Network Management – Balancing demand and capacity of Australia's aviation network

Airservices occupies a unique position in the heart of Australia's aviation ecosystem, working closely with our airline/airport customers, community and industry to support the sustainable growth of aviation.

When it comes to Australia's aviation network, airspace and airports have limited capacity, akin to highways and city roads. Just like road traffic, air traffic can become congested. However, air traffic congestion is much more complex to coordinate, as we cannot simply stop aircraft.

Airservices' Network Coordination Centre (NCC) is tasked with managing the day-to-day demand for Australia's airspace and airports in close collaboration with all relevant stakeholders.

What is the process?

Step 1: Airlines send their flight schedules to the NCC the day prior to operations. Airports Coordination Australia (ACA), manages the allocation of slots for eight Australian airports, including Sydney, Melbourne, Brisbane and Perth, upon which airline flight schedules are then based.

Step 2: Airservices establishes the available airport capacity though a collaborative process with the airlines and the Bureau of Meteorology. Factors which impact available capacity include: adverse weather, including fog, thunderstorms and strong and/or gusty winds, airport and Airservices' infrastructure and systems unserviceability, including taxiway pavement failures, and Airservices' reduced service delivery.

Step 3: Airservices publishes this agreed-industry plan as a Ground Delay Program (GDP) to balance the demand with the available capacity, as established in the first two steps. The GDP instructs aircraft to wait on the ground for their turn to depart, aiming to reduce excessive airborne holding at the destination. This is a bit like traffic lights on a highway ramp restricting the flow of cars onto a busy road.

Throughout the day of operations, industry stakeholders work collaboratively to monitor the aviation network performance to respond to any events which put the network plan at risk. These include unforeseen adverse weather events and Airservices' reduced service delivery/infrastructure or system failures. In instances when these events impact the network performance to a sufficient degree to warrant action, an update to the GDP will be agreed-upon by industry.

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