

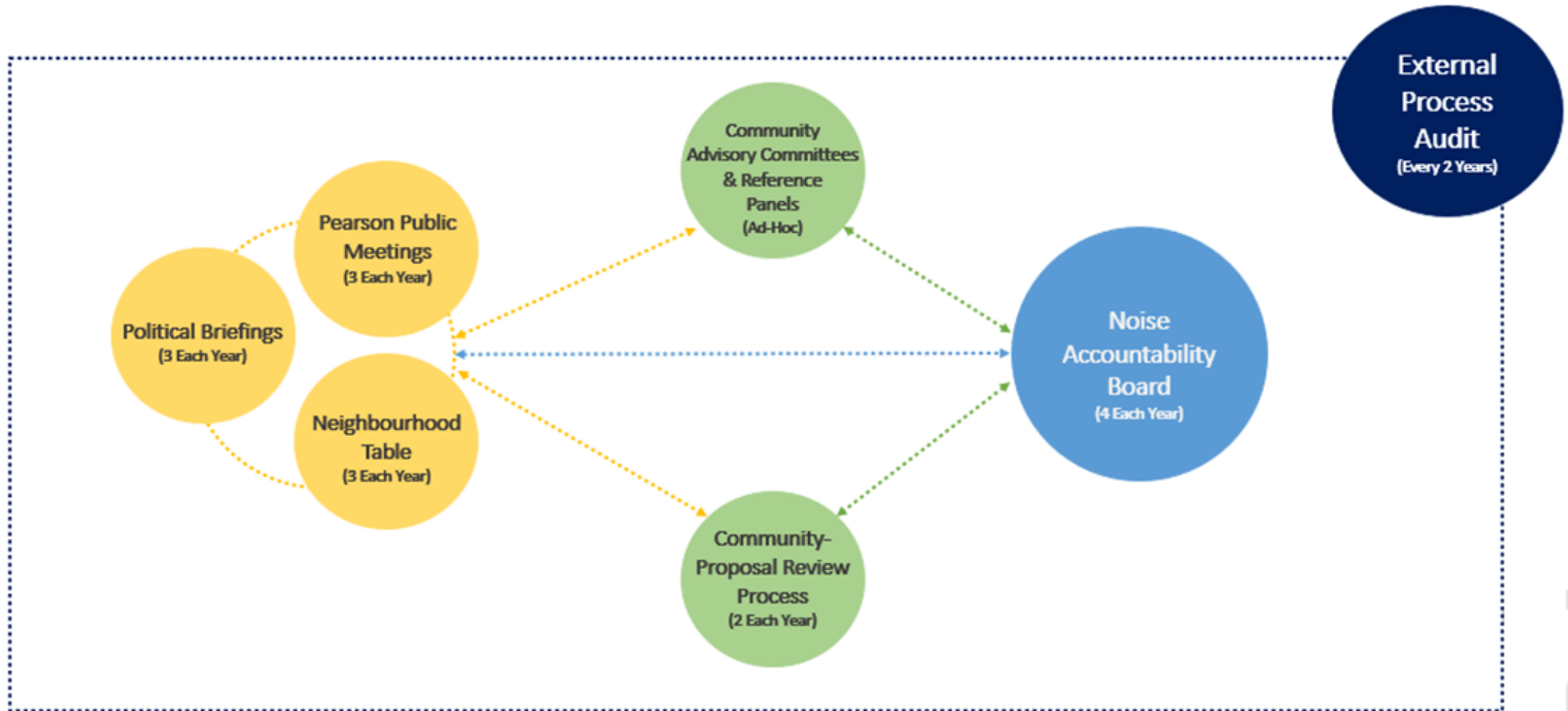
Toronto Pearson Noise Management Forums Political Briefing

April 13, 2021



Welcome + Introductions

Noise Management Forums

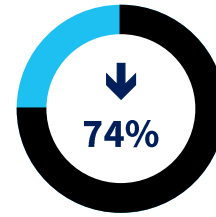


Agenda

- Airport Situational Updates
 - Healthy Airport Initiatives
 - Trends in Operations & Complaints
- NAV CANADA Updates
- Industry Noise Management Board (INMB) Updates
- GTAA Updates
 - Maintenance Update
 - Noise Management Action Plan Update
 - Working with the Community
- Discussion and Roundtable

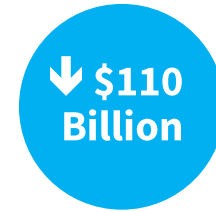
Airport Situational Updates

2020 Annual Trends



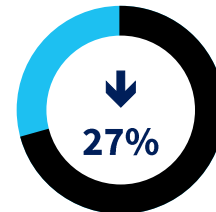
Passenger Traffic Trends

In 2020, we saw 13.3M passengers, year over year reduction of 73.6%. Resulting income loss of \$383.4M, a decrease of 374.2% compared to 2019.



Airports Revenue Trends

Globally, airports are anticipating a loss of \$110 billion in revenue



GTAA Workforce Impact

In 2020, major restructuring and a **workforce reduction of 27%**, or 500 positions. Business partners have had to lay off 13,500 people

In 2019, Pearson supported in Ontario

300,000
JOBS

\$576M
PROCUREMENT



Healthy Airport Initiatives



Building a Healthy Airport

- Healthy Airport Commitment
 - 1st airport in Canada to receive ACI Health Accreditation 2020
 - 2021 ACI World ASQ Awards: “Best Large Airport in North America serving more than 40 million passengers” and “Best hygiene measures by region” in North America
- Embracing Innovations
 - Including BlueDot to predict/monitor COVID-19 and other infectious disease risk, autonomous floor cleaners, UV light for disinfection, probiotics in washrooms to eradicate bad bacteria, and active monitoring duct system offering real time air quality assessment in terminal and online
- Healthy Airport Measures
 - Implemented Healthy Airport measures in addition to the Transport Canada rules:
 - Mandatory masks in all public areas, for passengers and employees
 - Plexiglass barriers, separation at kiosks, signage, floor decals, increased passenger comms
 - Limiting terminal access to only passengers and workers
 - Enhanced hygiene and cleaning in high traffic / high touch areas
 - Employee voluntary testing and departing passenger testing



Ensuring Federal Entry Requirements run smoothly

Before traveller boards a plane to Canada:

- Passenger health assessment
- Mandatory temperature checks
- Negative COVID-19 PCR test

After arriving in Canada:

- Health declaration to CBSA with PHAC support
- Test upon arrival at the airport
- Take home Day 10 test
- Hotel quarantine until first test results received
- 14-day quarantine plan



Overview of testing studies at Pearson

Workplace Antigen Testing Study

- Launched March 8 - target 500 airport employees
- Antigen tests 3x weekly
- University affiliated epidemiologists researching & publishing learnings
- Creating strong workplace testing program focused on early identification

Airport Worker Study

- Coming soon
- As needed service - onsite for all airport workers
- Rapid PCR + antigen tests
- Study efficacy of antigen tests by comparing antigen to PCR
- Reduce workplace spread through early identification

Departing Passenger Study

- Coming soon
- Departing passengers with pre-departure entry requirements
- Rapid PCR + antigen tests
- Study efficacy of antigen tests by comparing antigen to PCR
- Study rapid PCR testing in an airport environment

Airport Workplace Health & Safety Policies and Programs

- Minimize and control risks for all airport workplaces
 - Scheduling and deployment, face masks, physical workspace changes
- Part of Occupational Health & Safety Management System
 - Principles of the Internal Responsibility system and the Plan, Do, Check, Act cycle.

