Objective:
To maximise the ability of current runway and parking infrastructures in coping with increasing throughput.

Approach
2 models were designed to study the relationship between runway throughput and occupancy level.

The first model involves the use of a static model, where only one factor is varied, the rate of either arrival or departure.

- Quantify throughput in terms of minutes
- Calculate the unused runway utilisation, that is, the amount of time that can repurpose for arrival or departures
- Apply Arrival Maximisation, which will allocate more arrivals to the unused runway utilisation

The second model is the dynamic model for which there are multiple factors that are varied.

- Identify periods with a negative overall schedule traffic
- Check Occupancy Level in the following hour to ensure that input will not exceed it
- Move rescheduled departures into the subsequent hour (not more than 20 aircrafts)
- Allocate runway utility to arrivals
- No. of inputs will be assumed to depart in the next hour

Results and Discussion
- For the static model, a total of 133 more arrival aircrafts can be allocated by simply maximising arrival to make full use of runway utility.
- For the dynamic model, 66 additional arrivals could be accommodated within the occupancy limit, with a total of 32 rescheduled departures.

Conclusion:
- The static model shows that untapped resources of runway utility can be optimised to increase overall throughput.
- The dynamic model shows that by rescheduling departures, the hourly arrival rate may be increased significantly due to increased utility of the runway.