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

Changes in communities on Vancouver Island or along the Sunshine Coast

INTRODUCTION

The objective of the Vancouver Airspace Modernization Project (VAMP) is to enhance safety, modernize procedures, and ensure the airspace structure can accommodate the demand for air services. The project proposes changes to the instrument approach procedures for Vancouver International Airport (YVR) affecting a broad area around Metro Vancouver, with some places more affected than others.

While the focus of the Project was mainly on designing and introducing new instrument approach procedures for Vancouver International Airport, some procedures will remain the same – such as departure procedures and procedures used by aircraft operating under Visual Flight Rules (VFR) (such as helicopters or floatplanes).

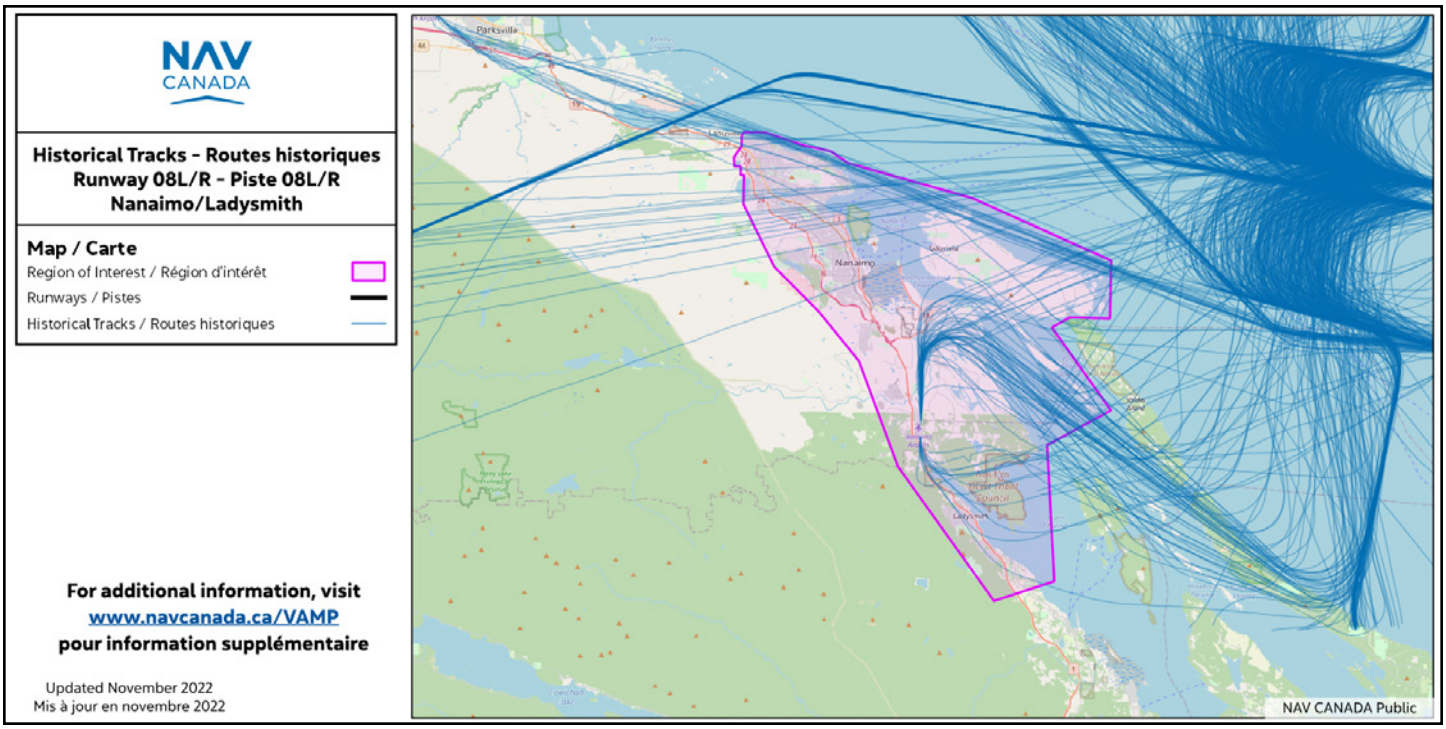
The proposed RNP AR procedures will allow aircraft to line up with the runway sooner than when using a typical procedure today. As a result, aircraft will fly a shorter distance and consume less fuel, and will also be operating on a Continuous Descent profile, which enables an aircraft to descend on a quieter reduced engine setting.

