

# Sustainable ATM in Singapore

16 July 2019

**CAAS**  
Civil Aviation Authority of Singapore

# Aviation in Singapore





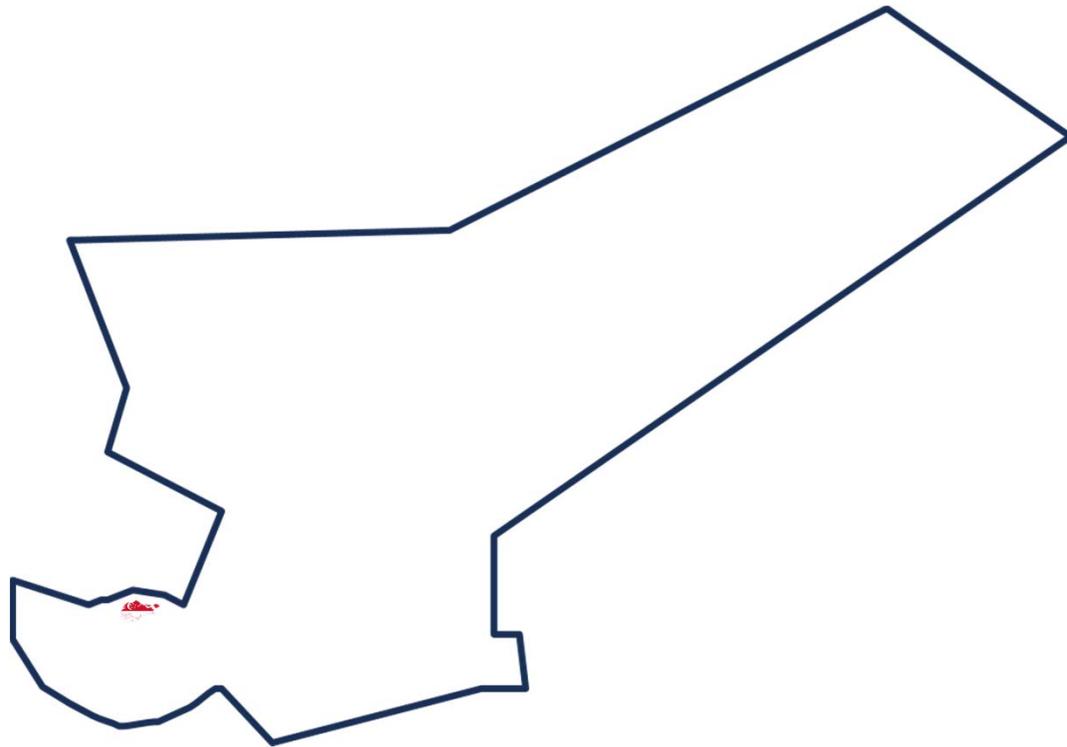


# Efficient Air Traffic Management (ATM)



# The Singapore Flight Information Region (FIR)

- 840,000km<sup>2</sup> or 325,000mi<sup>2</sup>
- 741,000 air traffic movements in 2018 - ALL international aviation