Health & Safety Measures and Policies



- Wearable devices for employees, developed in partnership with Wipro
- Alerts under 2m of distancing
- Tracks frequency and duration of contact
- Transmits info to secure platform for HR contact tracing

Wearable Physical Distancing Device



- Developed with PHAC
- Anonymous confirmed case log reported by Pearson employers
- 94 employers contributing
- 222 cases reported since 2020

Airport COVID-19 Case Log



- International Centre is one Peel's Community Mass Vaccination sites
- Extending Toronto Pearson's Healthy Airport commitment to help facilitate the delivery of vaccines to the communities we serve

Region of Peel Vaccination Site



Key elements of a framework for restart – *Ready when you are*

Vaccination & Testing to reduce quarantine:

- Follow the science to reduce, and remove & replace hotels and quarantines with a robust testing strategy, including use of rapid tests
- Recognition that vaccinated travellers pose lower risk
- Support the development of effective, rapid, affordable testing solutions (happening already at Pearson)



Frictionless travel:

- Develop processes to decrease the need for contact and touch throughout the passenger journey, with upstream integration into established passenger journeys

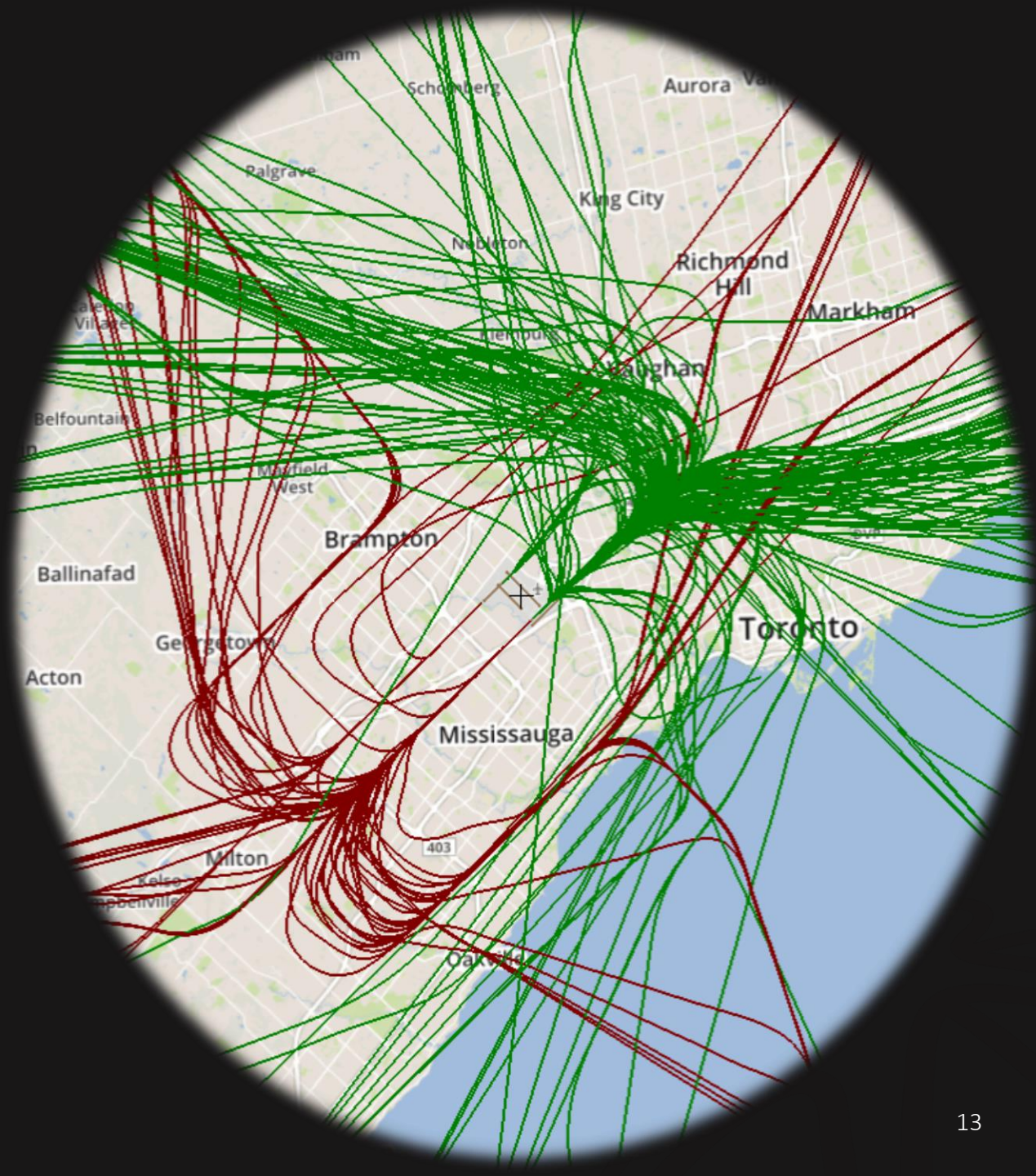
Digital travel health credentials:

- Digital tool to confirm test results and vaccination status
- There is strong support from travellers: 4 of 5 surveyed by IATA would use an app, subject to sufficient data protections
- Two-thirds believe a quarantine is not necessary for those who test negative or have been vaccinated

Common international standards:

- ICAO, IATA and ACI are aligned on need for global harmonization for testing standards & health credentials to enable interoperability and seamless travel

Trends in Operations & Complaints



Operations & Complaints Trends - 2020

Year	Operations	Complaints	Individuals
2019	452,083	115,462	1,167
2020	174,215	42,674	468
YOY	Down 61% compared to 2019	Down 63% compared to 2019	Down 60% compared to 2019

Operations at a Glance

Q4 2019

103,377 flights
1,124 flights per day

3,971 night flights
43 flights per night

VS

Q4 2020

28,424 flights
309 flights per day

1,385 night flights
15 flights per night

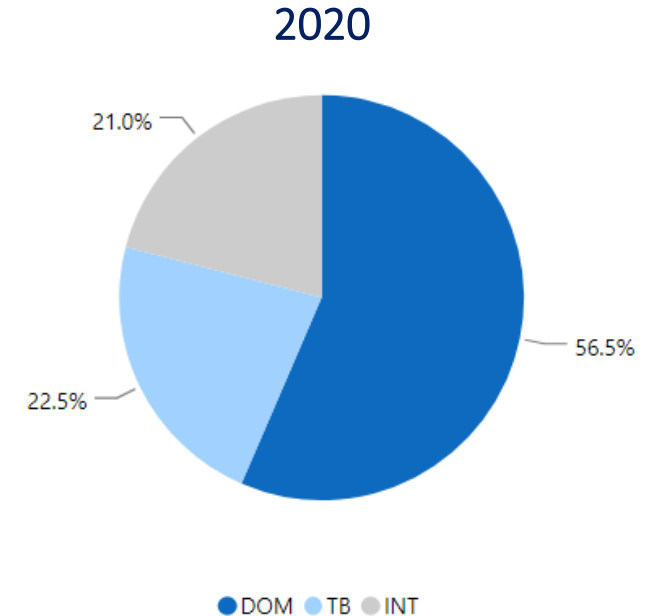
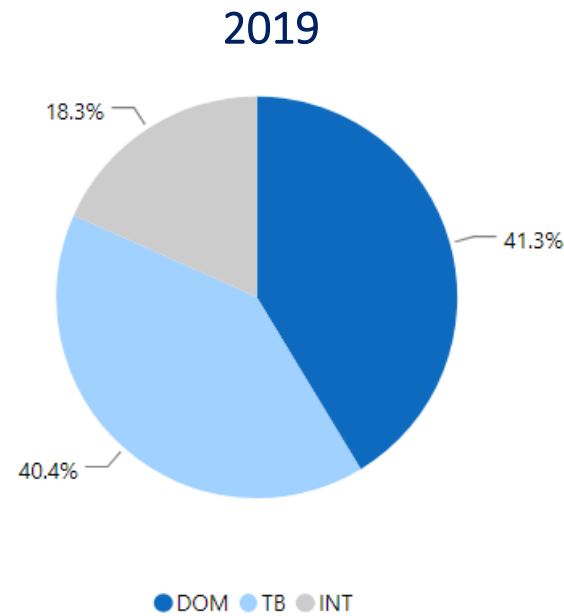
The lower traffic levels in Q4 2020 vs Q4 2019 reflect the impact of COVID-19 on air travel:

Overall traffic down by 73%
Night flight traffic down by 65%

Operations at a Glance - Q4 '19 vs '20

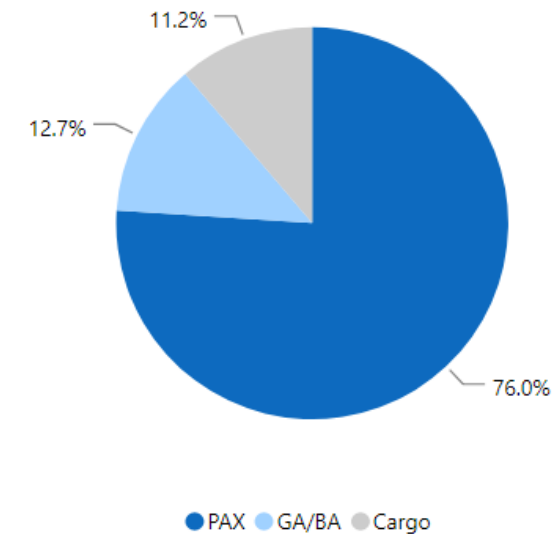
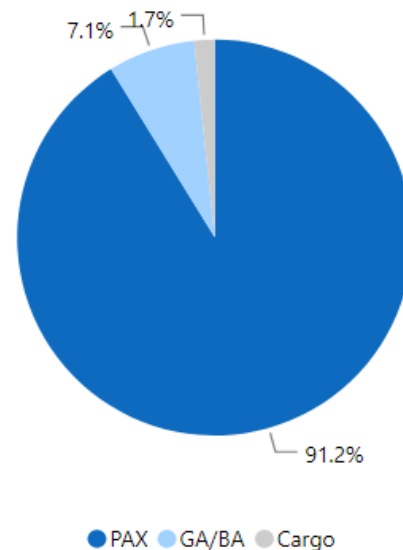
By Sector

- Due to border closures associated with COVID-19, domestic traffic represented a much higher proportion of overall traffic in Q4 2020 compared to Q4 2019.



