
Toronto Pearson Neighbourhood Table Session

June 24, 2020

Agenda



Toronto Pearson & COVID-19: Healthy Airports



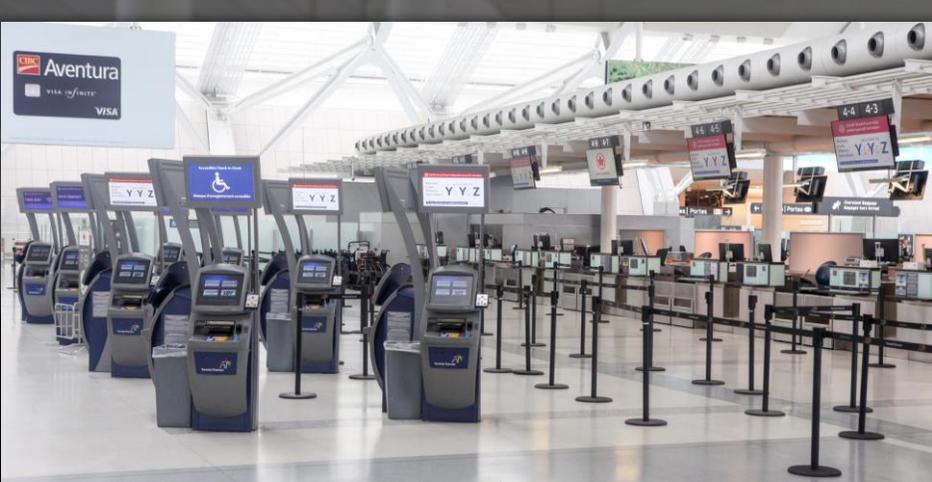
Airport cargo



GTAA updates



Idea 6 Reports



Toronto Pearson & COVID-19 Impacts



OUR HEALTHY AIRPORT COMMITMENT

In addition to the measures introduced by the GTAA on June 1, our Healthy Airport announcement includes the following commitment to passengers and airport workers:

- We commit to making passenger and employee health our top priority
- We commit to working with our partners to set strong, consistent standards for passenger and airport worker health
- We will deploy multi-layered tools and adjust quickly to changes and current intelligence
- We will ensure our approach is best in class and aligned with international aviation standards
- We will explore all innovative and technologically advanced solutions for ensuring the safety of our passengers and employees



Innovative Technologies Through Healthy Airport Commitment

Strongest Cleaning Standards

- Cleaning every 2 hours with innovative cleaning approaches
- 4 level approach to disinfection using Tersano, Oxivir, Ultra-Lyte, and Microbial/Probiotic - as recommended by contracted industrial hygienist and approved by the Public Health Agency of Canada
- Focused on high traffic areas, including escalators, moving walkways, handrails, stairways, baggage carts and kiosks
- Trial an employee disinfection corridor
- 6 autonomous floor cleaners

Physical Distancing

- Terminal access is restricted to travelling passengers and employees on shift
- Plexiglass installation in more than 80 locations, coming soon to taxis and limos
- Virtual customer service officers
- Gate holds for arriving aircraft to ensure terminals aren't crowded
- Floor decals, stanchions and additional signage

Innovative Technologies

- BlueDot technology, tracing and monitoring wearable technology for employees
- Disinfection tunnels, touchless kiosks, touchless elevators
- Thermal imaging, no touch customer service, touchless self-serve baggage drop

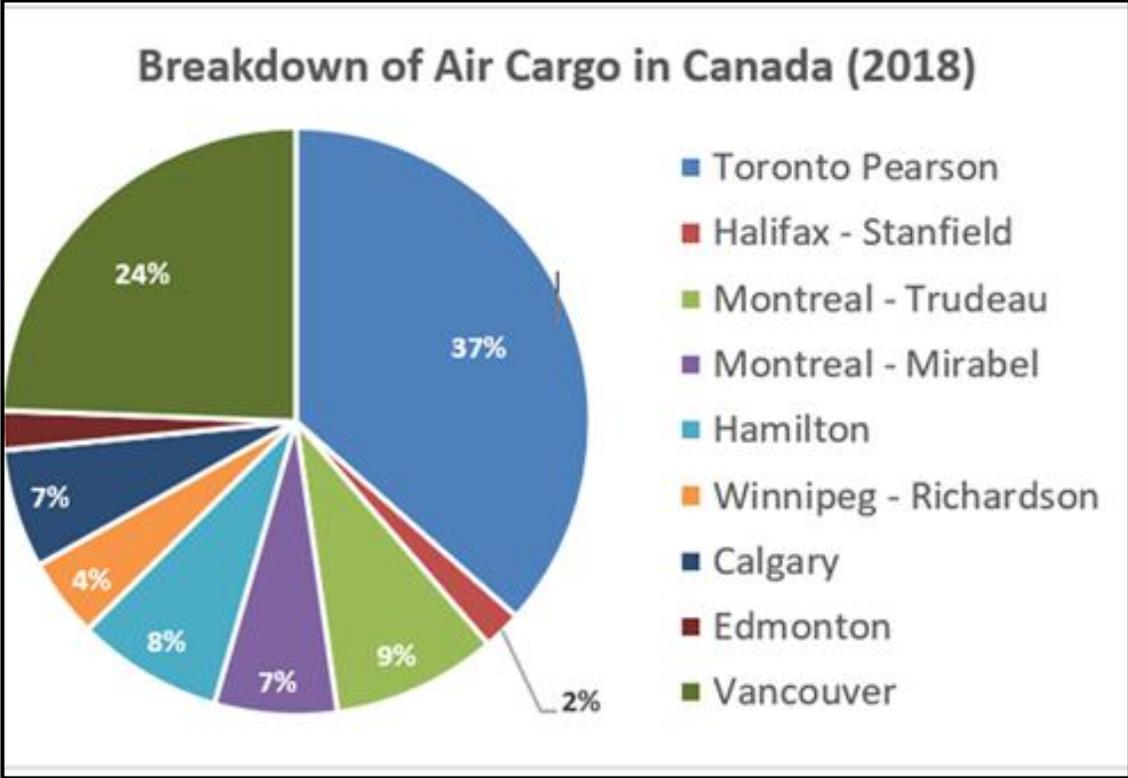


Cargo at Toronto Pearson



Background

- Toronto Pearson is Canada’s largest air cargo hub, handling approximately 40% of the country’s air cargo
- In 2019, the airport facilitated the movement of over 516,000 metric tonnes of cargo
- Prior to COVID-19, about 70% of cargo moved at Pearson was in the belly of passenger aircraft
- Seven airlines operate scheduled, cargo-only services with a total of about 65 flights per week
- Aircraft used as dedicated cargo flights include Boeing 777s, 747s, 757s, McDonnell Douglas DC-10s and MD-11s



Noise Management and Cargo

- All cargo operations at the airport are subject to and monitored for compliance with the noise abatement and noise operating restrictions established for Toronto Pearson
- This includes arrival and departure procedures for noise abatement, the Night Flight Restriction Program and engine run-ups
- Cargo operations are also subject to initiatives emerging from the 2018-2022 Noise Management Action Plan

How Cargo has Changed Since COVID-19

Importance of Air Cargo

- Canada is reliant on trade for its economy and the supply of essential goods. In 2018, Canada's trade in goods with the world = \$1.18 trillion
- Movement of goods was affected by COVID-19:
 - Drastic reduction in air travel – most cargo through Toronto Pearson in belly of passenger aircraft
 - Border closures
 - Disruption to the flow of goods by sea from China (second highest trading partner)
- At the same time, increased need for medical supplies such as PPE
- Supporting the continued movement of goods was and is vital to fight the COVID-19 crisis and to provide fuel to enable economic recovery

Keeping Goods Moving: Protecting Ontario's Supply Chains Critical to COVID-19 Response



AIR CARGO AND SUPPLY CHAIN ESSENTIAL FOR EMERGENCY RESPONSE AND ECONOMIC RECOVERY

Every day, cargo being shipped in aircrafts include critical goods that Ontarians rely on such as pharmaceuticals, personal protective equipment (PPE), information technology components, and high-value foodstuffs. It has never been clearer how important the movement of essential goods within Ontario's supply chain (and the businesses within it) are to the health and prosperity of this province.

