
Runway End Safety Area (RESA) – Phase 2 – North Runway

DISCUSSION GUIDE





YVR's RESA Consultation

ABOUT YVR

Vancouver International Airport (YVR) is Canada's second busiest airport. It is managed by Vancouver Airport Authority, a community-based, not-for-profit organization. YVR is a key hub between Asia and the Americas, connecting people and businesses to more than 120 non-stop destinations worldwide.

In 2016, YVR served a record 22.3 million passengers – a number that continues to grow, and accommodated over 319,000 aircraft movements including float planes and helicopters. More than 23,000 people work at YVR, an important economic contributor that generates \$5.3 billion in total gross domestic product and \$11.7 billion in total economic output into the Canadian economy annually.

In 2016, YVR received CAPA Centre for Aviation's prestigious Airport of the Year Award and in 2017 was voted Best Airport in North America for the eighth consecutive year in the Skytrax World Airport Awards: a global benchmark of airport excellence.

RUNWAY FACTS

→ YVR has three runways:

- South Runway
(3,505 metres long)
- Crosswind Runway
(2,225 metres long)
- North Runway
(3,030 metres long)

→ YVR also considers the Fraser River as a runway. It supports float plane activities as part of YVR's south-side operations.



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WHY RESAs?

WHAT ARE RESAs?

RESA stands for Runway End Safety Area. It is a specialized area at the end of a runway designed to protect aircraft from damage in the unlikely event of an undershoot or overrun which in turn protects passengers and crew from injury and the aircraft from extensive damage. RESAs are designed to support the weight of aircraft without risk of major structural damage to the aircraft. RESAs also provide more ease of access for emergency-response vehicles. A RESA does not extend the runway length for aircraft arriving and departing. It is similar to a shoulder on a highway, which provides additional safety to motorists.

WHY BUILD RESAs?

Excellence in safety is at the core of all decisions made at YVR. YVR is proactively adding RESAs to all its runways to meet the international standard of 300 metres, which is anticipated to exceed the pending Canadian standard.

An undershoot occurs when a landing aircraft touches down before reaching the runway.

An overrun occurs when an aircraft travels beyond the end of the runway during take off or landing.

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CONSULTATION PROCESS

In 2014, YVR consulted with the public and key stakeholders on Phase 1 of the RESA project, which included the design and construction of 300 metre RESAs on both ends of the South and Crosswind Runways. Construction on the South Runway RESAs began in the summer of 2015 and will be completed by the end of 2017.

As Phase 1 of the RESA project nears completion, we are now planning for Phase 2 of the RESA project as we add RESAs to the North Runway. We want to share with you the details of this project and collect public input.

HOW TO PARTICIPATE

We recognize the value and importance of our stakeholders and community to provide input on major projects prior to construction. There are multiple ways the public can provide input on the construction of Runway End Safety Areas on YVR's North Runway. The consultation period runs from April 10 to May 23, 2017. Here's how you can participate:

- Open House – A drop-in style, informal meeting accessible to all members of the community. The Open House is scheduled to take place on April 24, 2017.
- Stakeholder Meetings – Specific stakeholder groups will be invited for facilitated discussions. Groups include the Environmental Advisory Committee, Airline Consultative Committee, Aeronautical Noise Management Committee and local government and its representatives.
- Feedback Form – The community is encouraged to complete the feedback form, available online at yvr.ca/resa or in person at one of our consultation events.
- Email – Stakeholders and community members are encouraged to email questions to community_relations@yvr.ca, and a member of the RESA team will answer your questions.

JOIN OUR OPEN HOUSE!

April 24, 2017

5:00 p.m. – 7:00 p.m.

Graham Clarke Atrium

Level 3, Domestic Terminal Building

Vancouver International Airport



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RESA PHASE 2

PROJECT DETAILS

In 2016, YVR began looking at options to build Runway End Safety Areas on the North Runway. YVR is now consulting on selected options to accommodate RESAs on the North Runway. This multi-year project will see RESA Phase 2 construction take place each summer from 2018 to 2020.

Although there is limited land on both ends of the North Runway, we have eliminated options that do not allow for 300 metre RESAs. The North Runway is used by our largest aircraft and we are committed to our role as an international hub with an unwavering commitment to safety.

In Phase 1 of our RESA project, the community asked that we address long-term noise and air quality impacts for nearby residential areas as well as impacts to the foreshore and migratory birds. They also expressed concerns about building RESAs or a runway extension through our dyke system because of potential impacts to the foreshore. We used this feedback to inform early decision-making in the Phase 2 RESA planning.