By Type

- Drastic decrease in demand due to COVID-19 led to a proportional drop in passenger operations.
- Cargo operations increased in Q4 2020 in order to support the demands being placed on the supply chain due to COVID-19.



Traffic Distribution Summary

October 1st – December 31st, 2019 & 2020 | Daytime Hours (0630-2359 local)

When looking at the following heatmaps, we are watching for changes in flight track patterns and flight track densities.

Overall, we found:

Arrivals

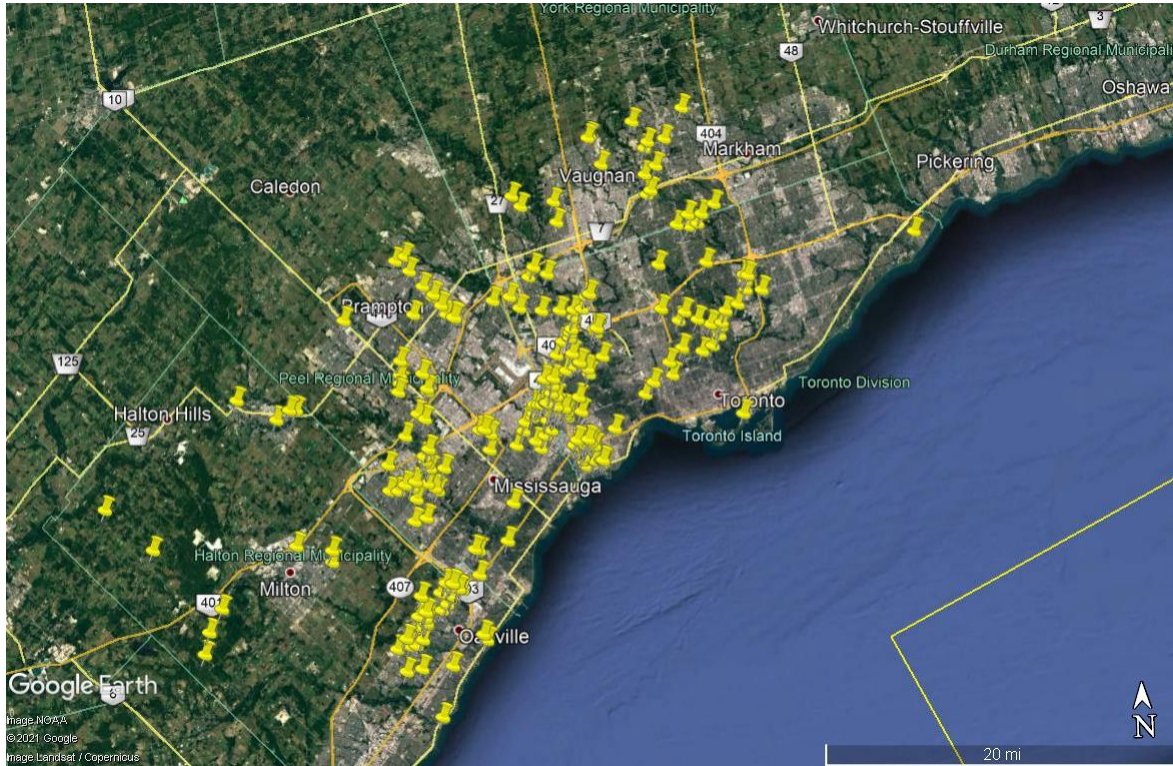
- Arrival density along these tracks has decreased significantly
- Some changes in flight track patterns due to a narrowing of the tracks of arrivals being cut-across direct the downwind
 - Areas which have seen increased track densities due to this include Georgetown, Oakville, Nobleton, Vaughan and Central Toronto
- Average altitudes of arriving aircraft along the south downwinds were higher in Q4 2020 compared to the historical average
- Arriving aircraft are flying shorter downwinds

Departures

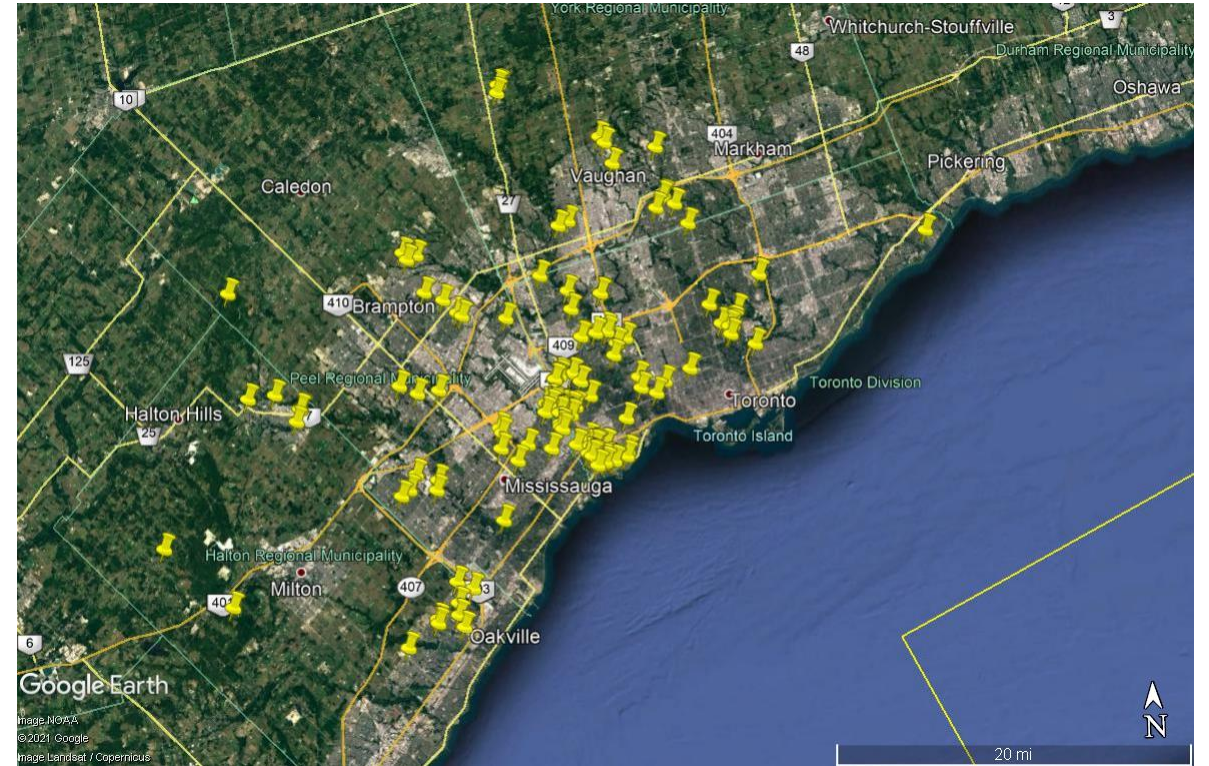
- The location of departure flight tracks has remained very consistent
- For westerly departures, there has been an increase in eastbound aircraft making tighter turns to the south when departing the airport
- Departure density along these tracks has decreased significantly

Complaint Distribution

Q4 2019: 26,199 complaints from 285 individuals



Q4 2020: 6,747 complaints from 139 individuals



Far fewer residents submitting complaints. Most evident in areas south of the airport and areas underneath the downwind flight path for the east/west runways. This likely related to overall fewer operations, less frequent use of the downwind.

