Australian Airport Traffic Data Analysis

Course: ALY 6110

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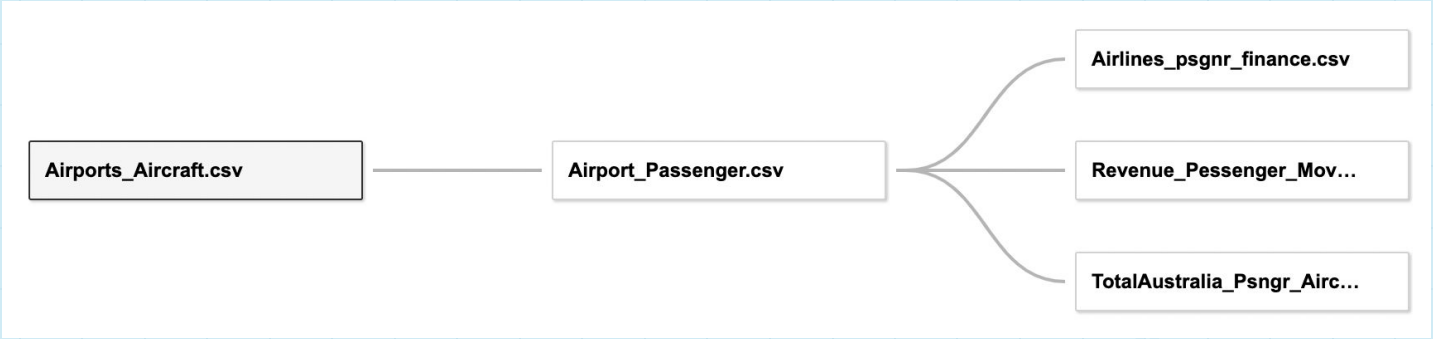
Introduction

- Airports regularly assume an enormous monetary aspect and key part in associating people, encouraging monetary action and offering basic types of assistance for far off networks.
- The airport area in Australia is profoundly different. It is portrayed by around 155 air terminals which get Regular Public Transport (RPT) administrations and in excess of 2000 more modest runways and landing strips around the country.

Dataset Information & Tableau Connection



Data Source: Australian government i.e., the Bureau of Infrastructure and Transport Research Economics (BITRE)

- The dataset contains details of passenger and aircraft movement for international and domestic flights and it contains 9062 records with 14 columns and we have used multiple data files.
- The dataset contains details of passenger and aircraft movement data carried on scheduled Regular Public Air Transport services at selected major Australian airports.
- Total Australian airports by financial year over the period 1985 to 2021.

Questions

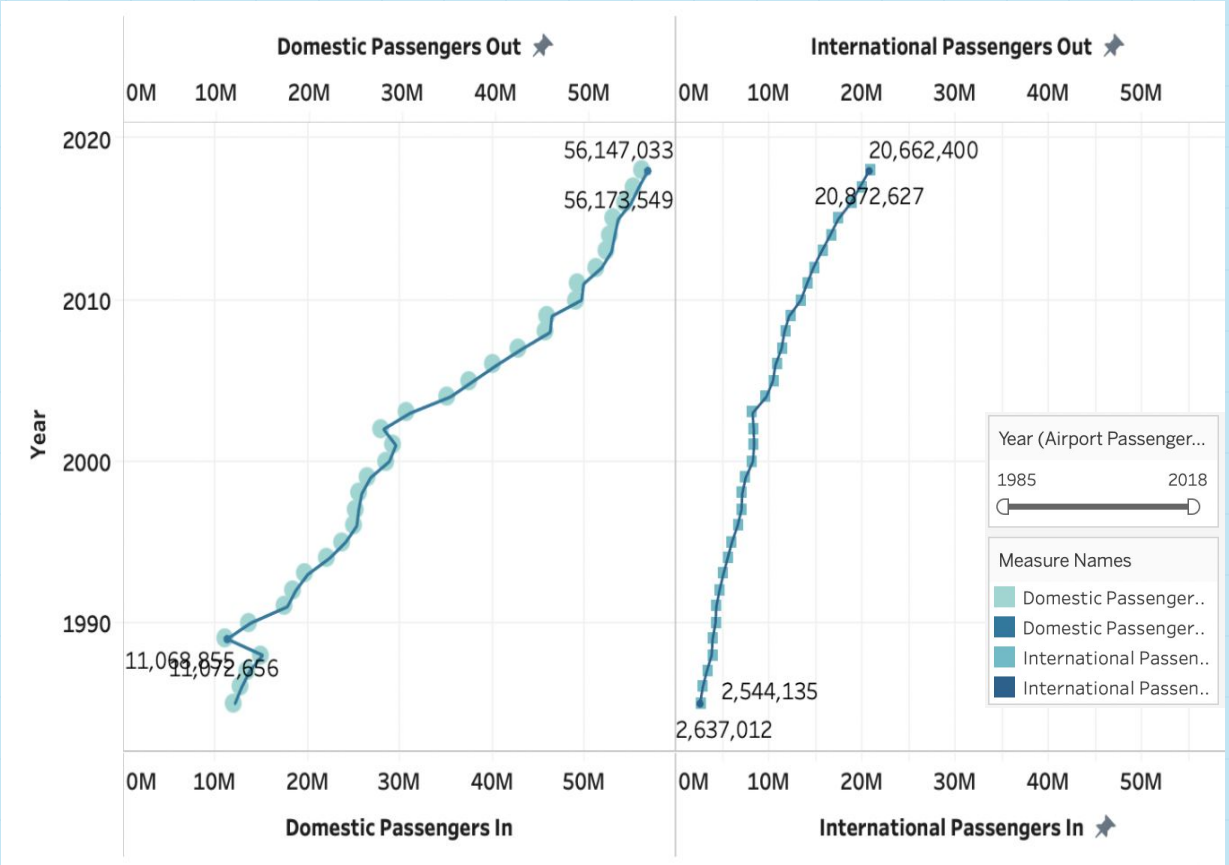
- Which airport has the highest in and outflow of passengers over the years and check individual analysis on domestic and international passenger?
- Is there any correlation between the aircraft movement and the passenger count?
- Is there any growth noticed in Revenue passenger movement from past two years? and Analyze revenue per passenger across major Airports in Australia.

