

Billy Bishop Toronto City Airport Airfield Rehabilitation Program April 3, 2019



PORTS
TORONTO

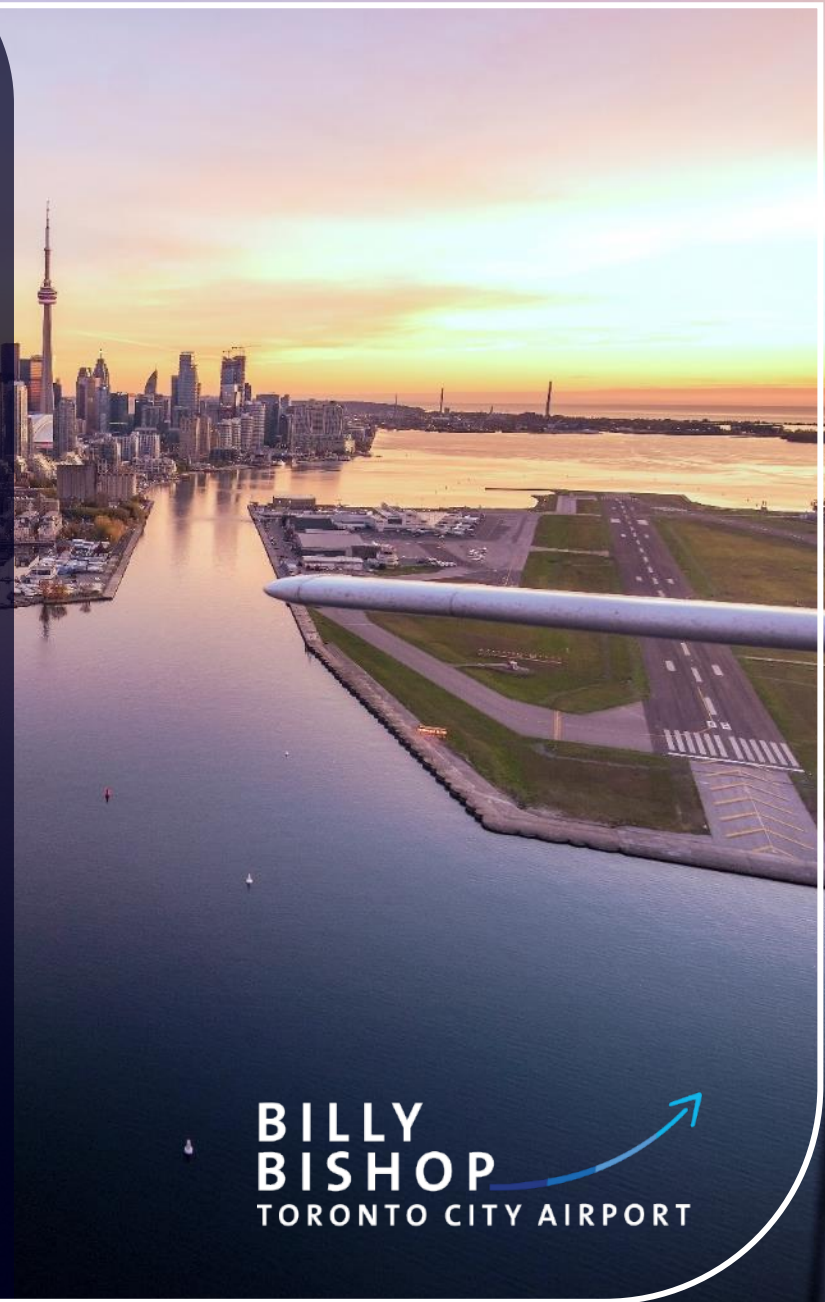
PORTS TORONTO

- Billy Bishop Toronto City Airport, owned and operated by PortsToronto, is located on an island minutes from downtown Toronto and on the southern edge of a thriving mixed-use neighbourhood.



Billy Bishop Toronto City Airport

- Served 2.8 million passengers in 2018 and is Canada's ninth-busiest airport.
- Offers service to more than 20 cities in Canada and the U.S., with connection opportunities to more than 80 international destinations via our airlines' networks.
- Billy Bishop Airport is a key international gateway and economic driver, generating more than \$470 million in Gross Domestic Product (GDP) each year.



**BILLY
BISHOP**
TORONTO CITY AIRPORT



Airfield Rehabilitation Project

- Completed September 2018.
- Significant three-year project included:
 - ✓ Complete resurfacing of the airport's aging runways, taxiways and apron;
 - ✓ Grooving of the main runway;
 - ✓ 100 per cent LED lighting and signage retrofit; and,
 - ✓ Construction of a Ground Run-up Enclosure (GRE) designed to dampen noise associated with high-power aircraft engine ground run-up operations.



Environmental Benefit

Ground Run-up Enclosure: Effective Mitigation of Noise Pollution

- Three-sided open top facility effectively absorbs noise with specialized acoustic panels lining the interior walls.
- Facility has immediately and significantly reduced acoustic impact of engine run-ups on the surrounding community.
- 161 noise complaints related to engine testing in 2013 vs 0 in 2018.
- Design requirement aimed to reduce noise impacts by 15db. Actual acceptance tests show reduction of 18db, exceeding requirements by 20 per cent.

The image is a composite. The left half shows a night view of the Toronto skyline, featuring the CN Tower and various city lights reflected in the water. The right half shows a dark road at night with white dashed centerline markings and a small red light reflecting off the road surface.