NAV CANADA Update

2019-12-04

NAV CANADA UPDATE

Serving a world in motion
navcanada.ca



OVERVIEW



Currently focussed on assessment of deployment of RNP-AR



Working with the GTAA on technical analysis



Early consultation concepts being considered, subject to prevalent public health conditions



Combined with new ICAO standard to deliver noise benefits



Designed only on the north side

RNP-AR – THE PROJECT

- › Leveraging RNP-AR to introduce new procedures to Toronto Pearson
- › Flows out of the Helios Report
- › Opportunity to reduce the need for the High-Low split
- › Delivers CDO and shorter track mileage
- › No changes to departures, existing RNAV procedures
- › Leverages new ICAO standard

HELIOS

Canada Agency of Egis

INDEPENDENT TORONTO
AIRSPACE NOISE REVIEW
Report and Recommendations

In partnership with:

Recommendation 3A: NAV CANADA should design Required Navigation Performance Authorization Required procedures that can reduce the need for a high / low operation, taking due consideration of the location of the tracks, and proceed to consultation to facilitate implementation as soon as is practicable.

Recommendation 3B: NAV CANADA should maximise the use of the Required Navigation Performance Authorization Required (RNP AR) procedure to incentivise those airlines not already capable of RNP AR to invest, as the RNP AR approach route will offer airlines a more fuel efficient arrival route.

company

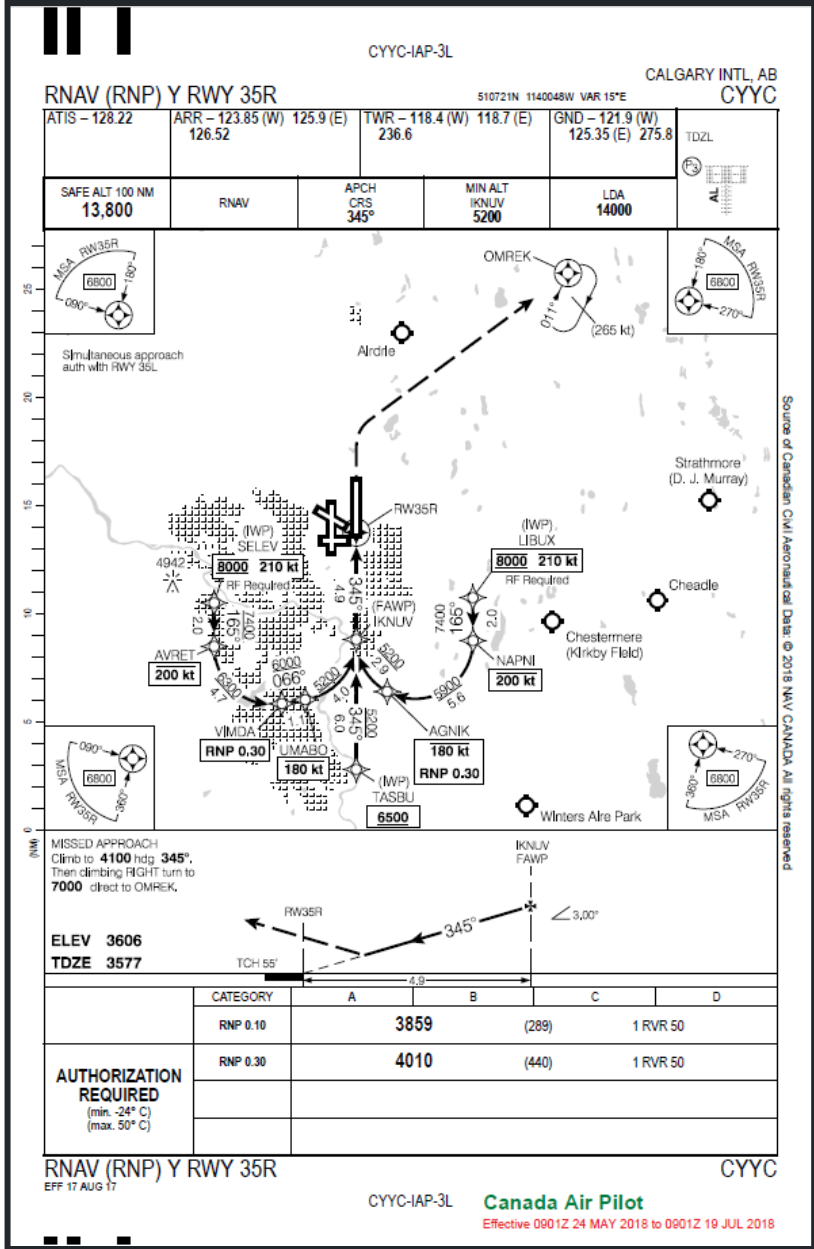
CASE STUDY: YYC

- › World-First use of the new ICAO standard
- › Implemented November 2018
- › 35,000 procedures flown in first year
- › Reductions:
 - Flight distance reduction of 250,000 nm
 - 4.1M kg of Greenhouse Gas Emissions
 - 1,400 hours of flight time



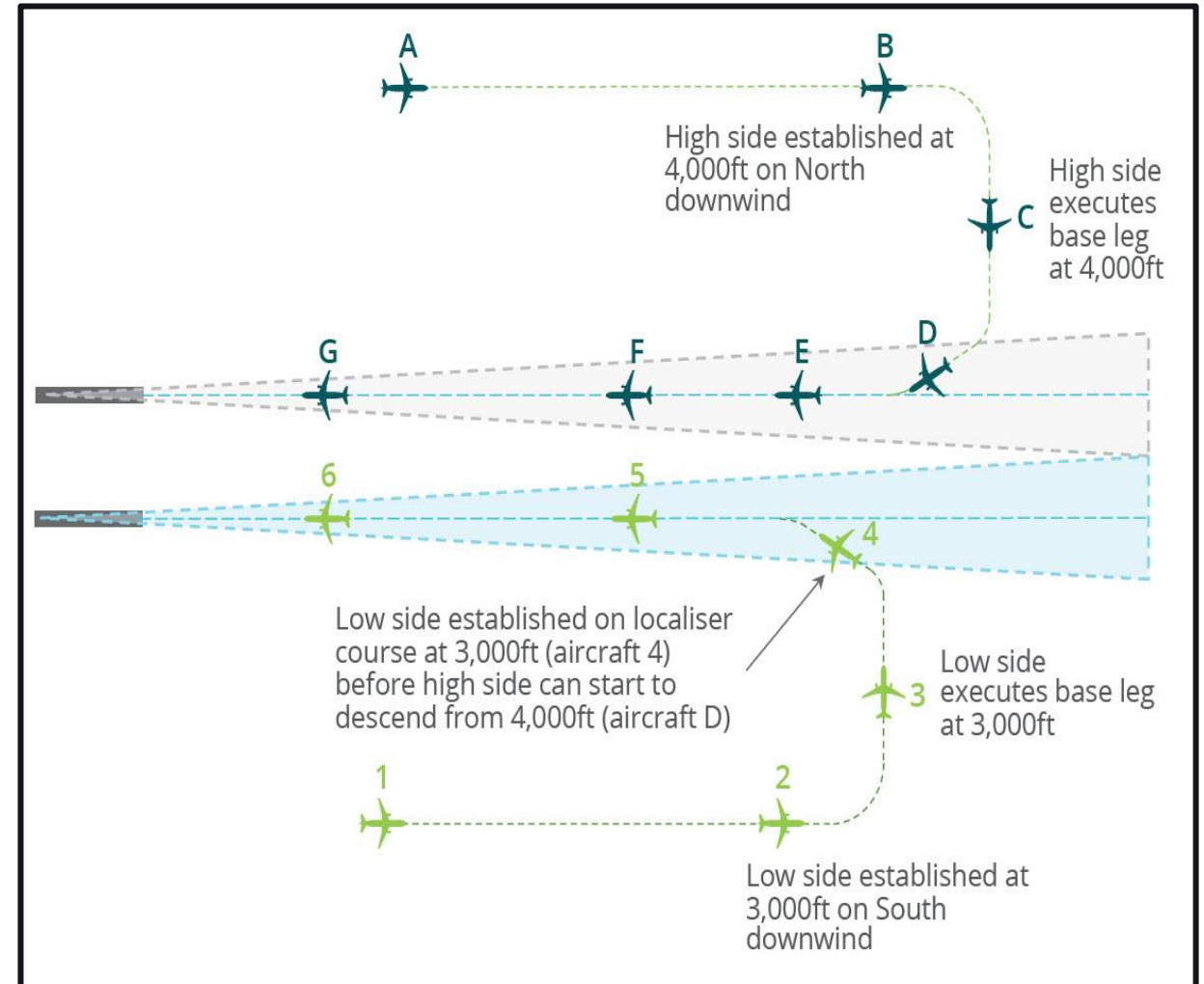
EoR – WHAT IS IT?

