

Toronto Pearson Update: Our Healthy Airport of the Future



PRE-COVID: A NATIONAL ECONOMIC ASSET CREATING REGIONAL ECONOMIC BENEFITS

50,000

direct jobs
at Pearson

300,000

jobs in the Airport
Employment Zone

2nd

largest employment
zone in Canada

\$600M +

procurement
from Ont.
businesses

\$42 billion

(6%) of Ontario's GDP

\$5.4 billion

in tax revenue
from tourism

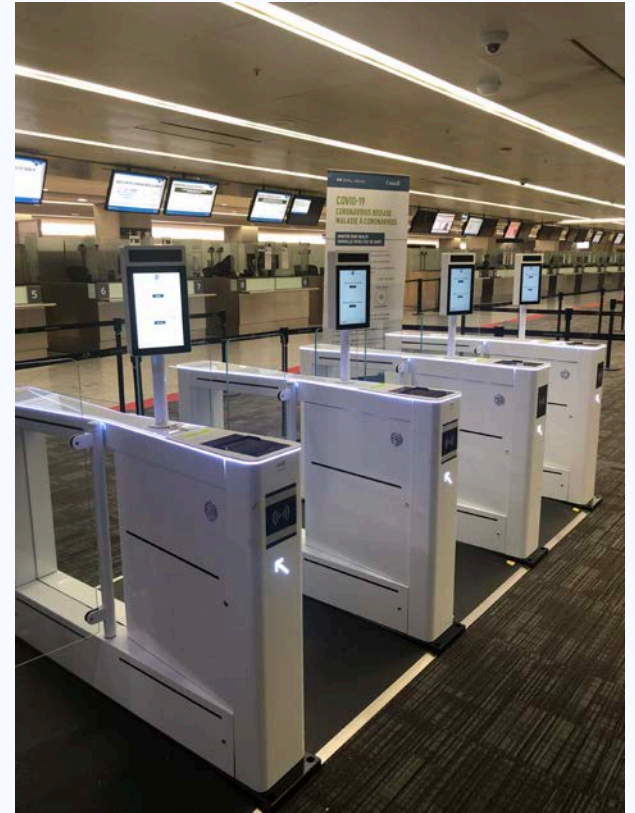


AVIATION RECOVERY: MAKING PROGRESS IN A COMPLEX ECOSYSTEM

- With 400+ organizations operating at Toronto Pearson, aviation partners are working hard every day to improve our passengers' experience when travelling through the airport
- Much has been accomplished in reducing delays, but there is still work to be done
- Air traffic has rebounded quickly – up almost 400% y-o-y in Q1 2022
- GTAA added as much as \$800 million in debt over the course of the pandemic
- GTAA represents 3% of total airport workforce
- All partners – airport, airlines, Canadian Government, NAV CANADA, Canadian and US Customs, CATSA – are implementing improvements as navigate the busy travel season

POLICY AND PROCESS CHANGES, AND GTAA INVESTMENTS HAVE MADE A POSITIVE DIFFERENCE

- Government Agencies (CATSA, CBSA) and NavCAN have addressed staffing
- Moving selection of passengers for Mandatory Random Testing has freed up CBSA officers to focus on admissibility rather than vetting each individual passenger for testing selection
- MRT continues to have a negative impact on travel demand
- Imbedding Advanced Declaration within ArriveCan has reduced passenger dwell time at kiosk bringing transaction time down to 40 seconds from 2 minutes with the use of e gates. Advanced Declaration has about 35 per cent take up and growing
- GTAA invested about \$4 million in e-gates, new kiosks, and created a space for international students to be processed outside of the main CBSA Hall
- GTAA proactively reduced operating capacity for commercial and business/general aviation for Winter 22 to enable ongoing system recovery



Continuing Pressure Points

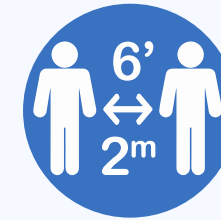
- **Passenger Traffic** – The traditional drop in traffic post-Labour Day is not expected
- **On Time Performance (OTP)** - while improving, –52% this week versus 46% over a 4-week average.
- **Baggage** – shared accountability between airport (airport infrastructure) and airlines (on/off aircraft). GTAA has dedicated team to address baggage infrastructure; airlines ground crew staffing challenges; also deploying AI technology to be smarter
- **US CBP** – Toronto the only Canadian airport that remains below pre-pandemic number of officers and hours of operation. Wait times for passengers in excess of 60 minutes, as long at 95 minutes. Canada needs to advocate for more resources, opening of Nexus enrollment centres
- **CBSA Staffing** – Many CBSA summer students will be retained through the fall on a part time basis. Focus on ensuring resourcing for Christmas peak and next summer to meet demand
- **International Students** – From August 14-30, 47,000 international students arrived via Toronto Pearson. Airport investments in new facilities and technology have aided processing; more is needed to digitize and move processing of Visas pre or post travel