FAST FACTS

- North Runway RESA option development began in 2016
- A variety of options were considered in 300m lengths
- A multi-departmental team evaluated RESA options and reached a consensus recommendation on preferred options
- The preferred options were presented to YVR's Environmental Advisory, Airline Consultative and Aeronautical Noise Management Committees.



In addition to our Phase 1 RESA consultation, in the fall of 2016 we were consulting with our communities about YVR's 2037 Master Plan Phase 2. Feedback from the community showed support for YVR to building infrastructure incrementally when needed to enhance safety and support our growth.

As part of early design work on Phase 2, we applied the community feedback and identified and analyzed several possible RESA options. We explored options that included a runway extension to the west through the dyke into the foreshore but we decided this was not an option for further consideration based on cost, current demand and community input during Phase 1.

We also explored the option to include a runway extension at the east end of the North Runway. In addition to examining options for RESAs on the North Runway, the assessment of aircraft performance included determining the benefits of whether we should extend the North Runway as part of the RESA project.

The current length of the North Runway is 3,030 metres compared to the South Runway which is 3,505 metres. Adding more length to the North Runway increases efficiency, allows for more flexibility in the use of the runway system and in turn supports sustainability goals to reduce aircraft GHG emissions. We do not recommend this extension, but will revisit this in the future if and when we see the need for longer runway length.

The final options for the North Runway best maintain YVR's strong operational, financial and environmental performance.



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NORTH RUNWAY RESA OPTIONS

YVR used the following criteria to comprehensively evaluate RESA options for the North Runway.

The criteria used to evaluate the options include:

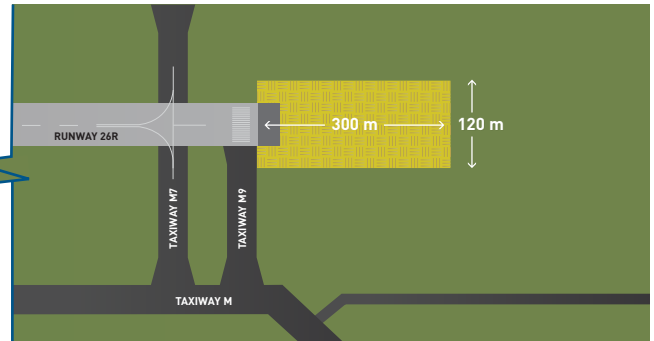
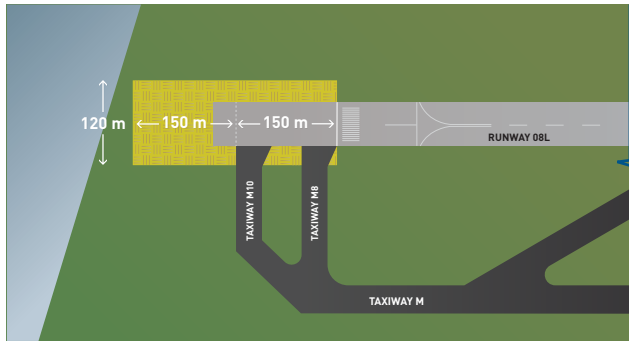
- Safety
- Sustainability
 - Land use
 - Emissions
 - Noise
 - Community Impact
- Cost
 - Construction
 - Operations
- Operational efficiency
- Runway performance



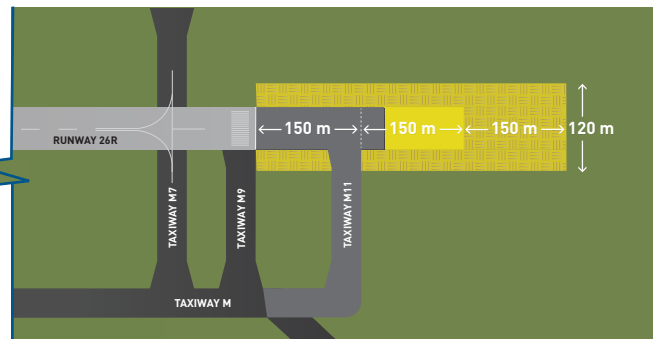
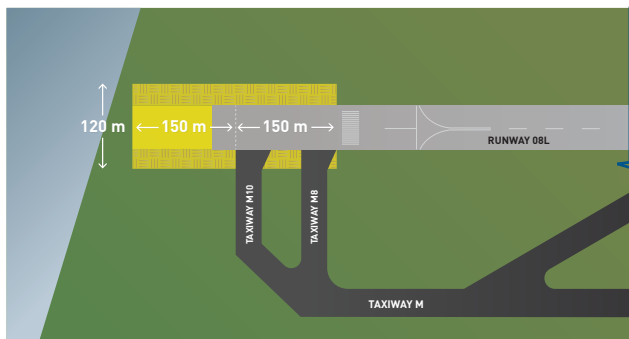
West End RESA