On April 6, 2020, the Ontario Chamber of Commerce (OCC) and Greater Toronto Airports Authority (GTAA) convened leaders from the air cargo supply chain and business community for a virtual roundtable with the Honourable Victor Fedeli, Minister of Economic Development, Job Creation and Trade to discuss the importance of air cargo and supply chains to the COVID-19 response.

Topics of discussion during the roundtable included:

- The importance of goods movement to the Canadian economy
- Changes that could help support goods movement during this unprecedented time
- The role that the sector will play in longer term economic recovery

Insights from the discussion will shape stakeholder response during the critical weeks and months ahead and help ensure the continued movement of critical cargo operations throughout Canada.

INDUSTRY RESPONDING TO THE CHALLENGES OF THESE UNPRECEDENTED TIMES

From the onset of the COVID-19 pandemic, partners in Ontario's air cargo and supply chain took decisive action to keep goods moving, ensuring the essential flow of supplies and goods in Canada. The industry immediately responded to capacity issues resulting from an increase in e-commerce demand and reduced passenger flight activity. This resulted in shifting operations from passenger travel to support cargo needs, while maintaining repatriation efforts to bring Canadians home. Due to the hard work and dedication of Ontario's supply chain, all cargo operations have been maintained and continue to expand during this crisis.

On the ground demand has never been higher. Operations are being altered to prioritize the packing and shipping of essential items such as food, medicine, toilet paper, diapers, etc. Technology is also being used where possible to support more efficient and swift movement of goods.

Worker safety continues to be paramount for this industry, as it does within the overall business community. Supply chain partners have moved swiftly to adapt their operations to health guidelines to accommodate physical distancing regulations, supply personal protective equipment to front-line workers,

ensure the cleanliness of facilities and equipment, and improve access to facilities for truckers and last-mile delivery operators.

Furthermore, capacity will be essential to support immediate needs and for the path to economic recovery. Industry is eager to work with government to build further capacity to keep goods moving across the province. This includes lifting noise by-laws across the corridor to keep cargo moving at night as well as ensuring every part of Ontario's supply chain is protected and deemed essential.

SUPPLY CHAIN CHALLENGES

Ontario's supply chain is extremely complex. Partners within it continue to face challenges from facilitating cross border movements of pilots, crews, and truck drivers to improving access to facilities for truckers and last-mile delivery operators.

Key issues identified by supply chain stakeholders during the roundtable included:

- The need for personal protective equipment for workers, specifically front-line employees
- Cross border movements of pilots, crews, and truck drivers
- Access to facilities for truckers; long haul and last mile
- Capacity to store goods imported by now shuttered or closed businesses
- Construction to support current and continued capacity

ADDRESSING CHALLENGES AND THOSE THAT ARISE AS WE NAVIGATE THESE UNPRECEDENTED TIMES

To that end, we call on all levels of government to work closely with partners in the supply chain and their local chambers of commerce to solve these very real challenges that could hinder Ontario's vital supply chain. In particular, we look to:

- Continued efforts at all levels of government to coordinate actions so that there is clarity and consistency across the country;
- Continued support for the workers by all levels of government, including ensuring that enough PPE is available and improved access to facilities (food & beverage, restrooms) for truckdrivers, both on long haul routes and for local 'last-mile' deliveries;
- Continued adjustments to local regulations, such as the suspension of municipal noise by-laws restricting overnight deliveries in Toronto, expediting building permit approvals for capacity expansions and the resumption of supply chain construction projects, to ensure the continued flow of goods;
- The federal government and national leaders to continue to work with international counterparts to facilitate the cross-border movements of pilots/crews/truck drivers in a safe and expeditious manner; and,
- Continued work by the federal government and its agencies to expedite processes and approvals, such as for Canada Customs clearance and introduction of aircraft into air cargo service that facilitate the movement of goods by air.

CONCLUSION

The air cargo supply chain has proven incredibly important to support Canadians during the COVID-19 pandemic. Businesses from coast to coast continue to step up, join the fight, and divert resources to combat this crisis. Supply chain partners—from airlines to freight forwarders to customs—and government continue to work around the clock to keep critical supplies and essential goods moving. Collaboration between industry and government has never been more vital and will be increasingly important as governments look to build the roadmap to recovery.

Changes to Operations Since COVID-19



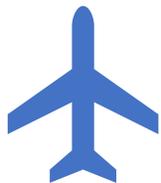
Overall operations down by 85%
Night Flights down by 67%