- > New ICAO separation standard for use in Simultaneous Independent Parallel Operations
- > Allows for integration of RNP AR operations into busy parallel runway operations
- > Leverages the accuracy of RNP-AR approaches to remove the requirement for a ‘high side’ and ‘low side’ during independent parallel arrivals



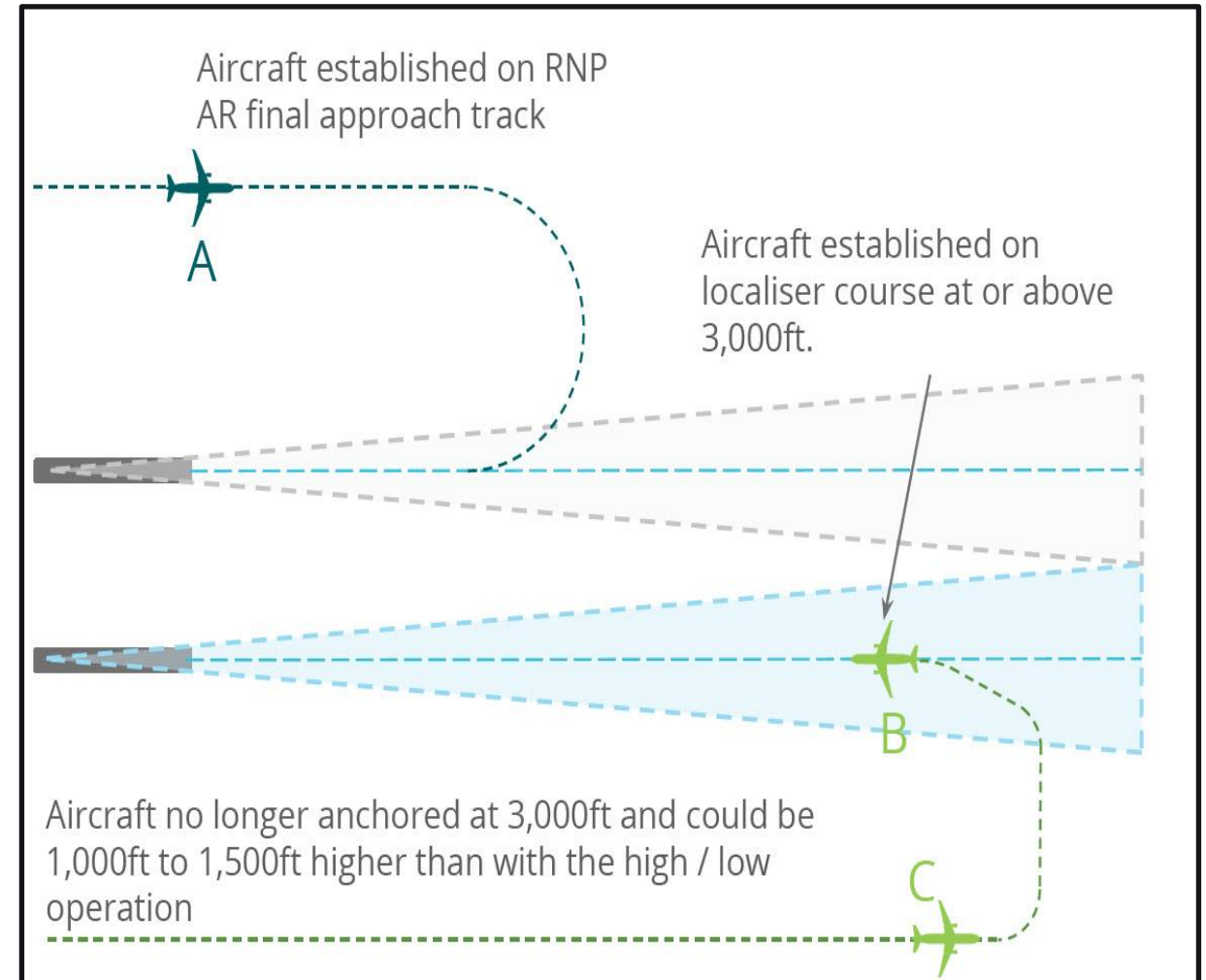
CURRENT PARALLEL OPERATIONS

- Existing simultaneous parallel operations require ATC to apply 1000 feet or 3 nautical miles separation until aircraft are established on the straight in portion of the approach
- “Low” side arrivals required to level off, increasing noise at low altitudes
- Longer downwinds required in “High – Low” ops (20-25nm final common)



EOR PARALLEL OPERATIONS

- > RNP AR arrivals considered “Established” at the commencement (IWP) of the procedure
- > No “High- Low” requirement between EoR and parallel runway leading to noise benefits for “Low side” downwind
- > Significant reduction in mileage, fuel burn and GHG emissions



TECHNICAL ANALYSIS – OUTPUTS FOR CONSULTATION



Noise Modeling

- Single Event Contours
- Cumulative Metrics
- Threshold Metrics



Utilization estimate by transition

- Runway Utilization
- Bedpost used
- Equipage Rate



Altitudes along the procedures

- RNP-AR @altitudes



Track mile/fuel/GHG reductions

- Track mile delta
- Fuel burn savings
- GHG reductions



CONSULTATION GOALS

- › To accurately communicate and seek feedback on expected impacts and benefits to affected areas, as per the Airspace Change Communications and Consultation Protocol.
- › To emphasize the overall environmental benefits of EoR, both in terms of GHGs and Continuous Descent Operations, while proactively communicating potential changes to the soundscape.

CONSULTATION PLANNING

- › Focussed on virtual channels due to COVID19 public health measures
- › Provide multiple avenues to providing input
- › NAV CANADA is the proponent and GTAA presence/support key
- › Current planning focus on spaces/format and timing
- › Content to be developed in collaboration with GTAA
- › Draws on work by GTAA Community Relations

PRE-CONSULTATION ENGAGEMENT

Community & Elected Officials

- › Noise Forums
 - Noise Accountability Board
 - Political Briefing
 - Neighbourhood Table
 - Public Forum
- › Advance Elected Official Briefings

Industry

- › Industry Noise Management Board
- › Spring Area Operations Consultation Meeting
- › Targeted operator engagement

CONSULTATION – COMMUNITIES

Consultation	Promotion
<p>Web-based information package</p> <ul style="list-style-type: none"> • On NAV CANADA's corporate site <ul style="list-style-type: none"> • High level content on page <ul style="list-style-type: none"> • Key maps • Noise footprint videos • Recorded presentation walkthroughs based on location • Package hosted on GTAA "Conversations" Website <ul style="list-style-type: none"> • Leverage Insightful Platform <p>Input submission</p> <ul style="list-style-type: none"> • Web based survey tool • Direct email option • Engagement events / Resident Briefings 	<p>Notice</p> <ul style="list-style-type: none"> • Paid placement in print media x 2 • GTAA Newsletter / Contact list <ul style="list-style-type: none"> • Community/resident associations • Potential targeted automated calls • Elected official shareables <p>Earned media</p> <ul style="list-style-type: none"> • News release <p>Social media</p> <ul style="list-style-type: none"> • Posts on both NAV CANADA and GTAA platforms • Social media advertising

POTENTIAL TIMELINE

- › Technical Analysis and Consultation Planning – Summer 2021
- › Pre-Consultation Engagement – Early Fall
- › Consultation – Late Fall 2021/Winter 2022
- › Implementation – Subject to Consultation

Industry Noise Management Board Update

INMB UPDATE



Sample Recommendations



Formation of INMB



Develop Quieter Operations
Code of Conduct



Improve STAR profile to enable
CDO and publish performance rates



New nighttime procedures

Supporting the GTAA's
Summer Weekend Runway
Alternation trials



Install Arrival Manager
(AMAN)



Study higher glideslope



Study point merge (long term
item)