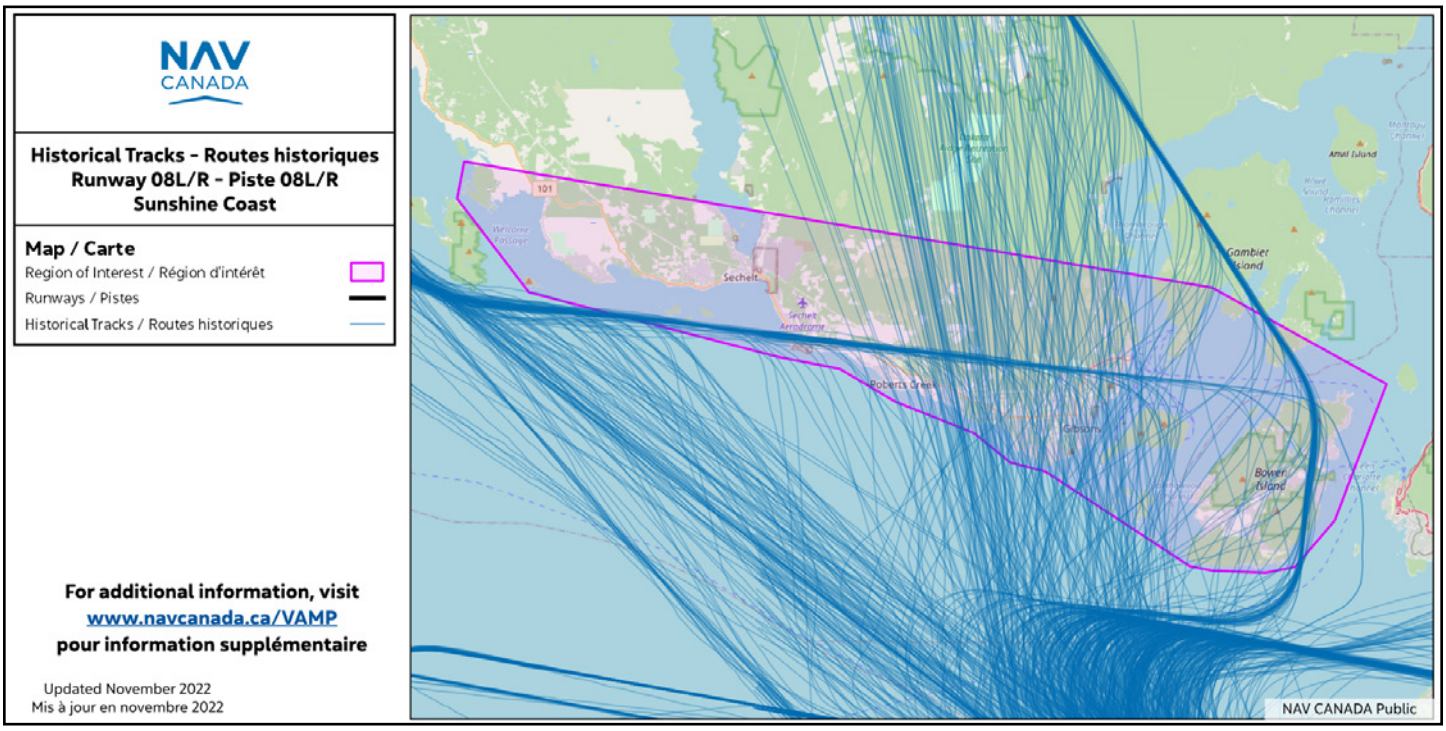
This document provides information on current procedures and flight paths as well as proposed changes affecting communities located on Vancouver Island or along the Sunshine Coast.