Domestic & International Passengers In/Out flow Over Years

Number of passengers travelling within the country are increasing. Only a slight reduction was observed in the year.

For international passengers, the count crossed the 20 million mark in the year 2018.

The count of passengers travelling both domestic and internationally has reduced in the year 2020 compared to 2019 and it can be due to the coronavirus pandemic.

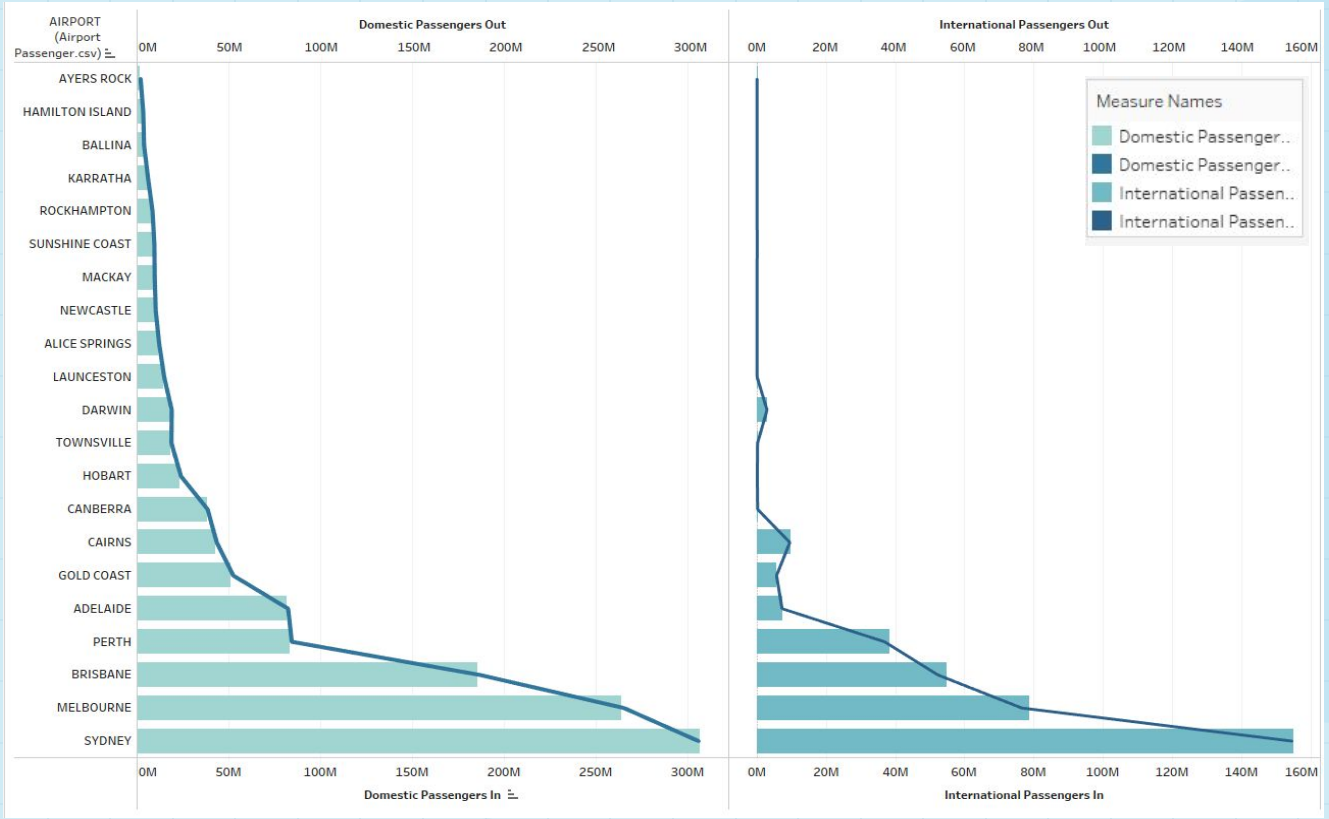


Domestic & International Passengers In/Out flow by Airports