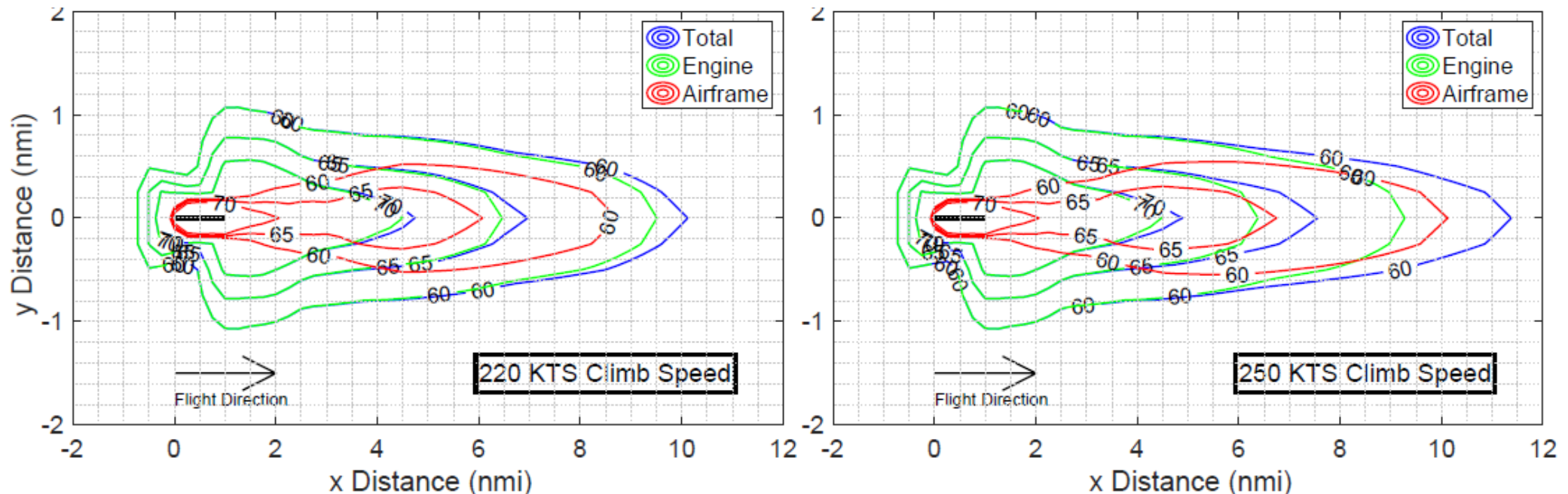
RECENT ACTIVITIES

- › **Most recent meeting in March 2021**
- › Examining CDO achievement and guidance with the goal of enhancing performance
- › Deployment of RNP-AR
- › Consideration for Role of INMB in support of Community Proposal Review Process

- › **Other Activities**
- › Assessment of departure concepts (current and ongoing)
- › Review of Terms of Reference to reflect work beyond Helios Recommendations
- › Continued monitoring for any noise mitigation concepts

MIT STUDY

- › Study developed by MIT International Center for Air Transportation and Boston Logan International
- › Proposes aircraft climb at a slower rate (from about 250 knots to 220 knots)
- › Goal to reduce engine noise to a level equal to that of the airframe on initial climb
- › Based on noise modeling
- › Trade-off between noise level and duration of exposure



Source: Block 1 Procedure Recommendations for Logan Airport Community Noise Reduction, Hansman et al (December 2017)

MIT STUDY

- › Not all aircraft can safely climb at a speed of 220 knots
- › Increases complexity in congested airspace with aircraft climbing at different speeds
- › Impacts capacity as it requires increased separation between aircraft at different speeds
- › Workload impacts as aircraft remain in airspace longer
- › Increase in Greenhouse Gas Emissions
- › Will continue to monitor research on this topic, but at this time it is not deemed to be a feasible solution

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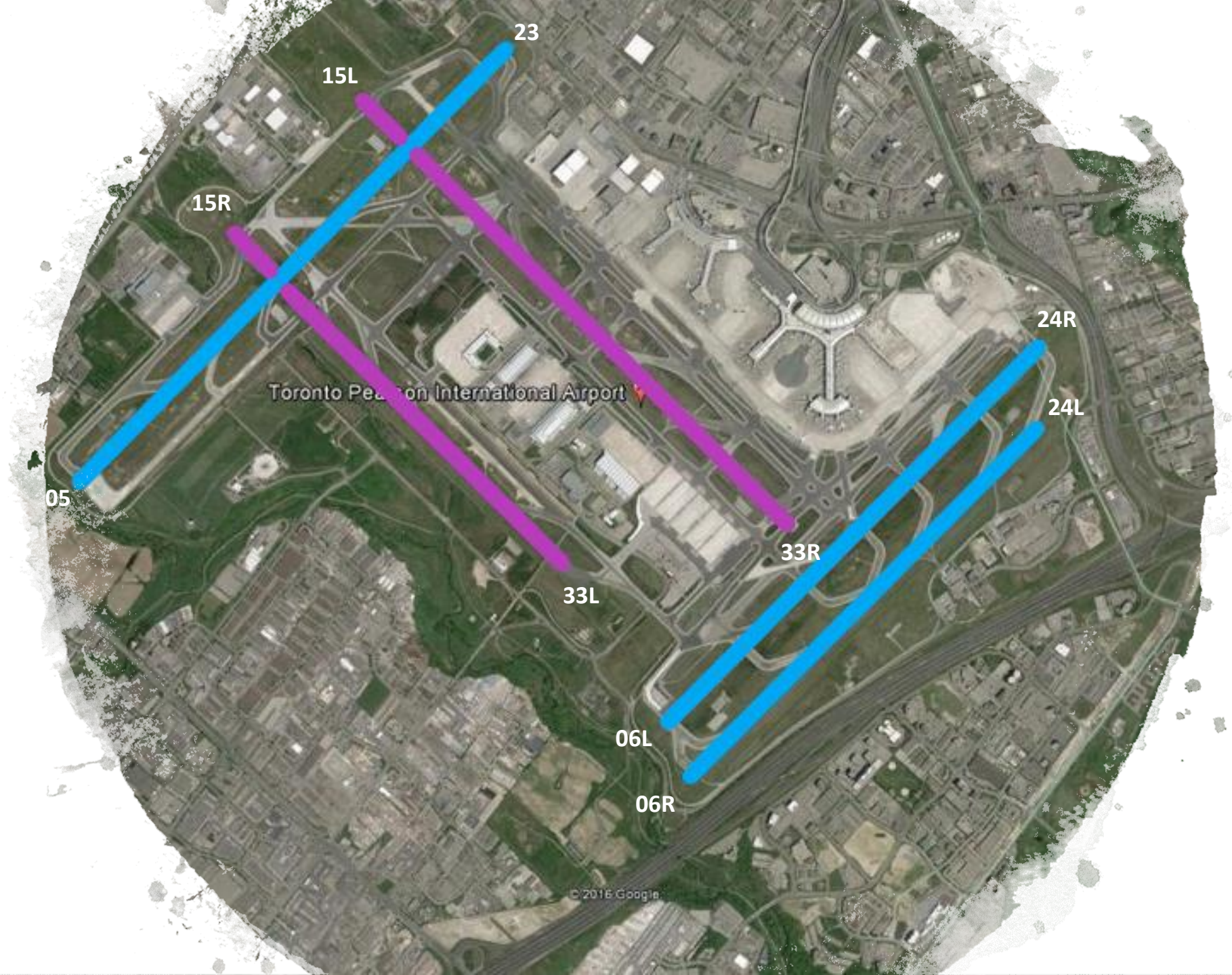
THANK YOU