Unscheduled cargo operations (ad hoc) increased from 4/week to approx. 60/week

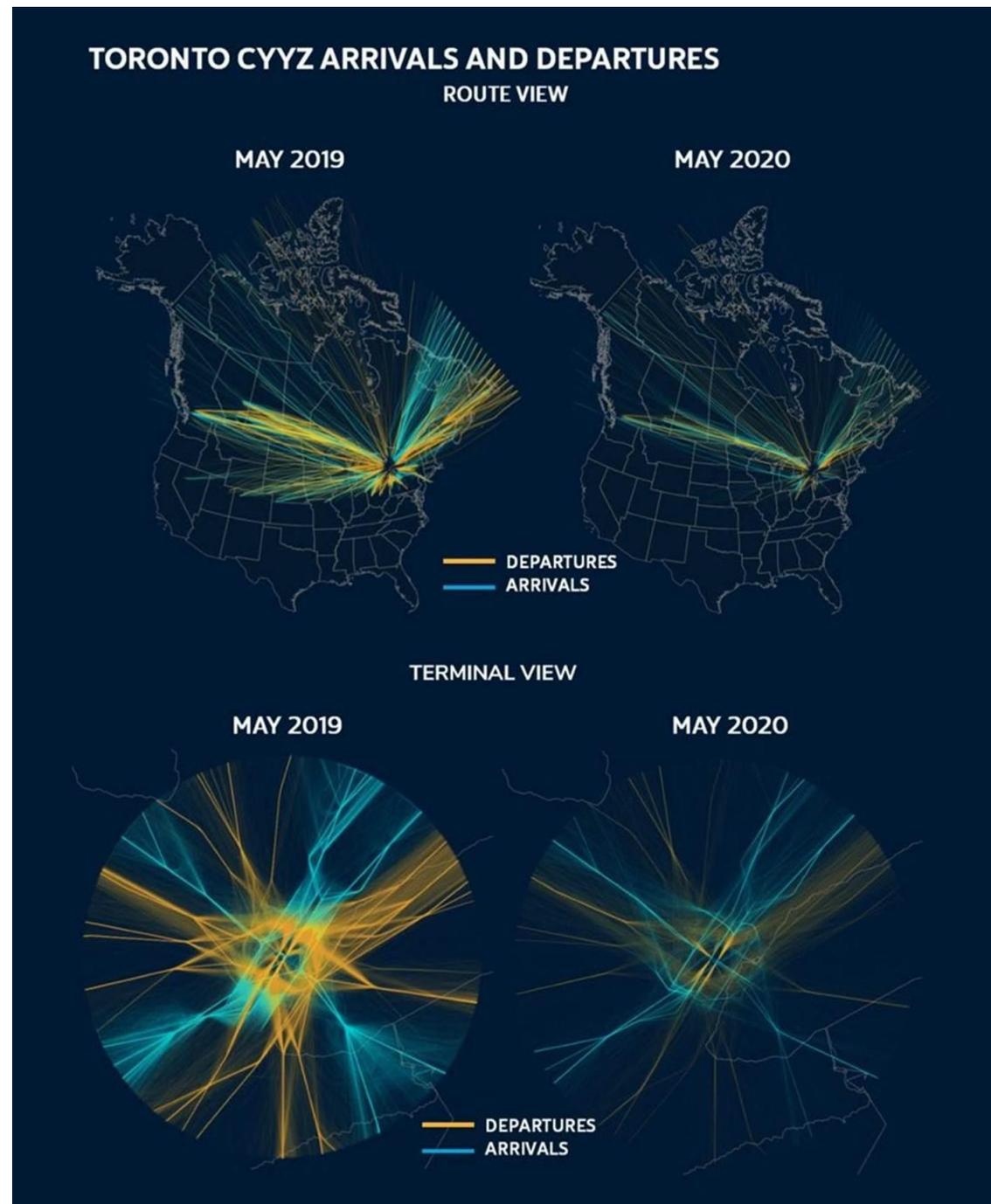


Tokyo, Frankfurt, London at forefront for delivering medical supplies



Conversion of passenger aircraft to cargo i.e. B777 & B787

Changes to Operations Since COVID-19

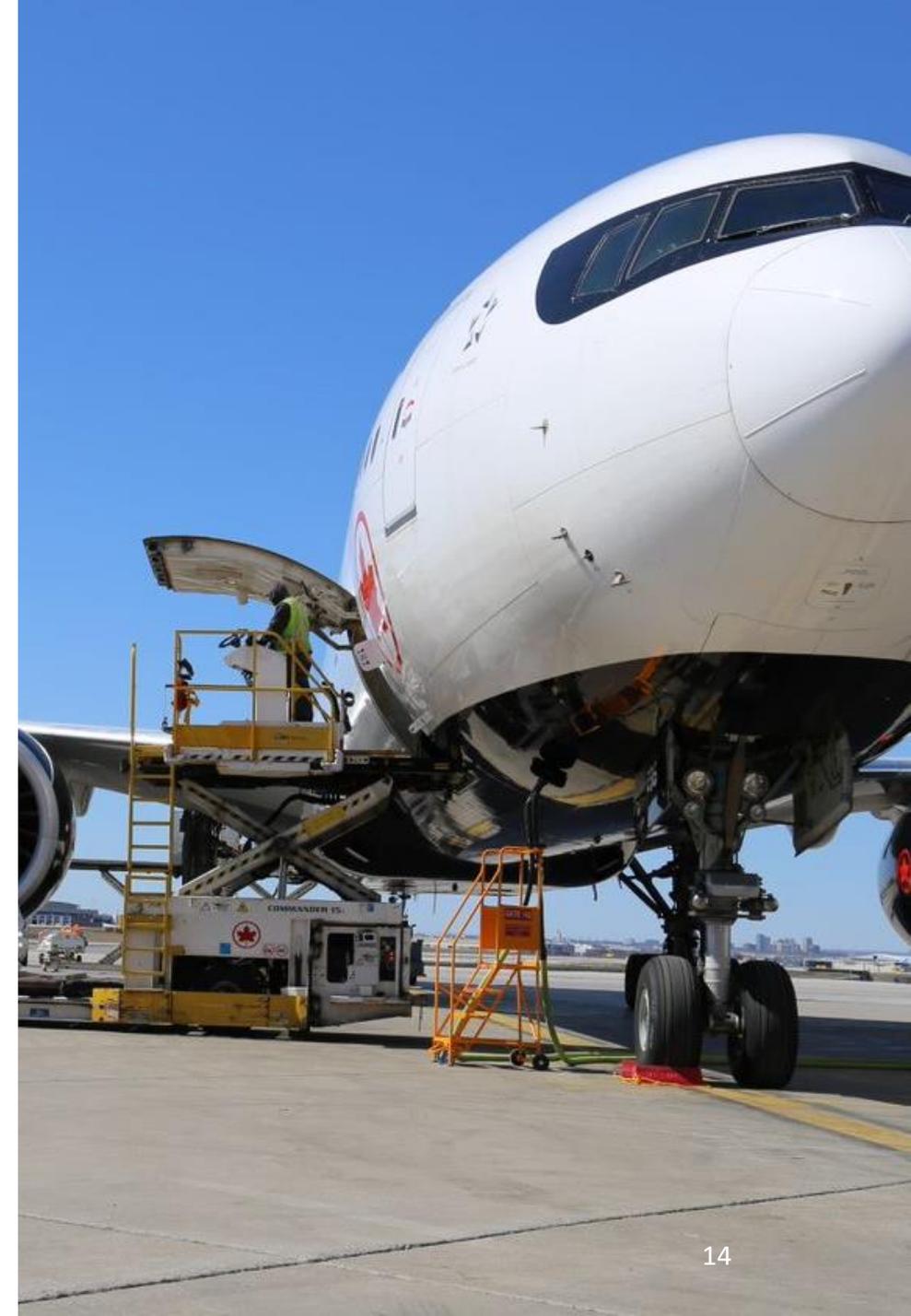


Adapting to Change



Airlines Stepping Up

- Since the start of travel restrictions and substantial decrease in passenger traffic, airlines have pivoted to the vital role of cargo movers during these critical times
- Some of the most important cargo goods that are being imported during the crisis include medical aid, masks and ventilators, and other personal protective equipment for frontline health workers
- An example of this is Air Canada, who have converted four Boeing 777s into dedicated cargo aircraft by removing the seats, more than doubling the available space as a result
- Gradually, efficiency is improving – Air Canada's first loading in Shanghai late last month took five hours, but with optimization and experience that was quickly compressed to one hour and 15 minutes – all while maintaining physical distancing





Cargo Goods

Common types of cargo goods arriving through the airport include mail, fresh food like produce and seafood, technological products and most recently critical medical supplies



Dedicated cargo

<https://www.youtube.com/watch?v=JDyXcpurBho&feature=youtu.be>

Typical cargo processes

https://www.youtube.com/watch?v=pMHD_ZZ3TNQ&feature=youtu.be

Innovative cargo processes

<https://www.youtube.com/watch?v=gJE1igs9kZM&feature=youtu.be>

<https://www.youtube.com/watch?v=nnhxUZrS74A&feature=youtu.be>

What the Airport is Doing to Help

- Cleared out more space on the cargo apron for operations of cargo flights
- Created new processes to accommodate passenger aircraft that are flying for belly cargo only
- Supported airlines that are converting their aircraft by providing input and equipment that helps them create the new process for loading and unloading
- Provided baggage rollers from the airport's baggage department and advised on safety measures for the process