CURRENT OPERATIONS

For context, the images below show samples of arriving traffic over a few busy days in 2019 with existing procedures in place. The active runway is determined by wind conditions at the airport – for safety reasons aircraft must land and take-off into the wind. The first image shows aircraft overhead the Nanaimo area arriving to YVR. The second image shows aircraft in the vicinity of the Sunshine Coast arriving to YVR.

COMMUNITY-SPECIFIC MAPS:





As can be seen, aircraft do not all follow the exact same path when they are arriving and some are often directed (or "vectored") by air traffic control to operate off the procedures. This is done to ensure safe sequencing or provide for more direct routing and this practice will continue in the future. Determining which end of the runway is used is based on many factors including wind direction and speed. How often each runway direction is used will not change directly as a result of the proposed approach procedures.

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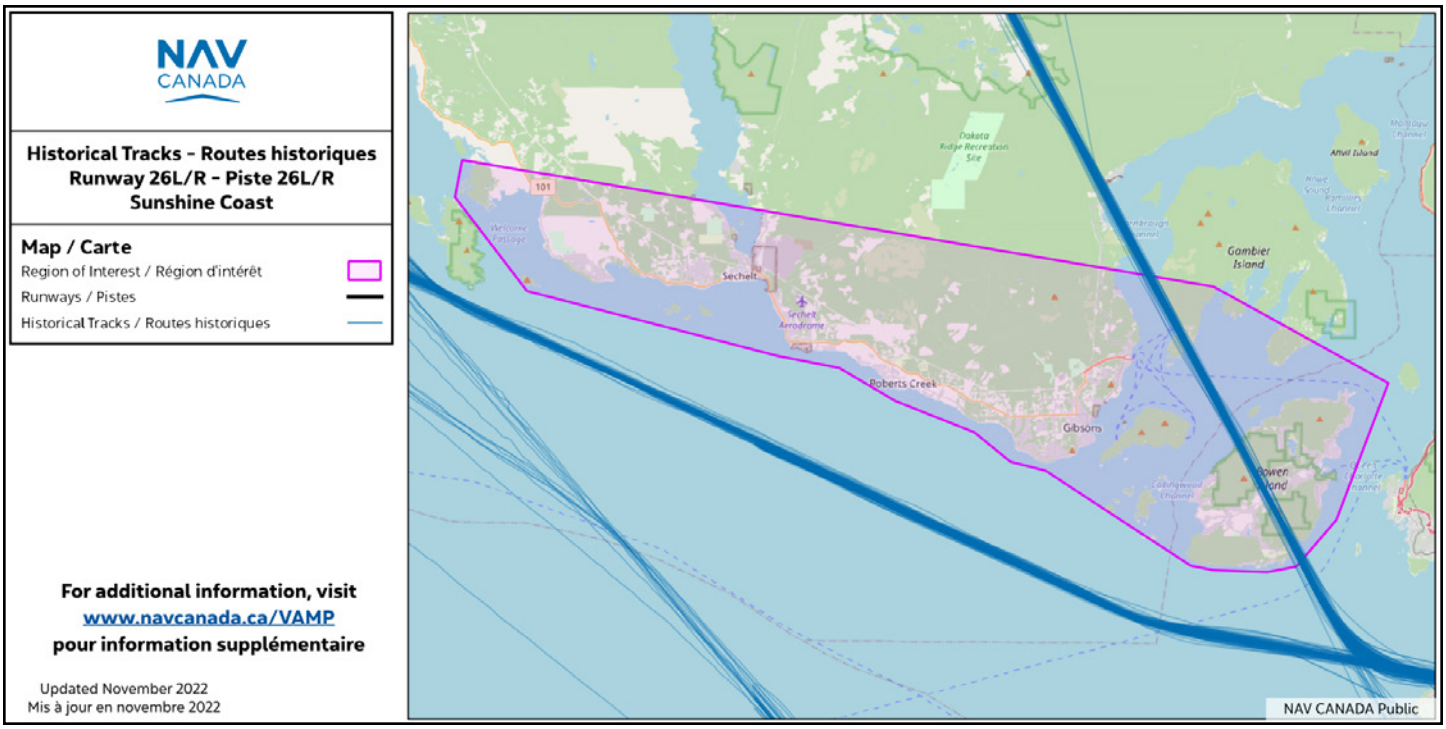