East End RESA

OPTION 1



OPTION 2



PREFERRED OPTION

Based on the evaluation criteria, YVR recommends Option 2 because it helps ensure we maintain runway performance for our airline partners while planning for potential future needs. This option also takes into account community and stakeholder consultation feedback from Phase 1.

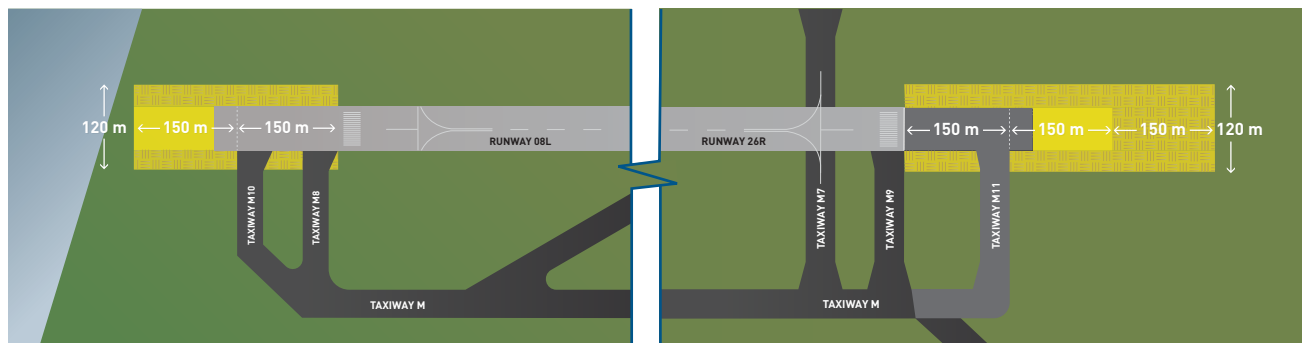
YVR recommends Option 2 for the following reasons:

- Option 2 results in no perceptible changes to noise.
- Operating and maintenance costs of Option 2 would likely be similar to today.
- Option 2 results in runway capacity similar to today.
- Option 2 provides YVR options for a future runway extension
- The existing Take-off Run Available (TORA) on Runway 08L and on 26R is maintained at 3,030 m.

TAKE-OFF RUN AVAILABLE

- The length of runway declared available and suitable for the ground run of an airplane taking off.

LEADING OPTION – OPTION 2





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BEING A GOOD NEIGHBOUR

NOISE CONCERNS?

→ Email: noise@yvr.ca

→ Phone: 604 207 7097

CONSTRUCTION AND NOISE IMPACTS

YVR's commitment to its neighbouring communities includes managing airport noise to balance the community's need for safe, convenient 24-hour air travel with enjoyable urban living.

Building RESAs on the North Runway is a multi-year project. As the North Runway is typically closed in the evenings, there will be little to no change to normal runway usage at night and construction noise levels will also be minimal and is not anticipated to be significantly perceptible to local area residents.

ENVIRONMENT

YVR strives to address all environmental and social impacts associated with airport development.

Environmental factors were considered during the initial evaluation of RESA options. Options with significant environmental impacts to sensitive aquatic habitats were eliminated.

All of the options are located entirely on airport property and no sensitive environmental features or habitat will be affected by any of the proposed options. A detailed environmental review of the selected option will be conducted and will address a variety of components including:

- Soil quality → Fish and wildlife → Traffic
- Surface water → Air quality → Archaeological resources
- Vegetation → Noise



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STAY INFORMED

YVR is committed to providing accurate and timely information. Please let us know how best to keep you informed about the North Runway RESA construction. Your input is a valuable part of our process.

KEEP IN TOUCH

We encourage you to get involved and ask questions.

→ Phone: **604 276 6772**

→ Email:
community_relations@yvr.ca

→ Website: **yvr.ca/resa**









Beyond, Every Day.



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