GTAA Updates

Maintenance Updates



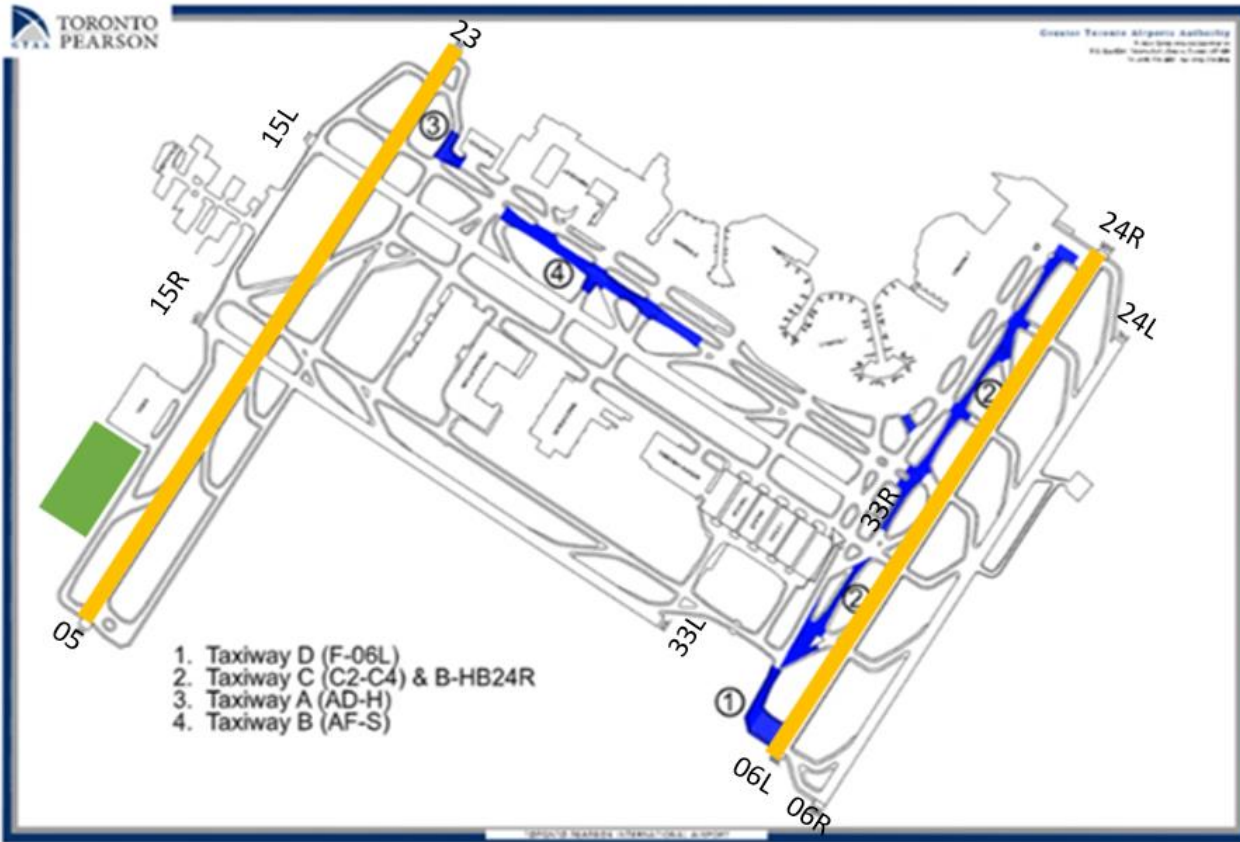


East-West
North-South

Runway & Taxiway Maintenance

- Like roads and highways, our runways and taxiways need maintenance to keep them safe
- While no major work is planned for our runways this year, we will take advantage of lower traffic levels to ramp up regular maintenance work
- As we are not conducting major work this construction season and traffic levels are low, we will communicate any planned maintenance work through our website.
 - Residents can find the most up-to-date information on the [Noise Advisory webpage](#)

Ongoing Maintenance Work



Work is taking place on various taxiways on the airfield, which will restrict the usage of some of our runways.

- Closure of Runway 06L/24R
 - Late April to late June
 - Mid-June to mid-October

Additionally, Bombardier is constructing a new facility at the north end of Toronto Pearson's airfield (green box on the map)

- Impact to flight operations:
- Daytime closures of Runway 05/23
 - Started on February 17, 2021
 - Set to continue until after the summer

Possible Community Impacts



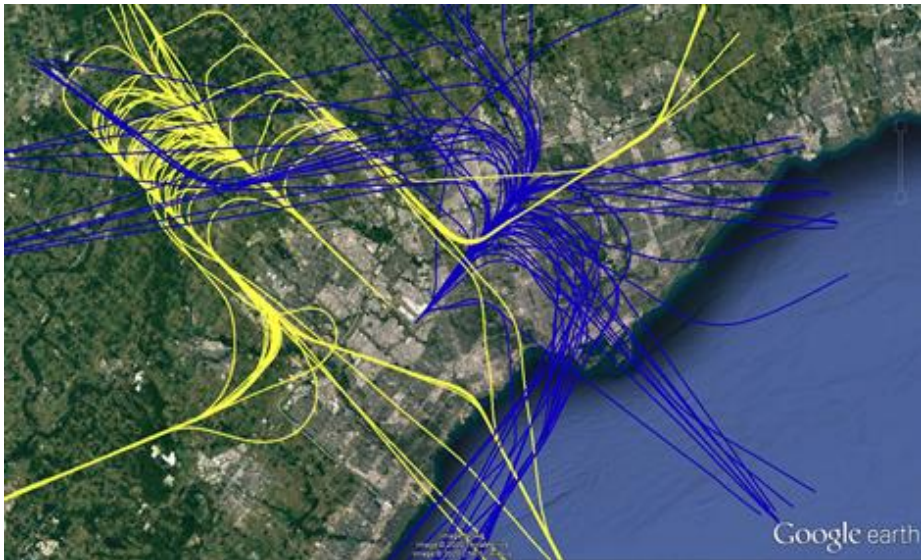
- Closure of Runway 06L/24R
 - Increased use of the parallel east/west runway on the south side of the airport, Runway 06R/24L
 - Runway 06R/24L, which has been closed during the winter months 2020-21, will reopen and be used for this traffic
 - As 06R/24L is slightly further south than 06L/24R, final approach and initial departure traffic will also be slightly further south
- Closure of Runway 05/23
 - Increased use of the parallel east/west runways 06R/L and 24L/R

Possible Community Impacts



While only one east-west runway is available during peak moments, traffic may:

- Arrive Runway 06L/R or Runway 24L/R and depart off Runway 33R
- Depart Runway 06L/R or Runway 24L/R and arrive onto Runway 15L



Noise Management Action Plan



Noise Management Action Plan

Night Flight Restrictions

Communications, Outreach & Noise Committees

Noise Complaints

New Quieter Fleet Incentive Program

New Fly Quiet Reporting Program

Noise Reporting and Metrics

Noise Abatement Procedures

Land Use Planning

Runway Usage

InsightFull Updates

- **Commitment:** Launch a new website to help residents better understand our operations and how they are impacted
- **What we've done:**
 - In March 2020, Toronto Pearson became the first airport in North America to launch InsightFull: airportnoise.torontopearson.com
 - This web-portal provides localized information and reports
 - Over the last year, we have continued to improve the site with new content and reports
 - Added several posts that speak to how operations and impacts have changed since COVID-19
 - We have also integrated our quarterly reports into InsightFull so residents can better interact with them

Updating A320 Status Information

- **Commitment: Launch a Quieter Fleet Incentive Program including an A320 family retrofit program**
- **What we've done:**
 - Audited major operators of A320 family aircraft at Toronto Pearson in 2019 on their retrofit plans
 - Quarterly and annual reports that show usage against the 2019 audit are available at torontopearson.com/nmap
 - The Q1 2021 report found:
 - Airlines continue to use retrofitted A320 aircraft for a higher proportion of operations -- 29% of A320 aircraft that operated were retrofitted, but these retrofitted aircraft performed 60% of A320 movements
 - Airlines are improving their usage of retrofitted A320 aircraft – 51% of A320 operations in 2020 were performed by a retrofitted aircraft, whereas 60% of A320 operations in Q1 2021 were performed by a retrofitted aircraft
 - Working with airlines to update the retrofit status database, so we can report usage against the most up-to-date information

Pilot: School Air Conditioning Program

- **Commitment:** Explore a pilot program to provide funding for HVAC system for a school within the most noise impacted communities
- **What we've done:**
 - Marvin Heights Public School selected based on criteria matrix
 - Since the December 2020 Forums, the school board has experienced permit delays for the electrical work
 - Completion expected in summer 2021 rather than the spring
 - When operational, the system will have an added benefit of improved the air quality at the school
 - We have learned lessons and started working on plans to evolve the program, however given the airport's current financial constraints, determining what phase 2 of the program is on hold

Preferential Runway System Trial: Purpose

Trial: February 27, 2020
to February 26, 2021

- **Commitment:** Review the Preferential Runway Program to ensure it meets objective to fly over the least number possible.
- **What we've done:**
 - Test usage of the updated system across multiple weather conditions, during construction season and winter operations
 - Technical analysis showed system will reduce the number of residents overflowed at night when combined with NAV CANADA's new nighttime arrival and departure routes (implemented Nov 2018)
 - Enables more consistent use of runways identified as the preferential runway, meaning better guidance for Air Traffic controllers and predictability for residents
 - During the Spring 2018 consultation, feedback from residents indicated support for a trial of the updated system
 - *Trial saw significant improvement in adherence with updated system – 94.2% for trial period vs. 58.3% for the same period in pre-trial*
 - *Reports available on our website [here](#).*

