption and recovery period