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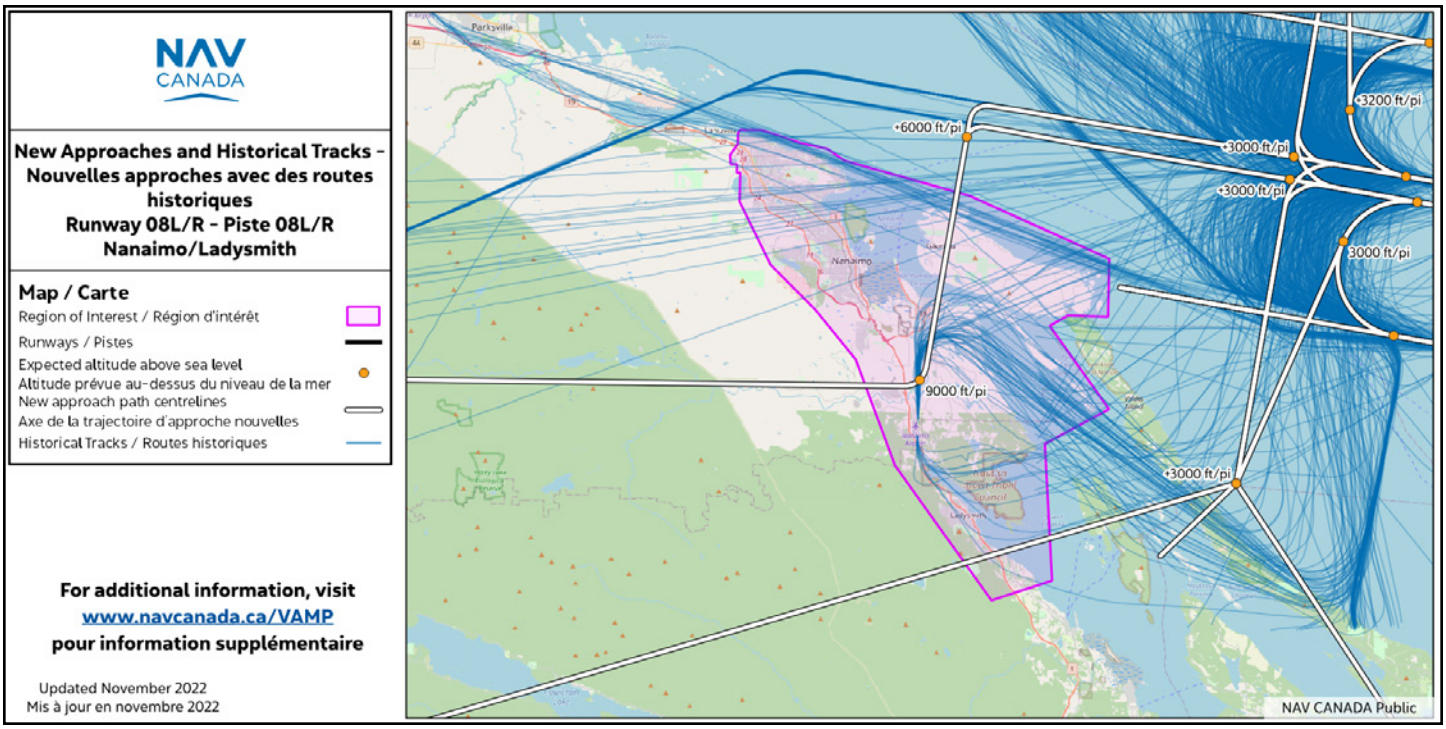
COMMUNITY-SPECIFIC MAPS:

PROPOSED CHANGES

NAV CANADA is proposing changes to approach procedures at YVR including changes to existing procedures, 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.

A key element of the project is the introduction of RNP AR approach procedures which require some consequential changes to air traffic control procedures and the routes aircraft follow when they are arriving at YVR. Changes in routes at or near the airport also cause upstream changes to the routes when aircraft are still further away and at higher altitudes.