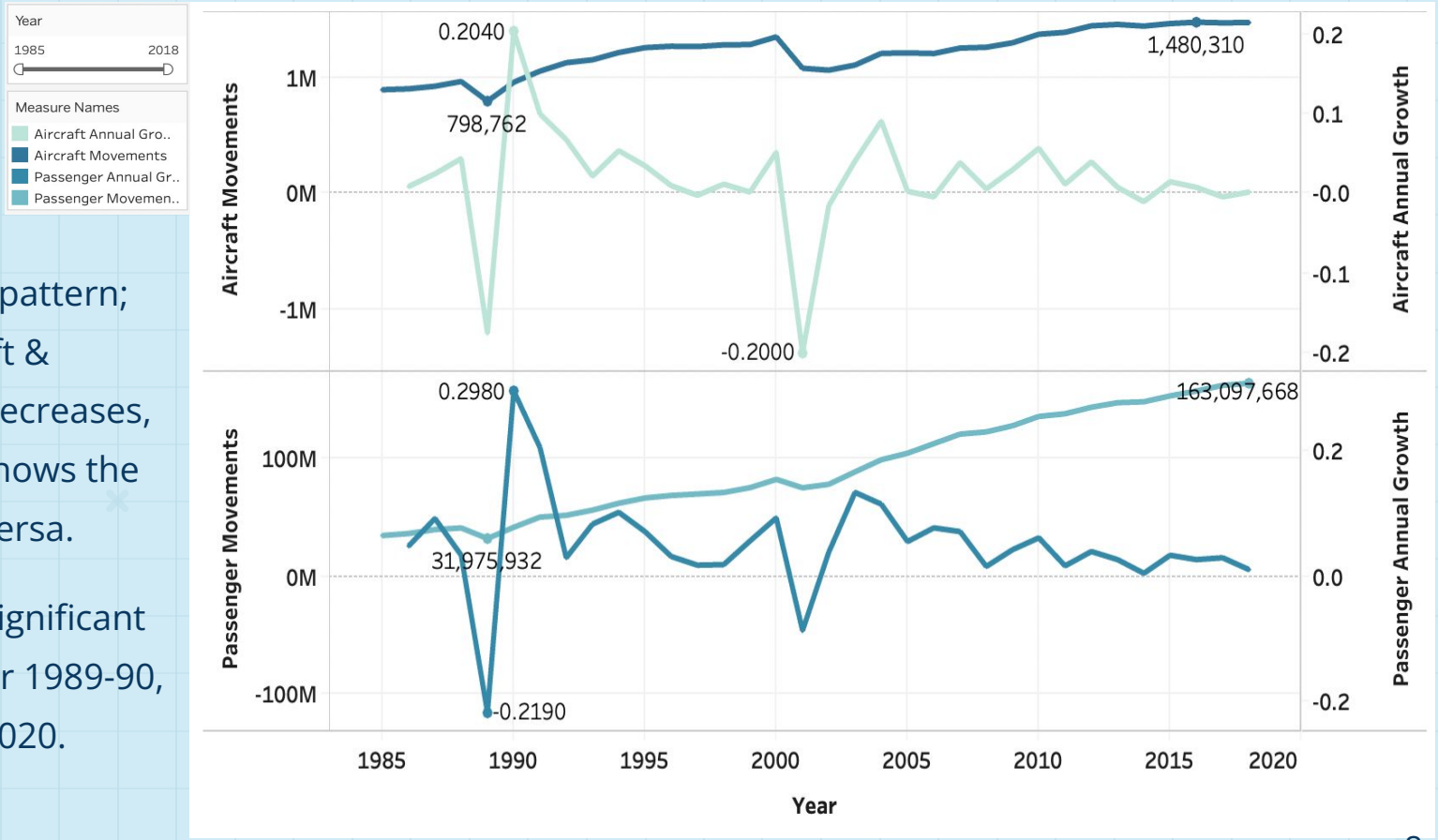
The Sydney airport seems to be the busiest airport in terms of both domestic and international passengers followed by Melbourne and Brisbane.

The least busiest airport is the Ayers rock airports.

It is interesting to notice that the data shows 0 passengers using MACKAY international airport.



Total Aircraft & Passenger Movements w.r.t Annual Growth



There is a particular pattern; as the sum of Aircraft & Passengers counts decreases, the annual growth shows the downside and vice-versa.