Environmental Benefit

LED Retrofit: Reduced Energy Consumption & Improved Safety

- Lighting retrofit has reduced energy usage by 75 per cent.
- New centerline lighting provides pilots with additional guidance on approach; improved safety during periods of low visibility.



Sustainable Design

Runway Grooving

- Newly grooved runway creates more friction, reducing emissions.
- Grooving directs water on runways more quickly, reducing potential for flooding and aircraft hydroplaning.
- Design element put to the test during Toronto Island's record-breaking flooding in spring 2017; airport operations were largely unaffected as runways remained dry.

A photograph of a Porter Airlines aircraft on a runway. In the background, the Toronto skyline is visible, including the CN Tower. The image is split vertically: the left side shows the full scene, while the right side is a dark blue overlay containing text.

Sustainable Implementation

- Overall project plan incorporated multiple individual project elements into single construction contract; reduced overall impacts of construction.
- Sustainable Procurement Policy sought local business and contractors who shared our commitment to sustainability.
- Quantity of earthworks required for project reduced through specific pavement design strategies; re-use of quality granular material from existing pavement structure.
- Large quantity of asphalt millings re-used in construction of new facilities such as airside perimeter roads.

An aerial night photograph of Toronto, Canada, showing the city skyline, the airport, and the surrounding water. The city lights are visible in the background, and the airport is in the foreground. The image is used as a background for the slide.

Challenges

- Geography. Airport located on Toronto Island steps from a thriving community and waterfront.
- Single runway: No option to close down or alternate runway to accommodate construction work.
- One of most noise-restricted airports in North America.
- Construction work occurred at night when airport closed to commercial operations; goal to complete work without disrupting community.
- Continue to accommodate overnight emergency Medevac flights.
- Construction site to be fully operational every morning by 6:45am to maintain operations.

A photograph of a Porter Airlines aircraft on a runway. The plane is white with a dark tail and the word "porter" on the side. In the background, the Toronto skyline is visible, including the CN Tower. The foreground is a grassy field with a gravel path.

Effective Implementation

Virtually Invisible to Passengers and the Community

- Most complicated project ever undertaken at airport.
- One, six-minute delay in operations over course of three-year project.
- Only two community complaints related to construction lighting.

A photograph of a Portair aircraft on a grassy field with the Toronto skyline and the CN Tower in the background. The image is split vertically: the left side shows the full scene in daylight, while the right side is a dark, semi-transparent overlay containing text.

Community Engagement

- Community outreach strategy commenced well in advance of project start.
- Through comprehensive community engagement, developed innovative measures and policies to best mitigate potential construction-related disturbances such as noise, emissions, and excessive lighting.



Innovative Solutions

Barging Operation

- Barged materials to site via water, avoiding neighbourhood roads.
- Operation eliminated noise, traffic and emissions in surrounding airport community.
- Removed equivalent of approximately 6,000 trucks off community streets.

Innovative Solutions

Mitigating Noise and Lighting Impacts

- Construction lighting cast downwards and away from city to avoid disturbing neighbours.
- Policy implemented to reduce use of vehicle and equipment back-up alarms to further avoid noise disturbances.



A photograph of a Portair aircraft on a grassy field with the Toronto skyline and the CN Tower in the background. The aircraft is white with 'portair' written on the side. The CN Tower is prominent in the background, and the city skyline is visible behind it. The foreground is a green grassy field with a gravel path.

Community and Stakeholder Engagement

Comprehensive engagement strategy included:

- Individual briefings for representatives from all levels of government.
- Project specific website updated weekly to provide public, media, partners and tenants with program related information.
- Town Hall style public meetings held; included live Q&A, demonstrations, comparative photo renderings etc.
- Worked closely with First Nations communities to ensure no evidence of archaeological materials on GRE site.

Partners in Excellence

- Ongoing, daily collaboration with carriers, tenants and partners vital to smooth implementation and success of program.



Partners in Excellence

- Successfully accommodated all Medevac flights despite nighttime work.
- Entire apron reconstructed without any closures or delays to gate operations.
- No incursions or any significant safety violations.



An aerial photograph of the Toronto skyline at sunset. The city's skyscrapers are silhouetted against a vibrant orange and yellow sky. Lake Ontario is visible to the left, with a small island in the distance. The image is used as a background for the slide, with a dark blue overlay on the right side where the text is located.

Cost Effectiveness

- Project completed on budget; cost of \$35 million.
- Paid for by PortsToronto through Airport Improvement Fees and not taxpayers.
- Value and efficacy of program proven by overwhelmingly positive results.



Applicability: Case Study for Urban Airports

- Innovative program serves as case study for other urban airports looking to develop similar programs to mitigate the impacts of operational related disturbances on passengers, the community and the environment.
- Demonstrates commitment to investing in long-term future of the airport while conducting business with respect for the environment and the community.

An aerial photograph of an airport taken during sunset. The sun is low on the horizon, casting a warm orange glow over the water and the airport's landscape. The airport features a long runway, taxiways, and several grassy fields. In the foreground, there is a large hangar and a parking lot with several small aircraft parked. The word "Questions?" is overlaid in the center of the image in a large, white, sans-serif font.

Questions?

An aerial photograph of the Toronto skyline at sunset. The city's skyscrapers, including the prominent CN Tower, are silhouetted against a vibrant orange and yellow sky. The city is situated along the waterfront, with a large body of water in the foreground. To the right, a runway and taxiway of an airport are visible. The water reflects the warm colors of the sunset. The text "THANK YOU" is overlaid in white, bold, sans-serif capital letters in the center of the image.

THANK YOU