



Changes to flight paths in Greater Vancouver Region and Southern Vancouver Island

Quick Facts about the NAV CANADA proposal

WHO ARE WE?

The core business of NAV CANADA is to provide air navigation services, primarily within Canada. NAV CANADA is responsible for helping aircraft safely navigate the 18 million square kilometres of Canadian airspace and the North Atlantic oceanic airspace under Canada's control. As one of the world's largest air navigation service providers, NAV CANADA typically oversees several million flights a year through a network of area control centres, air traffic control towers, flight service stations, flight information centres and navigation aids across the country.

As a not-for-profit corporation, NAV CANADA invests directly into its operations, people, and infrastructure to keep Canada's ANS as safe, efficient, and innovative as it can be. NAV CANADA is self-sustaining with revenue coming primarily from the fees charged aviation customers for our services. As part of its legislated responsibilities, NAV CANADA has been designated as the authority in Canada for providing aeronautical information services. This responsibility includes design, maintenance and publication of instrument flight procedures (including departure and arrival procedures).

Vancouver International Airport (YVR) is a diverse global hub that connects people, cargo, data, and ideas and serves as a platform for our community to come together and thrive. We are motivated by supporting regional economic development and making a positive difference in the lives of British Columbians. We do this with a focus on serving our passengers, partners, workers, and community through digital modernization, climate leadership, reconciliation, and financial sustainability.

WHAT IS NAV CANADA PROPOSING?

NAV CANADA is proposing changes to approach procedures at Vancouver International Airport including the addition of new satellite-based procedures, changes to some existing procedures, and changes to some of the arrival routes further away from the airport.

At Vancouver International Airport, the proposed new approach procedures will be deployed to both ends of the two main parallel runways: the north runway (08L/26R) and the south runway (08R/26L). The procedures will be used by aircraft equipped with the technology to conduct the procedures.

The broader airspace structure and existing arrival procedures for other runways will be adjusted to accommodate the new approach procedures but no changes are being proposed for departure procedures. Learn more about the specific procedure here.

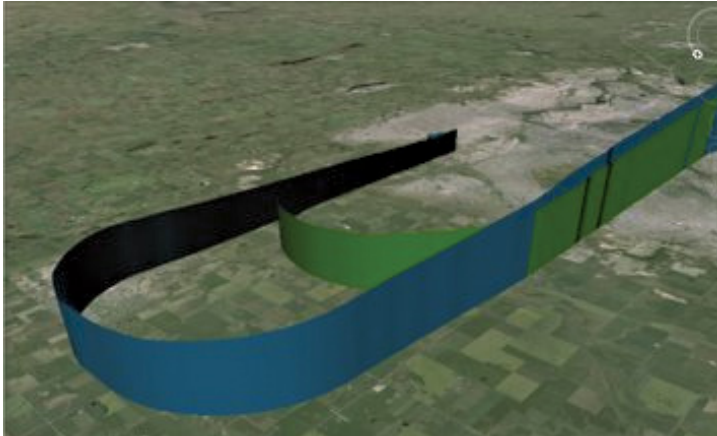
The new arrival routes are designed to meet strict Transport Canada design criteria to ensure a high level of safety. Given the local geography of the region, it is not possible to create new routes that completely avoids residential areas; however, careful consideration was given placing the new routes over industrial and commercial areas, bodies of water, and less populated areas where technically feasible.

**1 to 5
dB (A)**

is the noise reduction enabled by continuous descent operations, compared to a low-altitude level segment

WHAT ARE THE BENEFITS OF RNP AR?

Overall, the new procedures would result in fewer people being overflown at noise levels above 60 dB(A) (about the volume of a normal conversation), and enable 'continuous descent operations', which are known to be 1 to 5 dB(A) quieter compared to a low-altitude level segment. Aircraft using RNP AR will follow the defined flight path very precisely, and it supports environmental sustainability efforts by significantly reducing greenhouse gas emissions and delivering noise mitigation to many communities, while reducing flight times and improving operations.



HOW IS RNP AR DIFFERENT FROM EXISTING ARRIVAL PROCEDURES?

While many procedures in use today leverage satellite-based positioning, RNP AR assures that aircraft can fly a highly predictable and specific flight path. This means that airspace designers have some degree of flexibility as to the flight path location, allowing them to place arrival procedures away from people where these opportunities exist while still meeting strict Transport Canada airspace design criteria. It also often means being able to turn aircraft towards the airport sooner, reducing distance flown and associated emissions compared to more conventional approaches.

RNP AR systematically enables Continuous Descent Operations (CDO) for equipped aircraft with minimal intervention by air traffic controllers and pilots once they are established on an arrival procedure. CDO reduces noise by allowing aircraft to descend continuously and on a reduced engine setting; these procedures have been shown to be 1 to 5 dB(A) quieter when compared to a similar aircraft on a low altitude level segment.

It is estimated that overall approximately 40–50 percent of the aircraft operating at YVR are equipped and certified to fly an RNP AR procedure. This percentage varies based on aircraft type, origin airport/country, and airline operator; it is expected to grow gradually as airlines renew their fleets and acquire more modern and quieter aircraft.

WHAT DOES THIS MEAN FOR COMMUNITIES?

In addition to some reductions in Green House Gas emissions – which is a key focus of the industry and governments as they work to support greater environmental sustainability in the transportation sector – the procedures were designed to have aircraft overfly fewer homes where possible.

As many as 61,000 fewer residents may be overflown at noise levels above 60 dB(A) when the procedure is used compared to an existing approach procedure.

Despite the noise mitigation inherent in the proposal, it's important to note that entirely avoiding residentially populated areas is simply not possible and that some residents may observe aircraft operating more regularly in certain areas than they had before. Most areas surrounding the airport will continue to observe many of the aircraft operations that they do today, whether they are associated with arrivals or departures.

WHY ARE THESE PROCEDURES BEING PROPOSED?

There has been a significant shift in aviation technology over recent years with the advent of Global Navigation Satellite Systems (GNSS). The corresponding modernization of aircraft navigation and flight management systems has supported airspace modernization using Performance Based Navigation (PBN).

The current airspace structure was amended approximately 15 years ago but the underlying system is still based on historic traffic patterns derived from the location of ground-based navigation aids. As a result, this increases the need for airspace restrictions and constraints. The new satellite-based airspace environment will offer the opportunity to mitigate many of these constraints and leverage new technology to improve the overall safety and efficiency of the entire region.