GTAA Updates

Noise Reports, Construction and Idea 6 Reports

Noise Reports

- On June 16, we launched a series of interactive and comprehensive [noise reports on InsightFull](#)
- The reports were developed with input from you, the Neighbourhood Table, and was one of the deliverables of the Noise Management Action Plan



Toronto Pearson Noise Monitor Terminal Overview

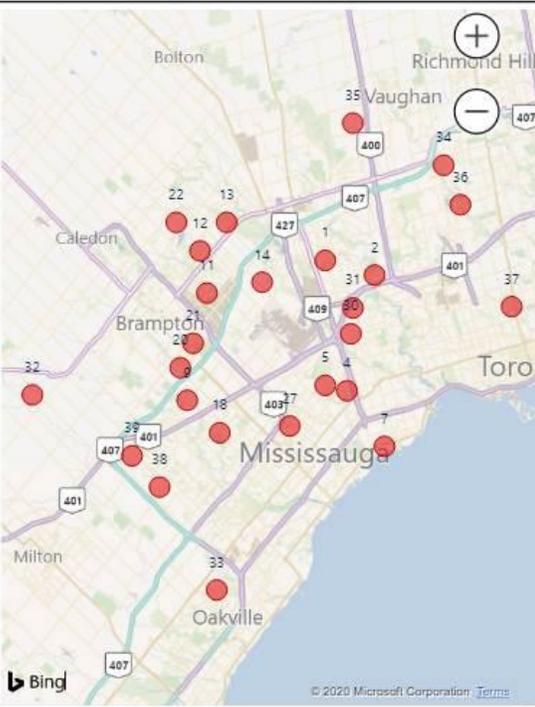
This tab shows an overview of noise data metrics from recorded aircraft events. Different monitoring locations shown on the map can be selected to view the results per noise monitoring terminal and understand the differences.

Select the yearly quarter(s) by clicking here.
Ctrl-click for multiple selection.

↓

Year, Quart... ▾

- ▣ 2018
 - Qtr 1
 - Qtr 2
 - Qtr 3
 - Qtr 4
- ▣ 2019
 - Qtr 1
 - Qtr 2
 - Qtr 3
 - Qtr 4



NMT	Average SEL (dB) ⓘ	Average LEO (dB) ⓘ	Average Duration (seconds) ⓘ	Number of Events > 65 dB ⓘ	Number of Events > 70 dB ⓘ	Number of Events > 80 dB ⓘ
1	83.2	71.8	20	14456	12506	454
2	82.0	71.0	17	30576	25085	428
5	85.7	74.0	20	1462	1410	217
31	82.0	70.5	21	8374	5425	201
9	81.7	70.5	17	23703	18175	193
18	80.2	69.6	16	9790	6071	162
4	82.3	71.9	21	496	346	39
14	82.0	69.3	27	1564	1159	16
20	81.1	67.3	33	8071	2459	16
12	79.8	69.0	19	722	448	9
39	78.1	67.9	14	7795	2659	8
38	77.4	67.7	12	2643	871	7
13	79.9	67.7	22	651	342	4
30	77.9	67.6	14	1212	573	4
36	77.9	67.6	13	7993	2176	4
22	79.7	68.3	20	566	307	3
33	77.6	67.9	12	397	147	3
21	84.4	72.8	43	131	95	2
27	76.9	68.9	10	86	31	2
34	76.7	66.3	14	1224	383	2
7	79.5	68.3	17	986	560	1
11	76.3	70.7	9	160	43	1
37	76.9	67.4	11	554	188	1
32	77.1	67.8	11	677	268	
35	77.7	67.3	13	244	98	

NMT 33 was non-operational between Feb-Mar 2019 as well as Dec 2019
 NMT 31 was non-operational for Jul-Nov 2019
 NMT 13 and 14 were non-operational for April 2019