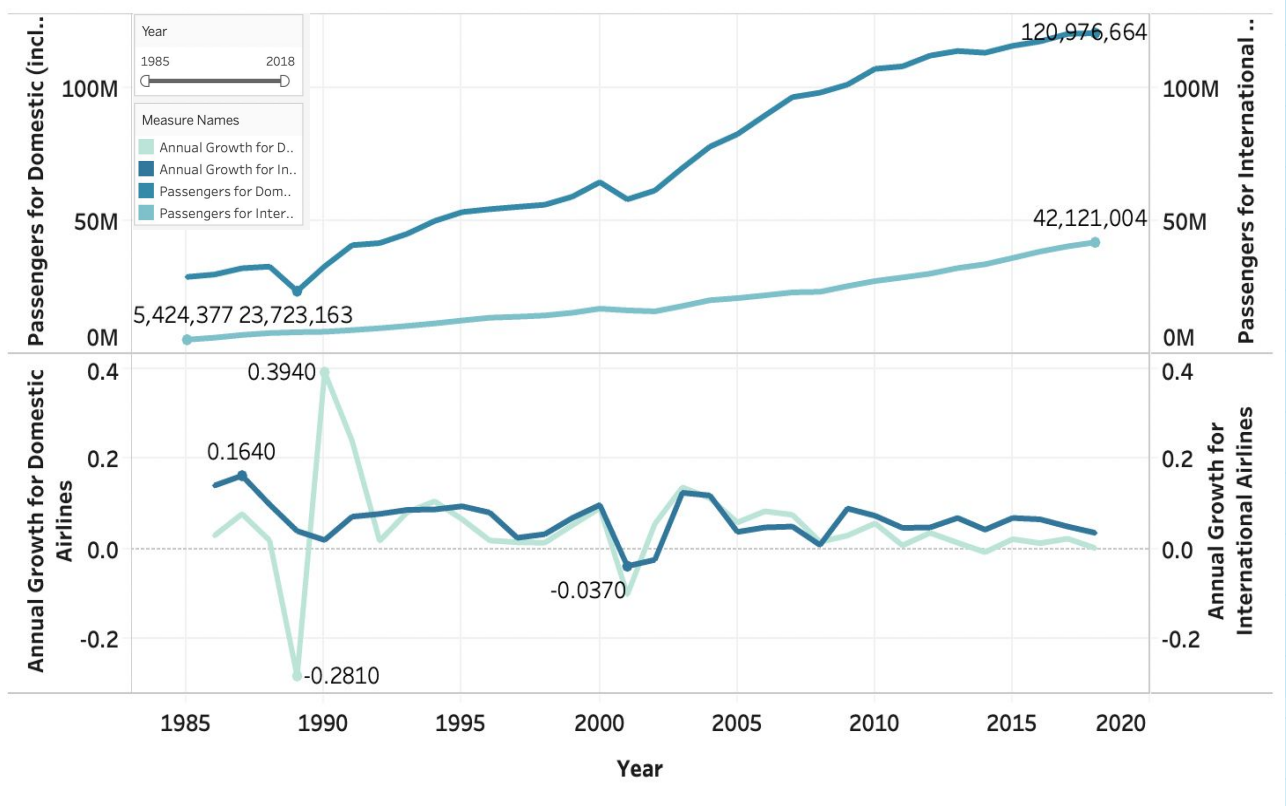
The graph shows a significant down during the year 1989-90, 2001-02, and 2019-2020.

Correlation Between Domestic & International Airlines Passengers vs Annual Growth

In the bottom part of the visualization, we can notice that the annual growth going down upto almost -0.28 for the year 1989 but there is steep rise in the annual growth for domestic airlines to 0.38 in the year 1990.

The annual growth has certainly gone down to -0.27 in 2020 due to the result of COVID-19 pandemic for both international and domestic passengers.

It shows a particular correlation between the annual growth versus airlines passenger movements.