# Reducing fuel burn through efficient ATM

1. Less unnecessary holding
2. More direct routings

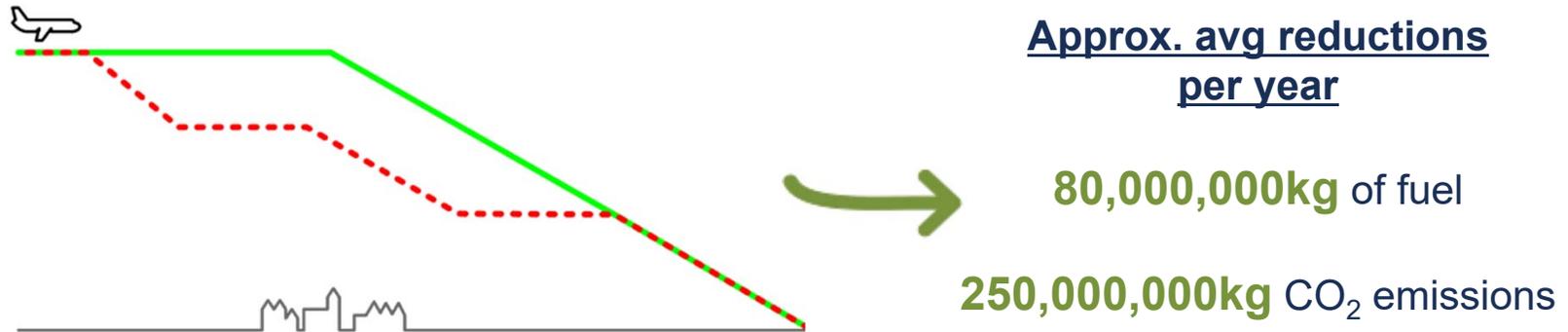
# Efficient ATM enables more predictability, less holding

- Regional Air Traffic Flow Management (ATFM) network
- Don't take off until you have to