Runway & Taxiway Maintenance Update

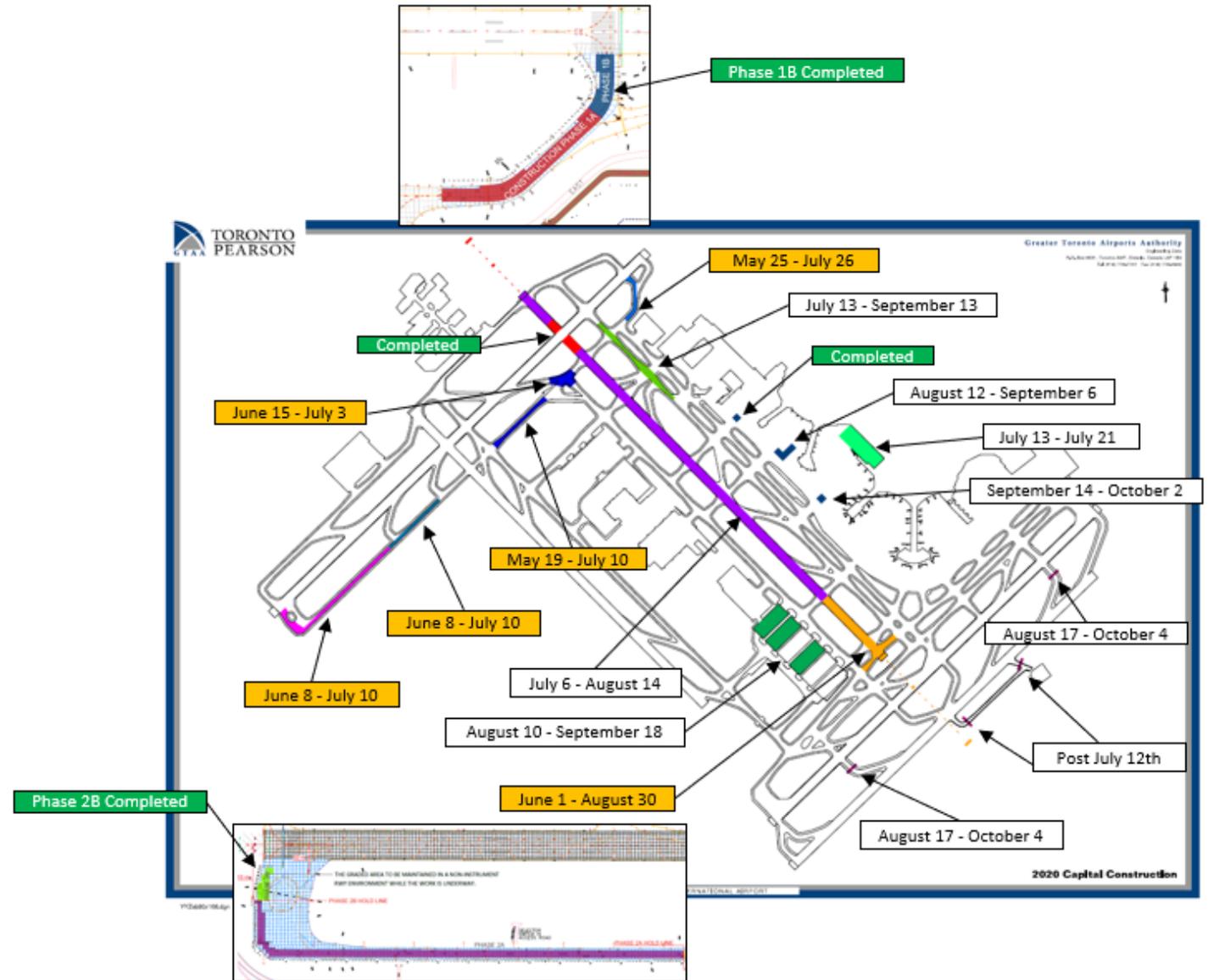
Maintenance Update

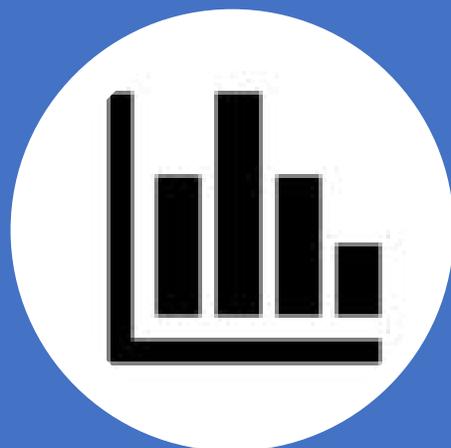
Work Completion Highlights

- Taxiway Hotel Phase 1B completed
- 15L/33R Phase 3 completed (05/23 intersection work)

Delays/Changes/Runway Closures:

- 05/23 reopened to departures on June 12th but remains closed for arrivals
- The runway was supposed to open for arrivals
- This situation is being reviewed on a weekly basis
- 15L/33R remains closed as construction on that runway continues





Idea 6 Reports Amended Preferential Runway System Trial

Idea 6 – Preferential Runway System Trial

- For discussion:
 1. Do the reports provide you with the information you need to understand how the airport operates at night?
 2. Are they understandable?
 3. How can they be improved?

Trial Report: Feb 27 to May 31 2020

Amended Preferential Runway System Trial



Toronto Pearson

International Airport | Aéroport International

Amended Preferential Runway System Trial



Duration:

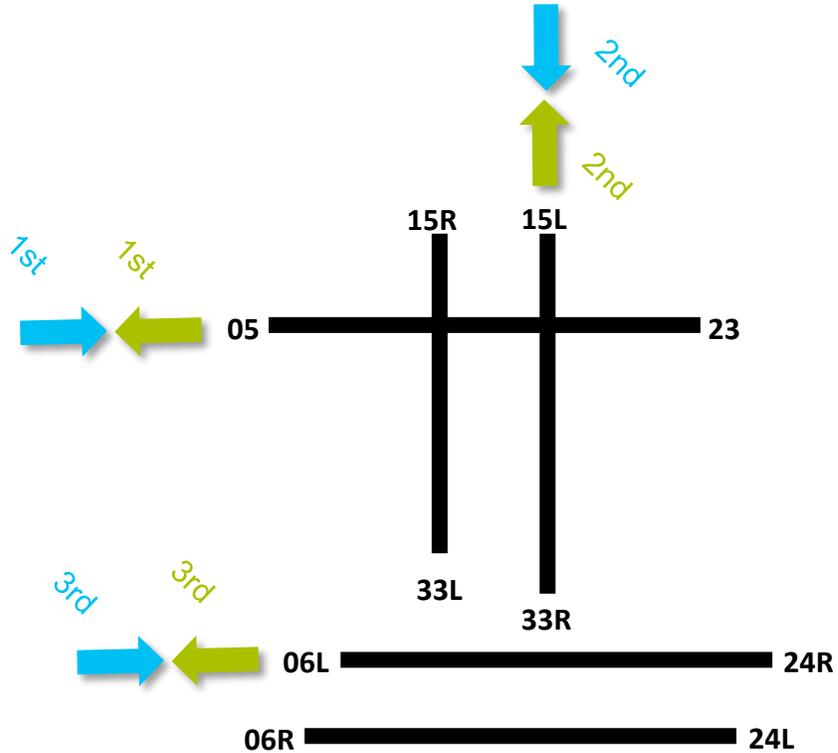
- February 27, 2020 to February 26, 2021, nightly during the preferential runway hours (12:00 a.m. to 6:30 a.m.)
- Trial will last for one year to test usage of the updated system across a variety of weather conditions, as well as during runway construction season and winter operations.

Objective:

- Minimize the total population impacted by aircraft noise of 45 dB or higher during preferential hours.
- Enable more consistent use of runways identified as the preferential runways.
- Provide alternatives for into-the-wind configurations for each direction, which would be used when the crosswinds and/or tailwinds don't allow the use of the first or second choice preferential runway configurations.

Note: The Preferential Runway System outlines the preferred runways to use. However, non-preferential runways may be used when required by weather, wind, runway availability, or operational requirements, such as runway maintenance.

Pre-Trial Preferential Runway System

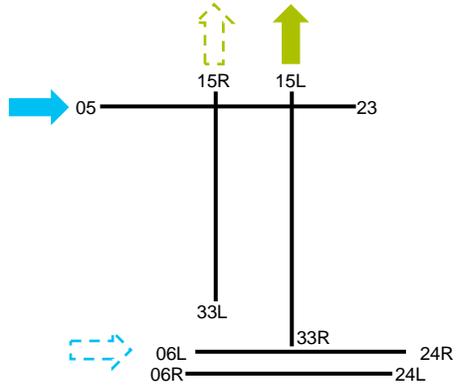


Disadvantages:

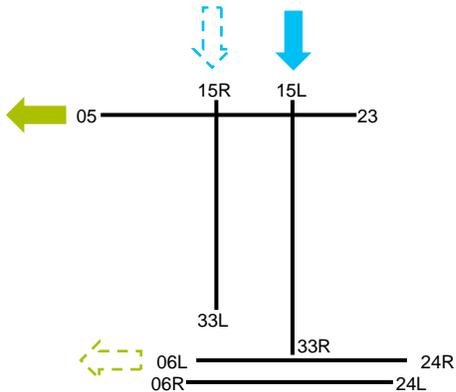
- Very little flexibility – could either use the Arrival preferential runway or the Departure one
- Did not account for winds
- Did not allow for maintenance options

Amended Preferential Runway System

1st Choice - Whenever crosswind, tailwinds & winds-aloft allow

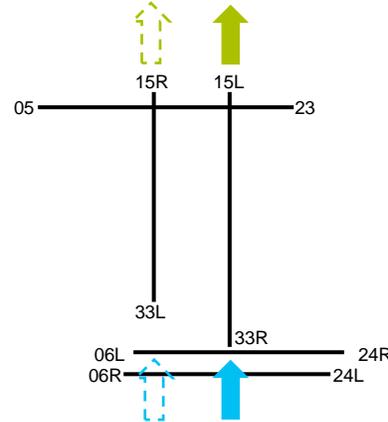


2nd Choice - Whenever crosswind, tailwinds & winds-aloft allow

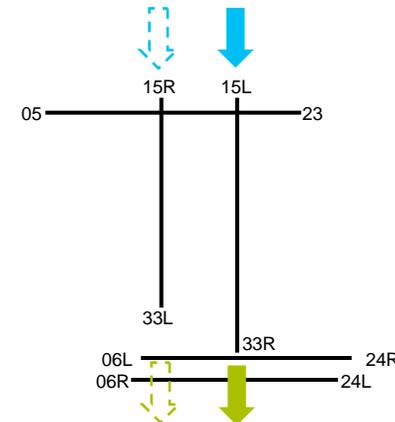


Selection driven by weather conditions and infrastructure availability when 1st or 2nd choice are not operable. Ultimately any single or pair of runways can be used.