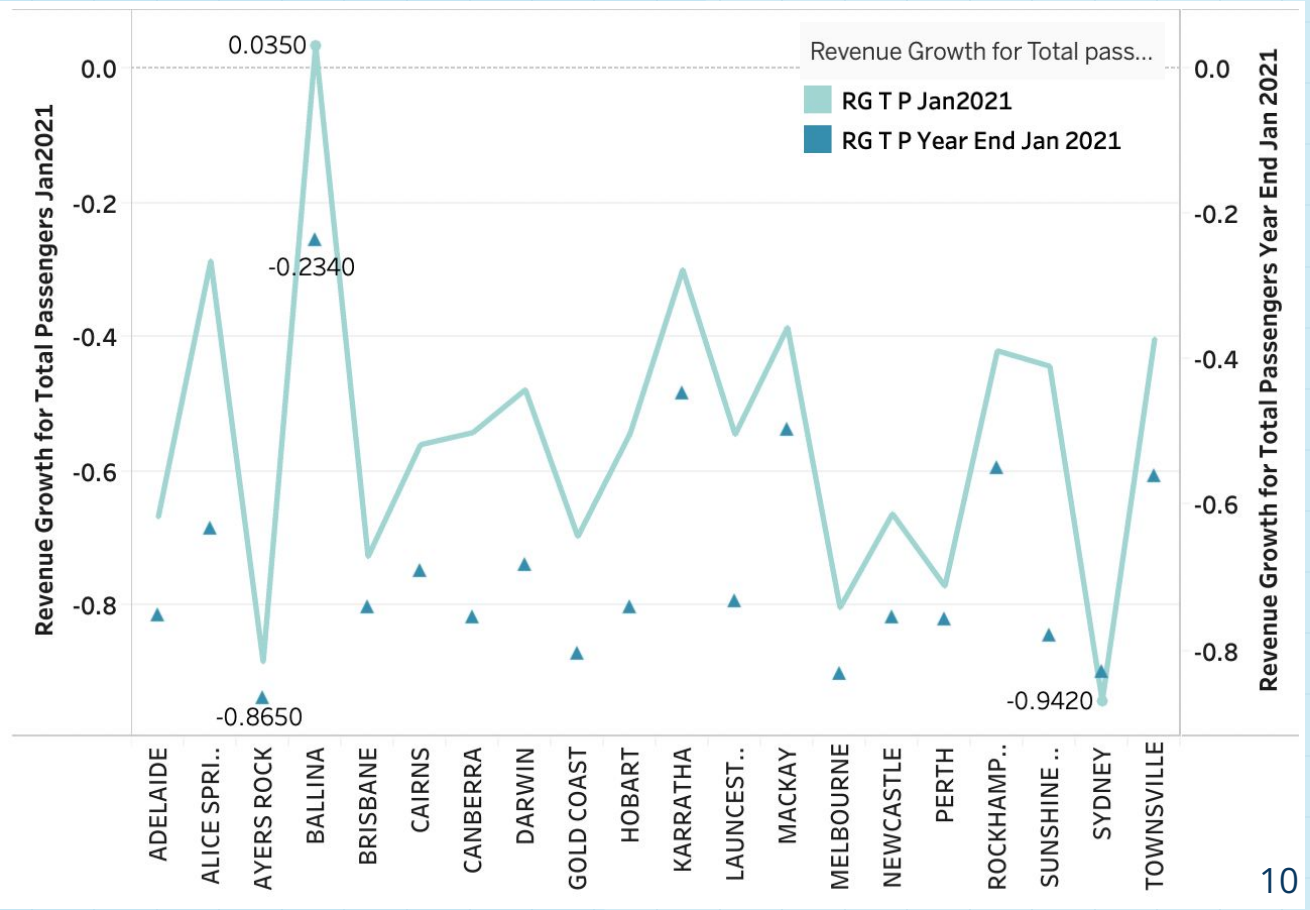


Revenue Growth for Total Passengers (Jan 2021)

The graph depicts the revenue growth for total passengers during January 2021 and the end of the month over the top 20 airports in Australia.

Significantly, Ayer's rock airport has a very low revenue growth than the other airports.

There is a positive and high growth rate for Ballina airport with 0.035 at the beginning. And while at the end it shows a downfall of -0.234