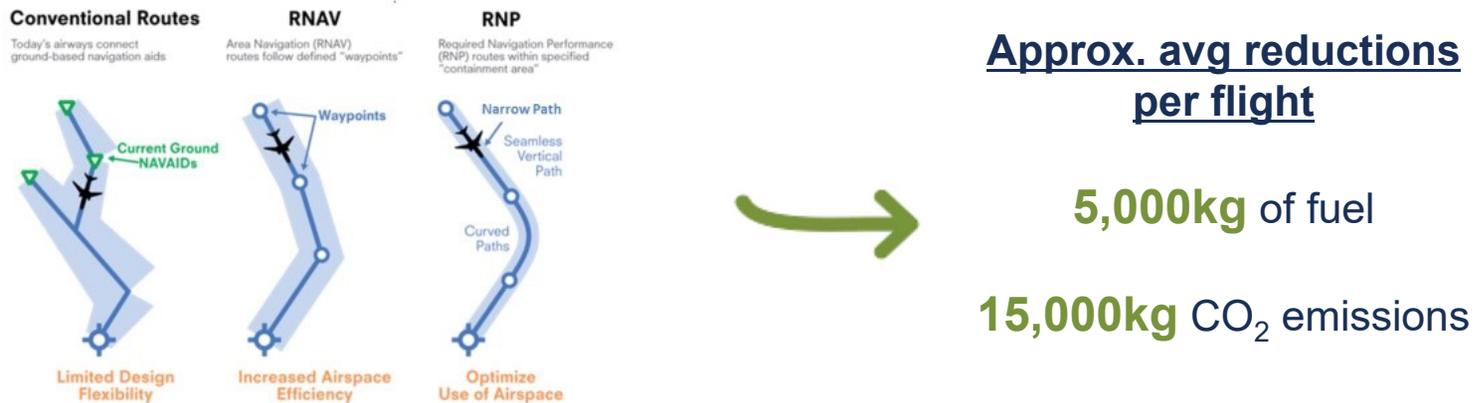


# Efficient ATM optimises flight paths

- Continuous climb and continuous descent operations



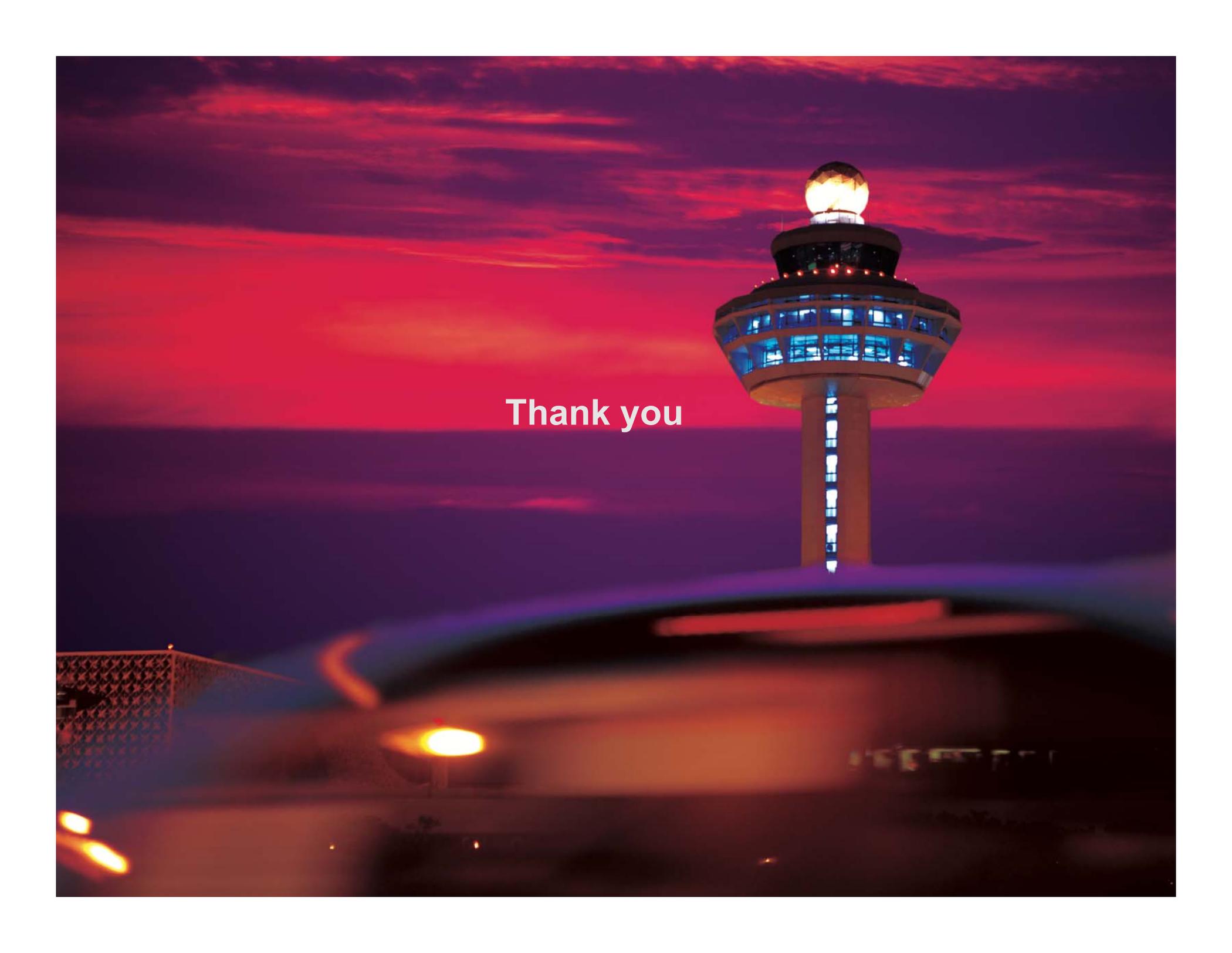
- Enhanced surveillance capabilities enable more efficient routes



# We still have much to look forward to in the future...

- Centre of Excellence for Air Traffic Management to explore new technologies
  - Air traffic flow analysis
  - Artificial intelligence
  - Further route optimisation
- Enhanced international partnerships and collaborations
  - Long-range ATFM with partners in the UK and New Zealand



A photograph of the Tower of the Americas in San Antonio, Texas, captured during a vibrant sunset. The sky is a mix of deep purple, magenta, and red. The tower's observation deck is illuminated with blue lights, and the top observation sphere glows with a warm yellow light. The tower's reflection is visible in the water below. The text "Thank you" is centered in white. In the foreground, there are blurred lights and a building with a decorative facade on the left.

Thank you