What's Required for Winter 22 and Summer 23

- As we move towards operational stabilization, it is important to begin planning out what is needed for the winter and summer travel seasons to ensure efficient operations.
 - **Creating a Digital Border:** e-gates, facial biometrics, global best practices and made-in-Canada innovations
 - **Digitizing and moving Visa and International Student Processing offsite**
 - **Re-opening of Nexus Enrollment Centres**
 - **Launching a trusted traveller pilot:** full Trusted Traveller program in place for Summer 2023
 - **US CBP Capacity** returned to pre-pandemic level
 - **RAIC-Ready pool of workers**
 - **Remove remaining COVID measures:** MRT, health questions from ArriveCAN, masking
 - **Capital funding to build the Airport Segment** of the Eglinton Crosstown West Extension
 - **Federal government to invest airport rent in transformational capital/infrastructure projects**



HEALTHY AIRPORT



- Future waves of COVID-19 and other new infectious diseases cannot result in a return to more stringent travel restrictions
- The airport has always followed, and in fact exceeds, federal infectious disease protocol
- Toronto Pearson has an award-winning Healthy Airport experience. Awarded “best hygiene” measures in North America and recognized by WHO

This includes:

- Wastewater pilot with the the Province of Ontario to support learning and public policy development;
- Low touch innovation: autonomous floor cleaners; UV light for disinfection; optimized air quality;
- A partnership with Canadian outbreak intelligence platform BlueDot, which was first to identify COVID, and proactively identifies infectious diseases;
- Close coordination with Toronto Pearson’s Chief Medical Officer Dr. Edward Wasser and industrial hygienist to ensure airport is leading in its use of COVID prevention and diagnostic technologies and cleaning protocols

HEALTHY AIRPORT INNOVATIONS

CONTINUING TO INVESTIGATE AND IMPLEMENT NEW
TECHNOLOGIES TO SUPPORT A HEALTHY AIRPORT
ENVIRONMENT NOW AND INTO THE FUTURE

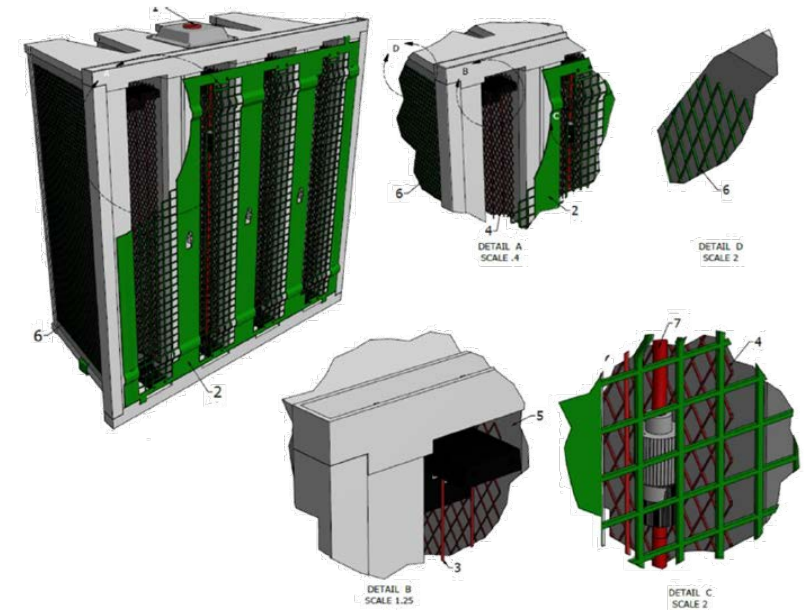
Air Quality & HVAC innovations currently being researched

- Enhanced Indoor Air Quality (IAQ) monitoring system to drive efficiency in our HVAC systems
- Advanced, High-Energy Active Air Filtration Solutions
- HVAC Ultraviolet Germicidal Irradiation (UVGI)