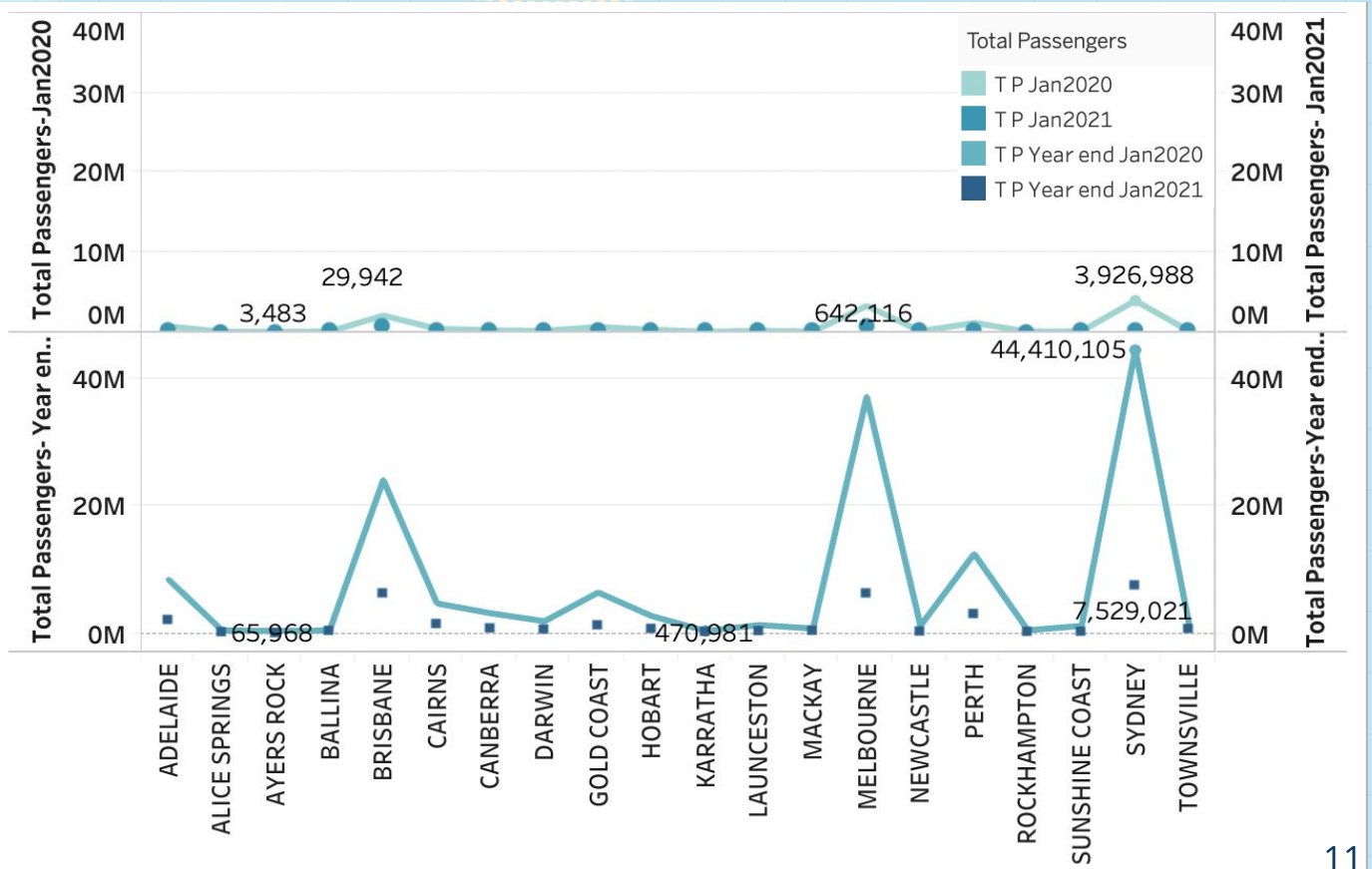


Total Passenger Movement(Jan 20 - 21)

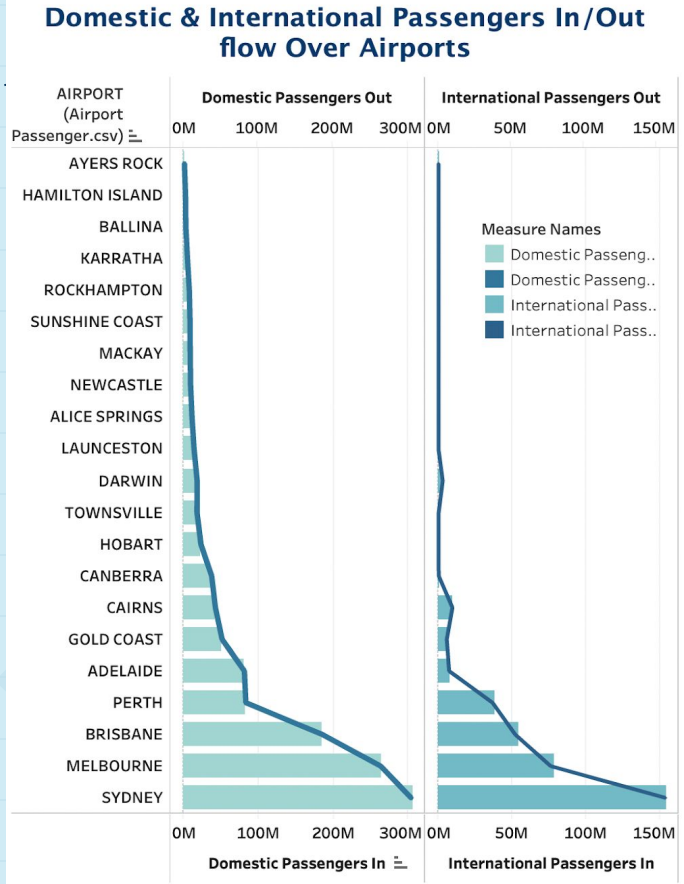
There is a significant downfall in the year 2021 than 2020 due to Covid-19