The images below show the location of the arrival routes along with the historical aircraft tracks shown in an earlier image. Another way to think about it is the aircraft shown in blue using the old routes would in the future fly along the new routes.



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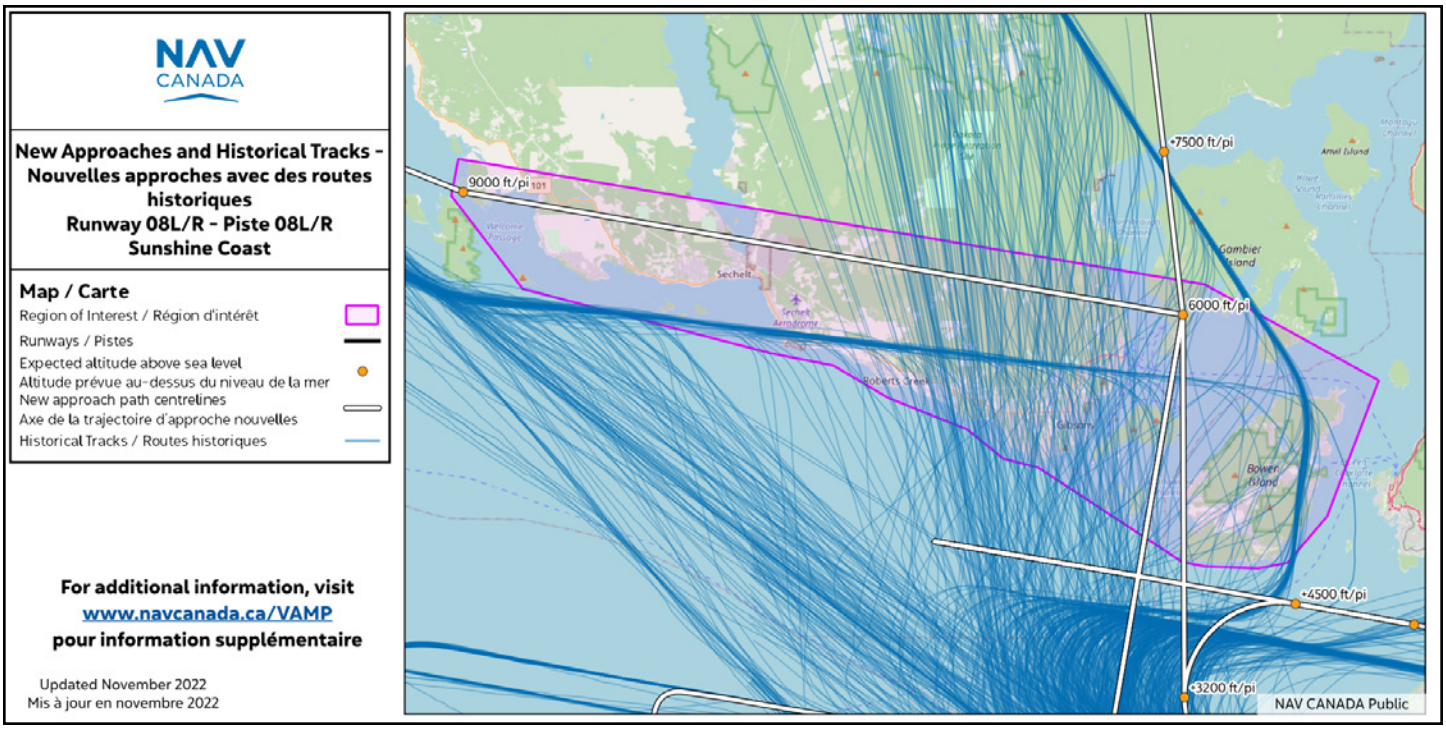
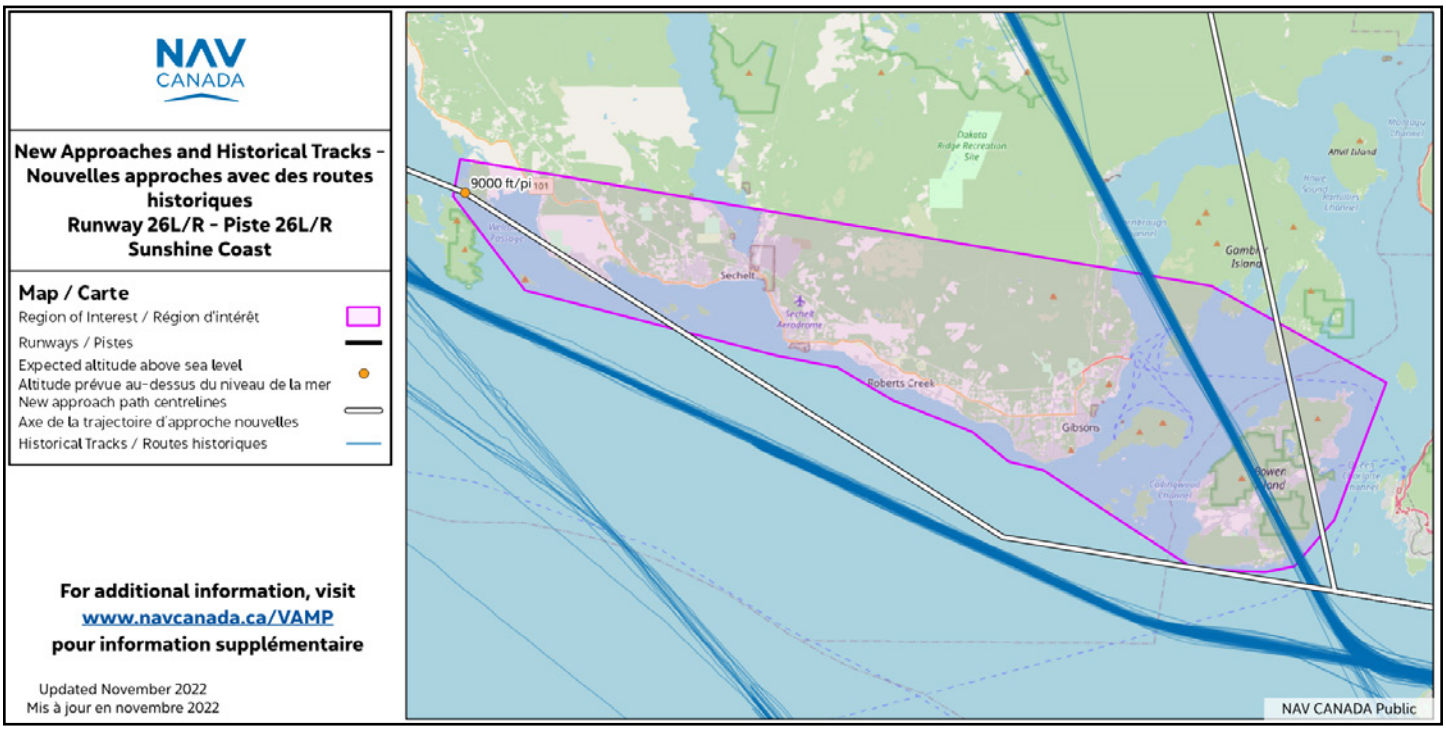