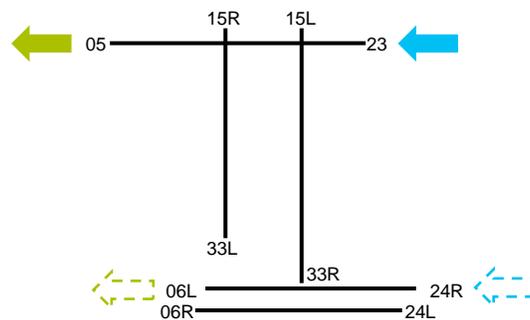
Operation for northerly wind



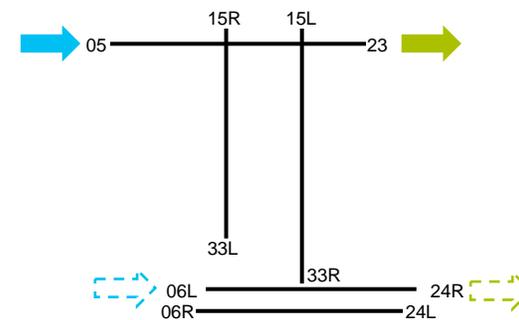
Operation for southerly wind



Operation for westerly wind



Operation for easterly wind



Key:

← Primary departures

← Primary arrivals

↔ Maintenance adjusted departures

↔ Maintenance adjusted arrivals

Adherence and Non-Adherence Meaning



- Operations that occur on the 1st or 2nd choice runways, or their maintenance adjusted counterparts are considered to have adhered to the Preferential Runway System.
- When the 1st or 2nd choice are not operable, the wind dictated runway(s) or the maintenance adjusted counterpart(s) will be used. These are still part of the Preferential Runway System and are therefore considered as adherent.
- Non-adherent operations can occur when an aircraft arrives or departs off a runway that isn't part of the 1st, 2nd or wind driven runways that are in use at that time. This could happen as a result of:
 - Heavy traffic caused by a weather event earlier in the day requiring the use of additional runways (e.g. due to winds Runway 33R is being used for arrivals and departures, however some arrivals are offloaded onto Runway 33L. These offloads are considered non-adherent).
 - A medevac aircraft requesting the use of a non-preferential runway for safe and expedited patient transport (e.g. departed Runway 23 when the 1st choice was being used).
 - The aircraft was assigned a runway before the start of the preferential runway hours but ended up operating after midnight (e.g. aircraft already lined up for departure off Runway 23, cleared to take off even though the airport had just switched to the 1st choice configuration).
 - An active runway is temporarily unavailable due to snow clearing or a bird strike (e.g. the 1st choice configuration is in use, but during snow clearing on Runway 05, several aircraft arrive on Runway 06L and are considered non-adherent).

- The overall adherence to the Preferential Runway System was 54.4% for the pre-trial period of February 27 to May 31 2019. This has increased to **94.0% for the trial period of February 27 to May 31 2020.**
- This increase in adherence and the resultant reliable usage is related to two challenges in the pre-trial system that the amended Preferential Runway System was designed to address:

1. The pre-trial Preferential Runway System, did not account for factors such as wind, weather or runway availability which necessitated the use of runways that were not identified as preferential, and leading to low adherence levels.

The amended system provides Air Traffic Controllers with more flexibility for wind-dictated operations, as well as alternatives during maintenance work, snow clearing, etc.

2. In the pre-trial system, the first choice runway for departures and the first choice runway for arrivals cannot be used together for safety reasons. Therefore, if the first choice runway is used for departures, the second or third choice would be used for arrivals and vice versa to avoid head-on operations.

The amended Preferential Runway System better reflects how the airport operates, and therefore allows for more reliable usage of the system.

Adherence by Month

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)



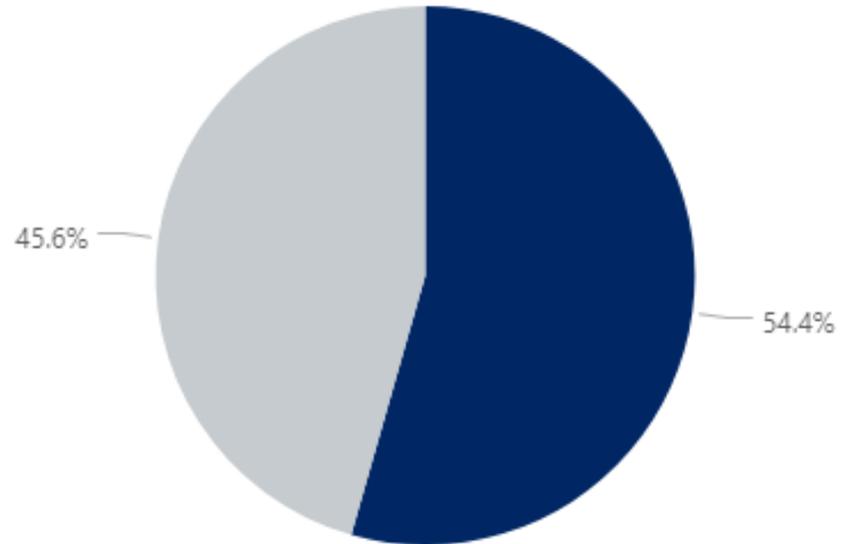
		Trial Month	Pre-Trial Adhered	Pre-Trial Non-Adhered	Trial Adhered	Trial Non-Adhered
Reporting Period	Month 1 (Feb 27-Mar 31)		47.7%	52.3%	91.6%	8.4%
	Month 2 (April 1-30)		60.5%	39.5%	98.4%	1.6%
	Month 3 (May 1-31)		56.8%	43.2%	98.2%	1.8%
	Month 4 (June 1-30)					
	Month 5 (July 1-31)					
	Month 6 (August 1-31)					
	Month 7 (September 1-30)					
	Month 8 (October 1-31)					
	Month 9 (November 1-30)					
	Month 10 (December 1-31)					
	Month 11 (January 1-31)					
	Month 12 (February 1-26)					

Adherence – All Movements

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)

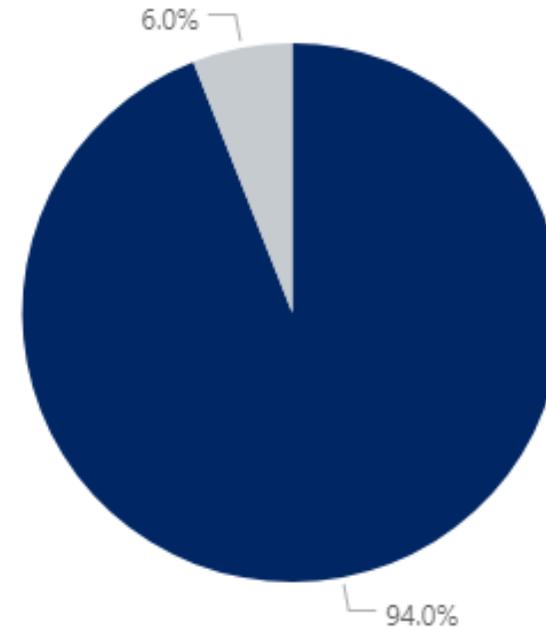


Pre-Trial Adherence - All Movements



● Adhered ● Non-Adhered

Trial Adherence - All Movements



● Adhered ● Non-Adhered

Adherence – Arrivals

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)