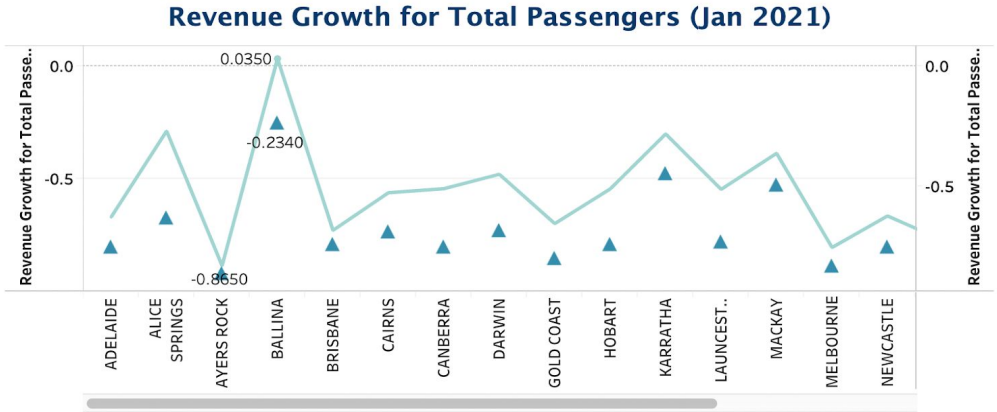
Airports such as Brisbane, Melbourne, Perth, and Sydney, have a better passenger count than other Airports.

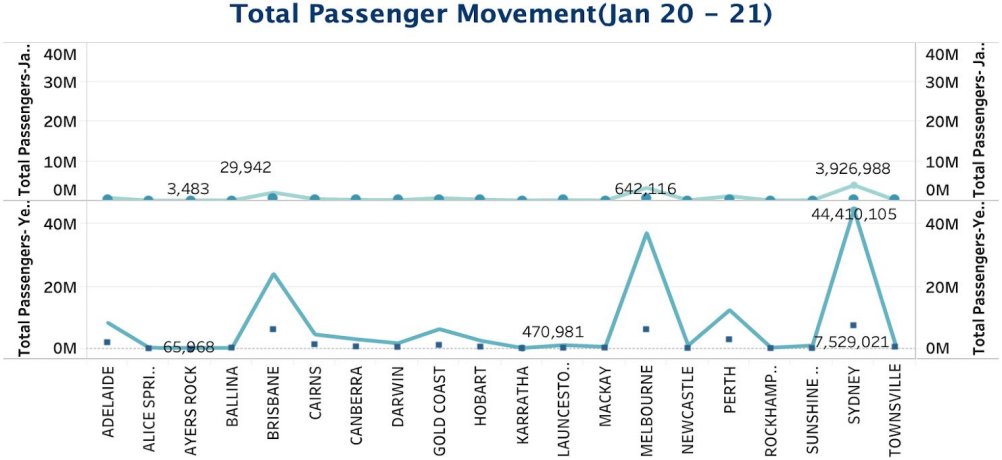
Melbourne records the second-highest passenger count around 37 million in Jan 2020 end, but when coming to 2021, the passenger counts near to 3 million.



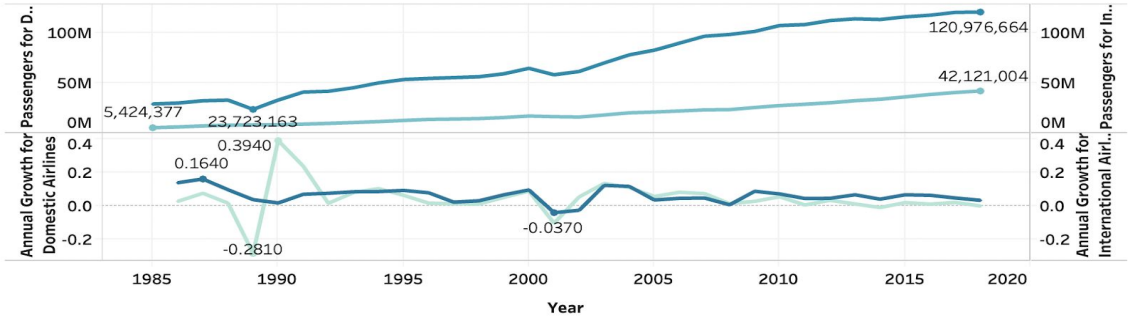
Airline Traffic Data Analysis for Top 20 Airports