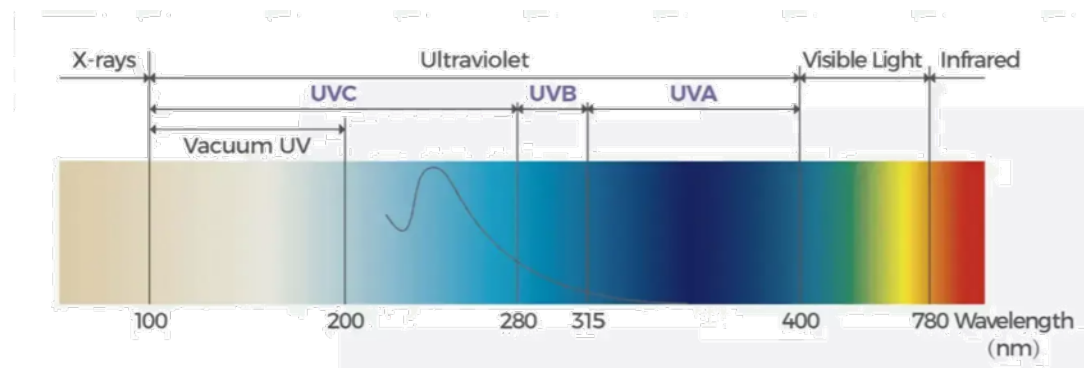
Indoor Air Quality Monitoring Sensor System



Active Energy Air Filtration



UVGI



Health & hygiene innovations currently being piloted

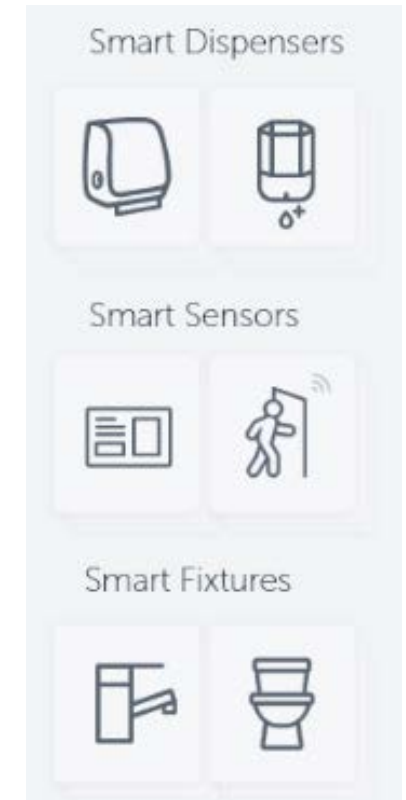
Partnering with Ontario Tech to model a pilot space for Far-UVC

- Developed 3D model of the T1 Customs Hall to conduct airflow assessments and understand/optimize UV-C lamp types and locations

Smart Washroom Pilot Project

- Touchless features and new technology that collects real-time usage data and device status to provide analytics to improve operational efficiency
- Pilot locations in T3 on public side departures level (5 male, 5 female, 3 family)

Smart Washroom Equipment Bundle



Health & hygiene innovations currently being piloted

Bluedot & Particle One

- Using pathogenic risk public health data intel and AI to safeguard passengers and employees
- Pilot underway at T1 Air Canada Maple Leaf Lounge
- New risk management platform to understand pathogen risk levels in shared indoor spaces
 - Bluedot provides what outbreaks that are happening in the world and intelligence where the disease most likely to spread.
 - Particle One provides what is the risk level of my shared spaces, what mitigations should be used to mitigate risk – for example increased ventilation.
 - This is quantified by risk modelling through Building Performance, Occupant Dynamics, testing and policies and location.
 - The model provides a risk report of the identified space.



PARTICLE ONE



Wastewater Testing Pilot – Funded by NRC-IRAP

NRC-IRAP has connected GTAA to three leading healthcare technology companies to pilot wastewater testing onsite at Pearson.

- Access to technology to test for SARS-CoV-2 and Monkey Pox
- Ability to control and target wastewater operations from collection to processing and analysis
- Ability to test for emerging variants and check pathogenic biosurveillance intelligence in near-real-time
- This pilot is in addition to the PHAC/Ontario wastewater testing program currently underway

Testing September 2022 – March 2023

- Samples will be collected once every weekday from three locations across the airport: T1 Main Trunk, T3 Main Trunk, Triturator Direct Sewer (aircraft combined waste)



Fusion Genomics providing Next Generation Sequencing to profile variants detected



LuminUltra using Digital Drop PCR technology to identify pathogens present in wastewater



Kraken Sense using Microfluidics-based PCR test equipment to identify pathogens present in wastewater

ISBRG SpotLight-19

- Recent results showing 81% sensitivity equal to or better than rapid antigen tests in market
- Submitted application for Health Canada approval on August 11



- Test and results within 20 seconds
- No specimen required; touch device only
- Cost per test \$1



Innovation Economy Council (IEC) CEO Summit – Sept. 7



- GTAA is now an IEC member along with innovation hubs, Ontario Genomics, OICR, Oceans supercluster, among others
- GTAA participated in IEC CEO Summit with scientists and public health experts to discuss travel related public health measures, emerging trends and COVID lessons learned
- COVID has provided many use cases that position airports as sentinels, using innovation and data to help Canada control infectious disease
- Toronto Pearson will continue to lead and leverage technology and innovation in creating the Airport of the Future

Questions?