COMMUNITY-SPECIFIC MAPS:

WHAT IT MEANS FOR COMMUNITIES

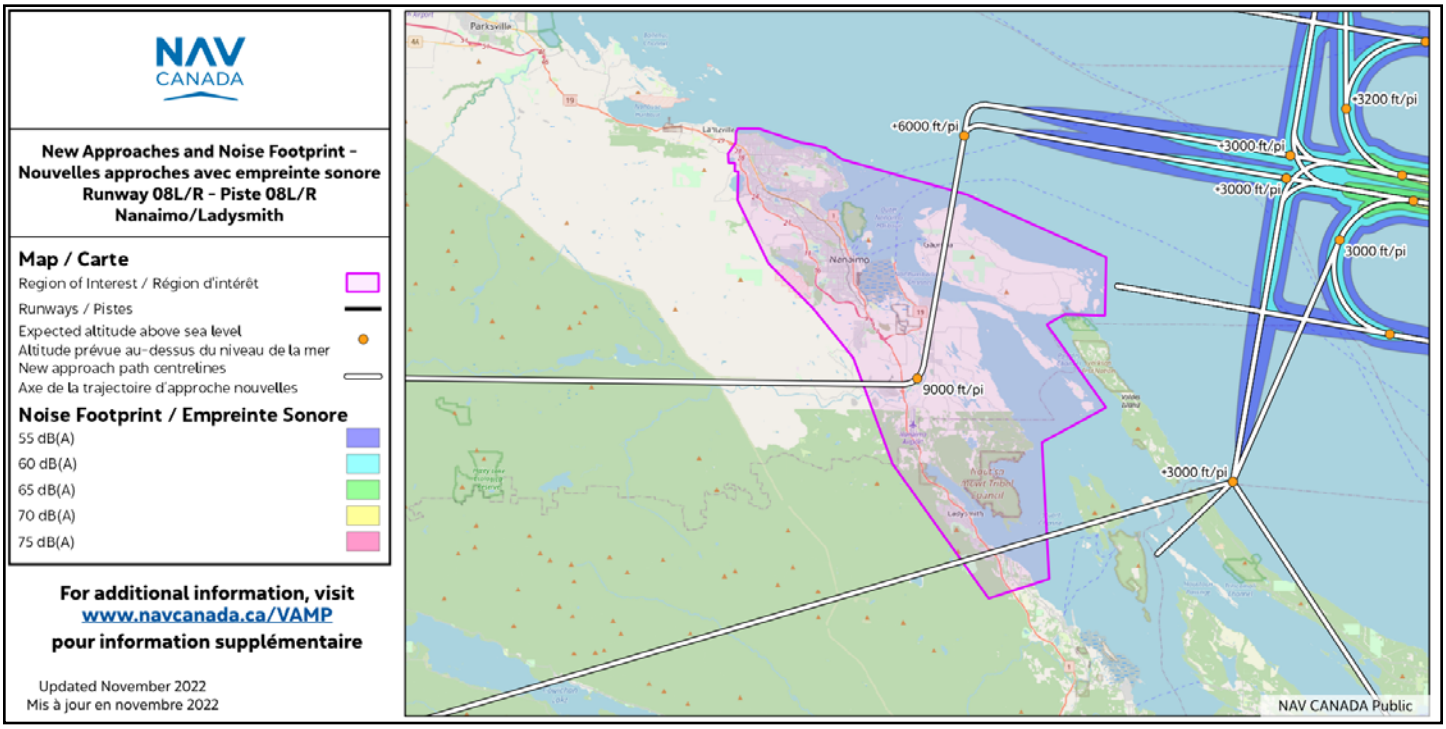
NAV CANADA assembled detailed information on aircraft operations for arrivals to YVR. This included specific aircraft fleet mix information such as aircraft type, arrival and departure times, and routes of flight. Using this data, noise modeling was conducted to better understand the noise footprint associated with the proposed procedures. Departures from YVR are excluded from noise modeling as there are no proposed changes to departure procedures.

When operating outside certain categories of controlled airspace, aircraft operating under Visual Flight Rules (VFR) are not always required to be in contact with air traffic control. Because these aircraft operate at the pilot's discretion along non-defined highly variable routes, they have also been excluded from noise modeling.

The design of instrument approach procedures must meet stringent national and international standards to meet a high level of safety and all efforts were made to mitigate noise whenever it was safe and technically feasible. Despite incorporating a number of noise mitigation measures into the proposal, it is important to note that entirely avoiding overflight of 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.

The images below show the noise "footprint" of a Boeing 737-800–a commonly used aircraft at YVR–conducting the arrival and approach procedure. Maximum sound level–expressed in decibels as dB(A)–is shown at various intensities using colours. Single-event noise level metrics represent the maximum noise level at a receptor location, considering a particular set of aircraft operations.

Most of the areas shown fall below the 55 dB(A) noise threshold for noise modeling (similar volume to a normal conversation) due to the higher altitudes of aircraft in these areas as they approach YVR.



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