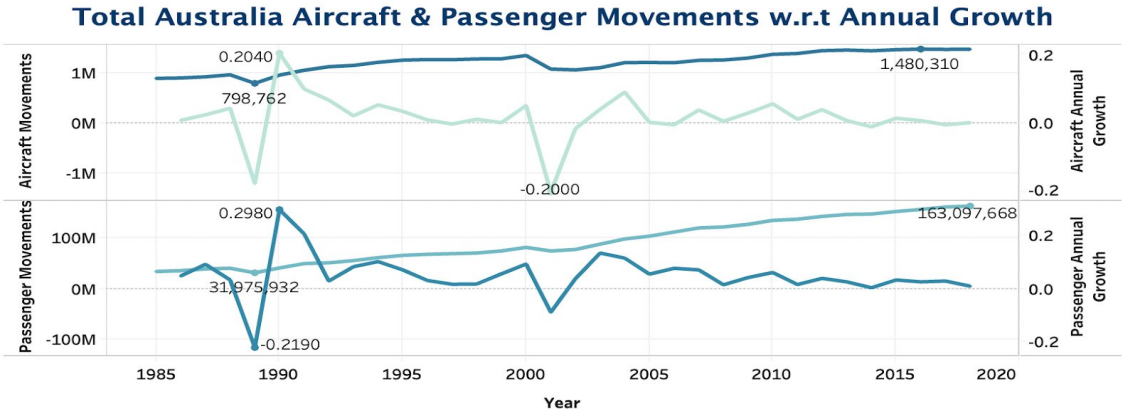


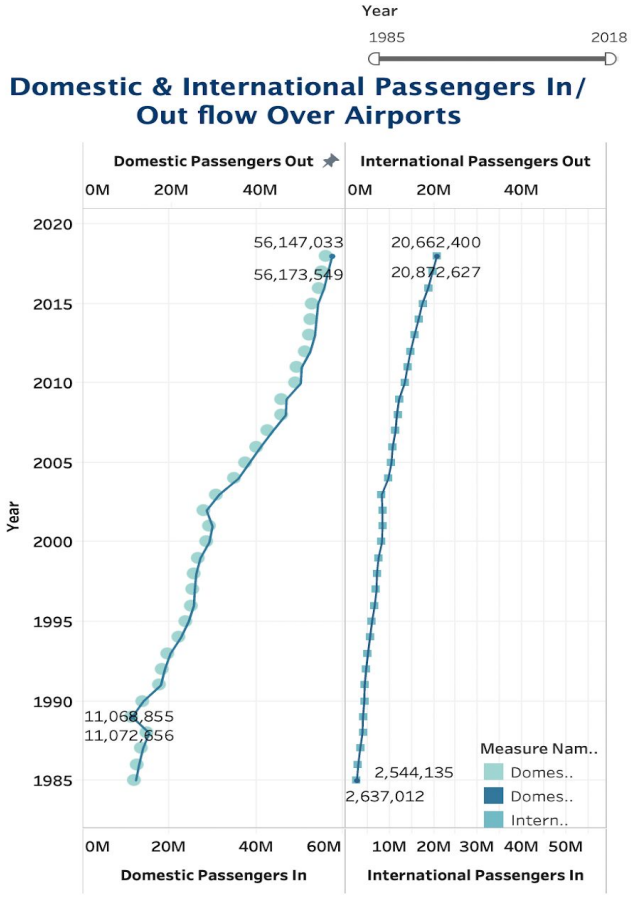




Airline Traffic Data Analysis Yearly Trend(1985-2020)







Actionable Insights

- Sydney Airport is the busiest airport, and it may reach its full capacity in few years.
- The expansion of certain terminals especially the domestic terminal should be considered to accommodate the ever-increasing passengers.

- Keeping in mind that the in/out flow of passengers will be increasing in the coming years, good retail stores, dining spaces also need to open to fulfill the needs of the travelers. These factors will add up in achieving a high retail revenue specially from the Sydney and Melbourne airports.

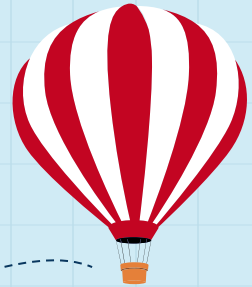
- The other airports who are not doing good in terms of revenue and passenger count should come up with a few strategies to attract customers/tourists.

- From the analysis, the annual growth for the year 2020 has gone down tremendously. Airport authorities should promote safe travel by promoting covid vaccinations and should take all the precautionary measures for the coming years.

References

1. **Airport Traffic Data**
   https://data.gov.au/data/dataset/airport-traffic-data

2. **Dashboard Done Right**
   https://www.tableau.com/learn/get-started/dashboards



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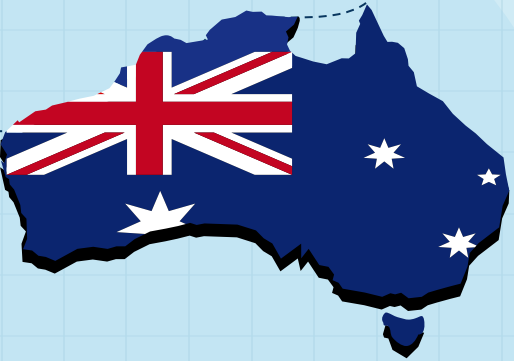

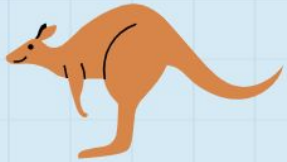

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