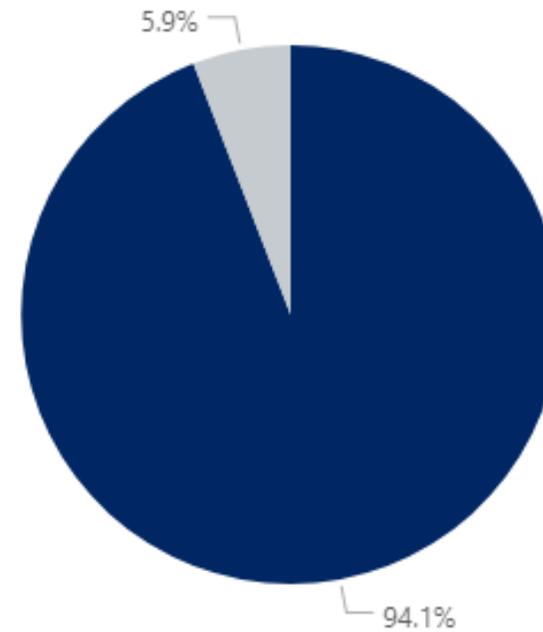


Pre-Trial Adherence - Arrivals



● Non-Adhered ● Adhered

Trial Adherence - Arrivals



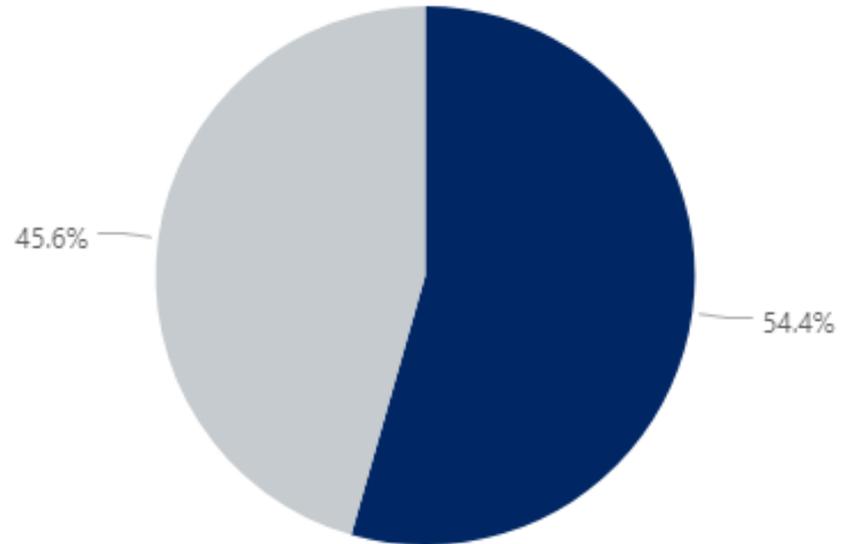
● Adhered ● Non-Adhered

Adherence – Departures

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)

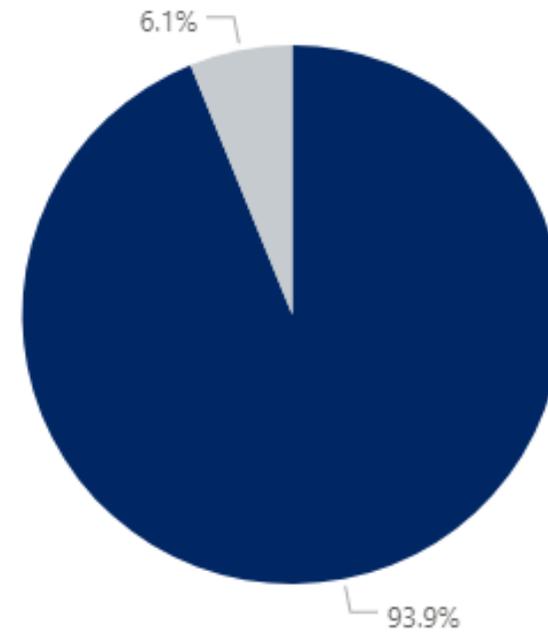


Pre-Trial Adherence - Departures



● Adhered ● Non-Adhered

Trial Adherence - Departures



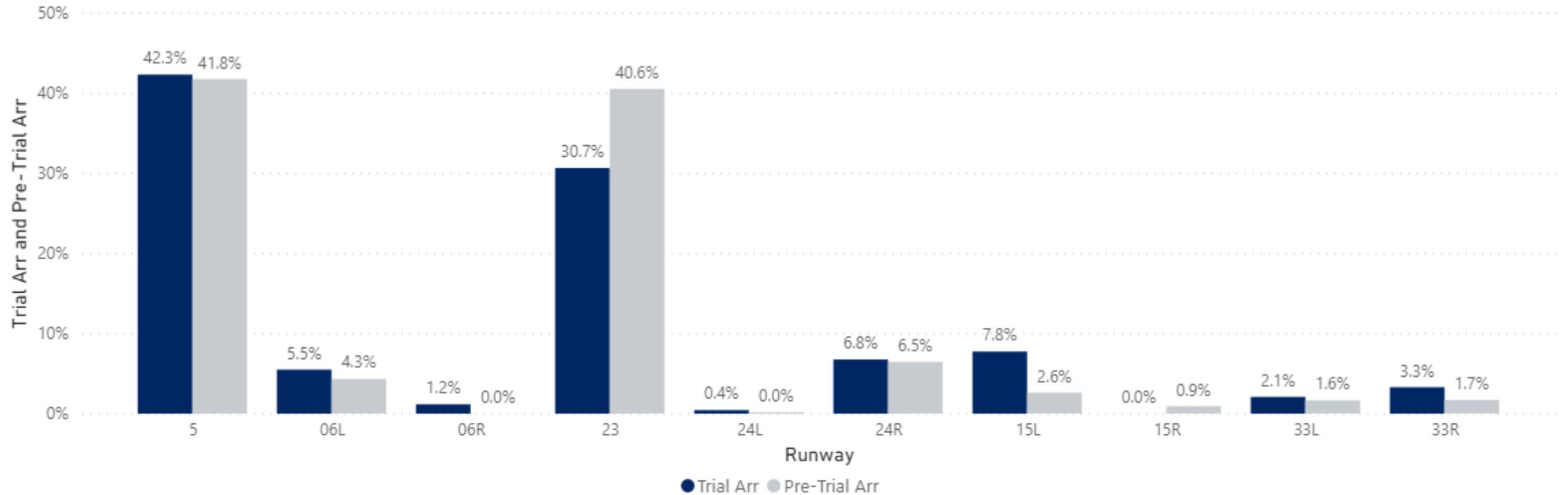
● Adhered ● Non-Adhered

Runway Usage – Arrivals

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)