Preferential Runway System Trial: Survey Results

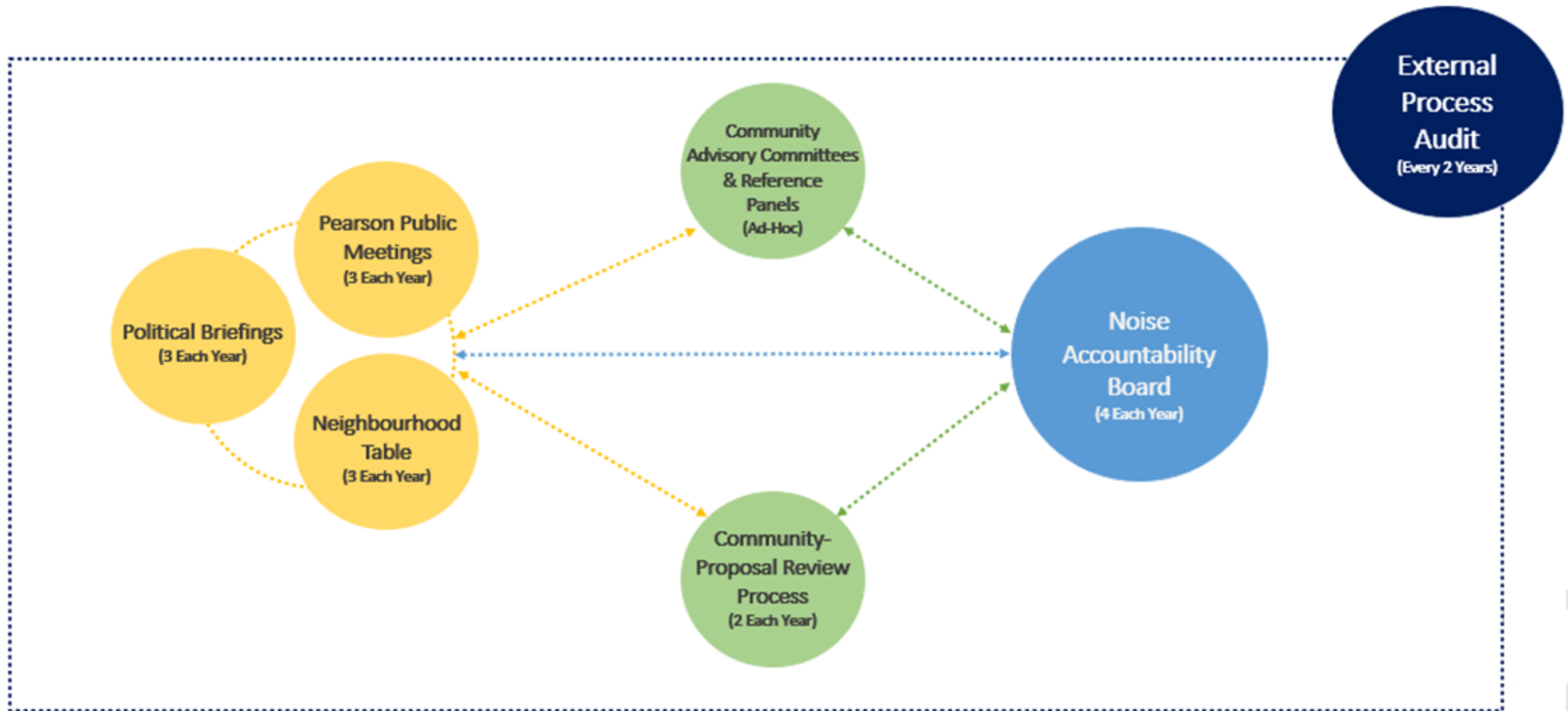
- A total of 44 residents responded to the online feedback survey
- 91% of respondents said they understood the purpose of a Preferential Runway System
- 61% experienced a decrease in the number of aircraft overhead, while 20% believed they experienced an increase. The remainder did not respond to the question
- 52% said the reports provided them with information they needed to understand how the airport operates at night
- 15 of the 44 respondents (34%) were concerned that the lower traffic levels may be related to COVID-19. However, 14 of these respondents were from south of the airport, which only experiences traffic when required to winds/weather

Preferential Runway System Trial: What We Heard

Next Steps: Based on feedback received, the trial will continue until the airport reaches a new normal post-COVID

- Will the adherence remain high under higher traffic levels?
 - This system was designed to handle higher traffic levels (pre-2020 levels)
 - Additionally, traffic levels have not reduced as significantly overnight: the difference between 2019 and 2020 was only 6 less aircraft/hour during preferential hours compared to 50 less aircraft/hour during regular hours
- Why not re-trial when traffic levels return to pre-COVID level?
 - Traffic levels are not expected to return to 2019 levels for years
 - The Trial met its objectives of providing clear guidelines for runway assignment under various circumstances (e.g., weather, maintenance) and enabled clear reporting for residents
 - The updated system offers significant increase in adherence, overflies fewer residents and allows for meaningful reporting
 - Higher traffic levels would not have changed these outcomes

Noise Management Forums



Community Proposal Review Process (CPRP)

- **Commitment:** Identify new ways for residents to provide their input and make changes to the Community Noise Environment Committee (CENAC) to ensure it meets needs/expectations
- **What we've done:**
 - Launched new Noise Management Forums in 2019
 - Part of the larger Noise Management Forums, the new Community Proposal Review Process will be a unique way for the airport to engage with noise impacted communities
 - Provides residents with an opportunity submit their noise mitigation idea and have it reviewed by industry experts
 - Potential for the addition of new initiatives to further mitigate noise
 - Idea would have to be new (not previously considered) and meet the guidelines set by the Resident's Reference Panel (not introduce new noise over other communities)

CPRP Process & Criteria



Phase 1: Resident

- Residents submitting ideas are responsible to complete the application questions
- Residents may be required to present on, or answer questions related to idea
- Must be a new concept and meet guidelines set by the Resident Reference Panel for noise mitigation



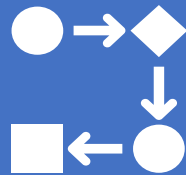
Phase 2: GTAA and NAV CANADA

- GTAA is responsible to administer the process and communicate with residents
- GTAA conducts first review of submissions and reviews those that pass with NAV CANADA
- NAV CANADA conducts second review. If in agreement, submission goes forward to phase 3



Phase 3: Noise Accountability Board & Neighbourhood Table

- The GTAA will advise NAB and NT of submissions proceeding to phase 4
- Members may request additional information



Phase 4: INMB Assessment

- INMB has technical expertise to assess procedural or other technical ideas
- High level feasibility assessment - operational, safety, financial, potential effectiveness
- Incorporation into workplan of ideas passing the assessment above for further consideration
- NOTE – a pass in this phase does not necessarily mean implementation



Phase 5: Report Back

- The GTAA will report back to the proponent with the decision and details
- Included in INMB update at NAB & Neighbourhood Table meetings

Working with the Community



Community Coffee Chats

- We love to connect with the communities around the airport for ‘community coffee chats’ on a number of topics such as:
 - Airport Operations, Art at Toronto Pearson, Wildlife Management, Noise Management, Healthy Airport Initiatives and many other topics of interest to our neighbours
- We are regular presenters for a number of our partners:
 - The City of Mississauga Older Adult Coffee Chats
 - Neilson Park Creative Centre in Etobicoke
 - Town of Oakville Without Walls Program
 - Township of Guelph/Eramosa (Rockwood Community Centre)
 - Electronic Technology Club-Oakville Seniors Group



Invite us for a coffee with your community group!



Pearson Airport Explorers Club Virtual Camp

Pearson Airport Explorers camps started last summer continue in 2021.

These camps continue educating and engaging kids in grades 3 – 8 on topics related to Pearson Airport and aviation.

3 camps since January with a total of 338 kids participating. Camps will continue to be held monthly.

Next Camp: [April 29, 3:30 - 4:30](#)

Pearson Works Online

Virtual resource centre dedicated to support the employee and employer communities

Over 34 workshops /programs delivered covering topics like job search, career counselling, and mental health supports.

Nest Fund

GTAA has awarded 7 Black and Indigenous led organizations with over \$300,000 in total to support their capacity building activities.

Organizations are:

- The Black Youth School Success Initiative
- Canadian Roots Exchange
- Eshkiniigjik Naandwechigegamig, Aabiish Gaa Binjibaaying (ENAGB)
- Help a Girl Out
- Helping Hands Platform
- Trust 15 Youth Community Support Organization
- Weston Frontlines Centre.

Annual Public Meeting

- Each year, in early in May, we hold an Annual Public Meeting to talk about the management, operation, and maintenance of Toronto Pearson International Airport.
- The Chair of the Board and the President and Chief Executive Officer review the year and the Chief Financial Officer gives an overview of our financial performance.
- Our next Annual Public Meeting is happening on **May 5, 2021 at 1:30 p.m.**

More information — including the 2020 Annual Report and details on how to watch the meeting — will be provided at the link below in the days leading up to the event.

<https://www.torontopearson.com/en/community/get-involved/annual-public-meeting>



Discussion + Roundtable

Thank You

Next Meeting: September 21, 2021