Arrivals by Runway

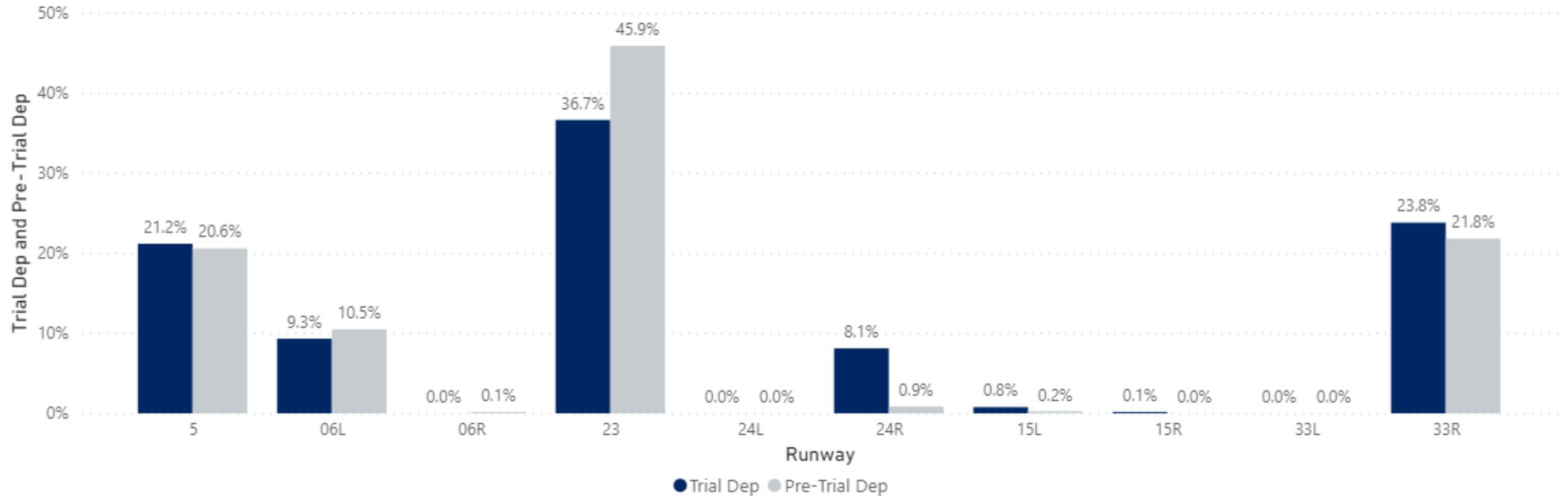


Runway Usage – Departures

Pre-Trial (February 27 to May 31 2019) vs Trial (February 27 to May 31 2020)



Departures by Runway

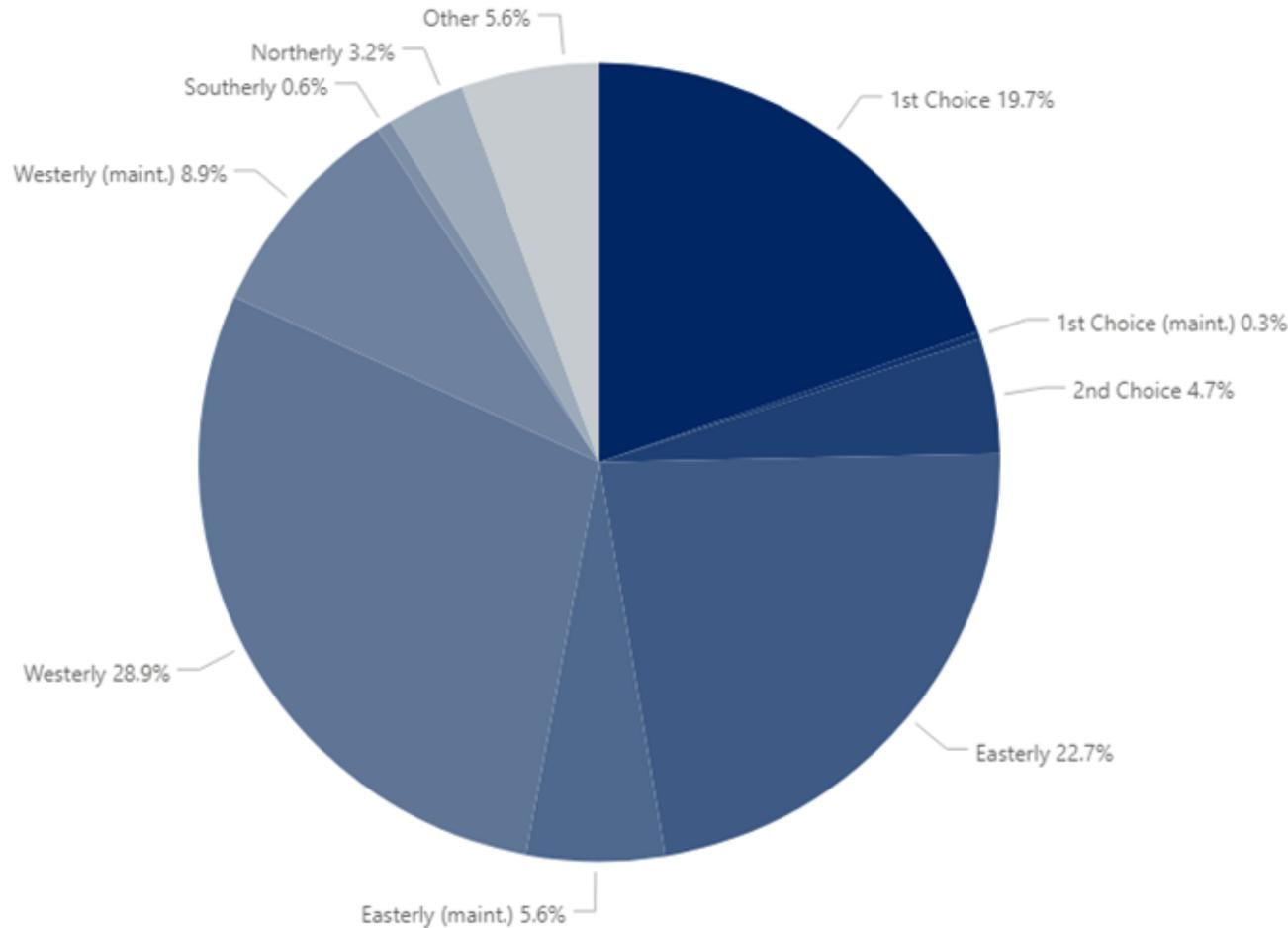


Primary Configuration by Percent of Hours

Trial (February 27, 2020 to May 31, 2020)



This chart shows the percent of total hours between February 27 to May 31 2020 spent in each configurations listed below. Note that this only reflects the primary configuration in use at the time, and does not mean that all operations during that hour used that configuration. For example, the hour may have had a non-adherent operation that occurred on a different runway, or a change in winds towards the end of the hour may have required a runway change.



Arr	Dep	Configuration
05	33R	1st Choice
06L	33R	1st Choice (maintenance)
06L	33L	1st Choice (maintenance)
05	33L	1st Choice (maintenance)
15L	23	2nd Choice
15R	23	2nd Choice (maintenance)
15L	24R	2nd Choice (maintenance)
15R	24R	2nd Choice (maintenance)
05	05	Easterly
06L	06L	Easterly (maintenance)
23	23	Westerly
24R	24R	Westerly (maintenance)
15L	15L	Southerly
15R	15R	Southerly (maintenance)
33R	33R	Northerly
33L	33L	Northerly (maintenance)