

Noise Management Forums Pearson Public Meeting

September 28, 2023



Welcome + Introductions



Pearson Public Meetings

- The Pearson Public Meetings are part of the Noise Management Forums.
- The meetings provide residents with:
 - A chance to learn more about airport operations and how your area is impacted
 - Hear updates from GTAA and NAV CANADA about noise management
 - Ask questions or raise concerns related to airport operations
- Each meeting has a drop-in style session where residents can ask questions about operations in their area and a public meeting session which includes presentations and a public question period. Both the drop-in session and public meetings are virtual
- The Public Meetings are recorded and posted online at www.torontopearson.com/nmf

Agenda

- About Toronto Pearson + Noise Management Roles and Responsibilities
- Operations + Community Impacts
- NAV CANADA Updates
- GTAA Updates
- Question Period

Operations + Community Impacts



About Toronto Pearson



In 2022, Toronto Pearson facilitated 35.6 million passengers and 336,800 aircraft movements a year, directly employing 50,000 people from 400 employers, and enabling 6% of Ontario's GDP



Toronto Pearson is open 24 hours a day. The day is divided into regular operating hours (6:30 a.m. to midnight), preferential runway system hours and restricted hours



Preferential hours (midnight to 6:29 a.m.): prioritize runways that overfly the fewest people



Restricted Hours (12:30 to 6:29 a.m.): governed by a Night Flight Restriction Program which limits number of movements. Runs from Nov 1 to Oct 31. Annual budget increases with passenger growth

Noise Management Roles and Responsibilities

The **Greater Toronto Airports Authority** (GTAA) is a not-for-profit private business that has managed and operated the airport since 1996. The GTAA develops and manages a Noise Management Program and explores new opportunities for noise mitigation.

NAV CANADA is the air navigation provider in Canada, responsible for safe and efficient movement of aircraft. NAV CANADA designs and publishes a network of air routes to design criteria set by Transport Canada and ICAO. It also assigns runways at Toronto Pearson considering winds, weather, capacity and preferential runway system.

Airlines are responsible for conducting operations in accordance with the Transport Canada regulations and the airport's Noise Abatement Procedures and Noise Operating Restrictions.

Transport Canada is the regulator for aviation in Canada. It ensures Canadian aircraft are compliant with the international noise standards through the aircraft certification process, establishes flight path design criteria and land-use guidelines based on noise exposure. It approves proposed changes to and enforces the Noise Abatement Procedures and Noise Operating Restrictions. Transport Canada also audits the airport's Night Flight Restriction Program annually.

Our Runways

Toronto Pearson has five runways

- Two runways go in the north-south direction:
 - Runway 15L/33R
 - Runway 15R/33L
- Three runways go in the east-west direction:
 - Runway 05/23
 - Runway 06L/24R
 - Runway 06R/24L
- Runways can be used from both ends, so while there are five runways, there are 10 operational ends for arrivals and departures



Runway Selection

Air Traffic Controllers consider many factors when selecting a runway configuration:



Wind - direction, windspeed, crosswinds



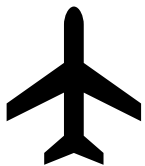
Runway and Taxiway Availability - can be affected by maintenance, snow clearing and other factors



Surface conditions - (wet, dry, ice, snow) combined with wind conditions



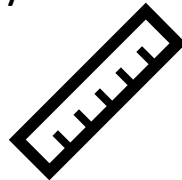
Distance to Runway – the primary departure runway is typically the shortest distance from the terminal – less fuel consumption, less GHG



Traffic Demand & Capacity – traffic levels vary seasonally and even throughout the day. Runway configurations are selected for optimal capacity



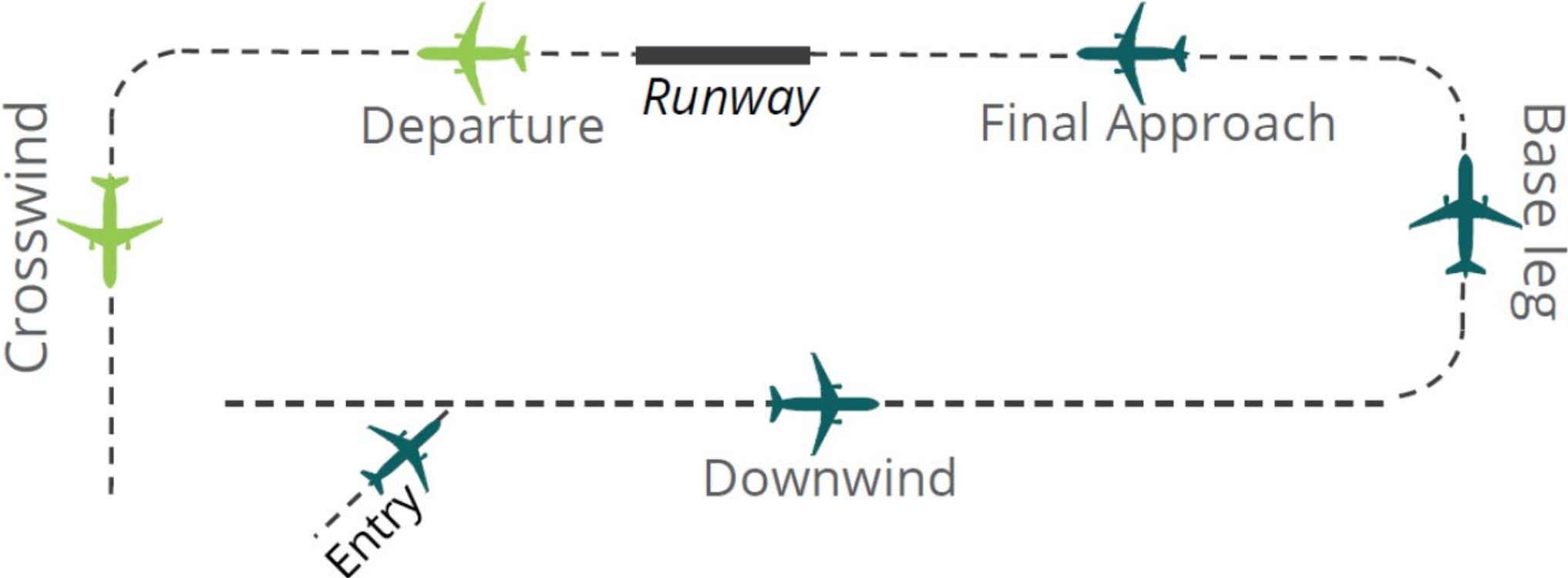
Time of Day – the Nighttime Preferential Runway System is used between midnight and 6:30 am. It is designed to affect the fewest people in the nighttime hours



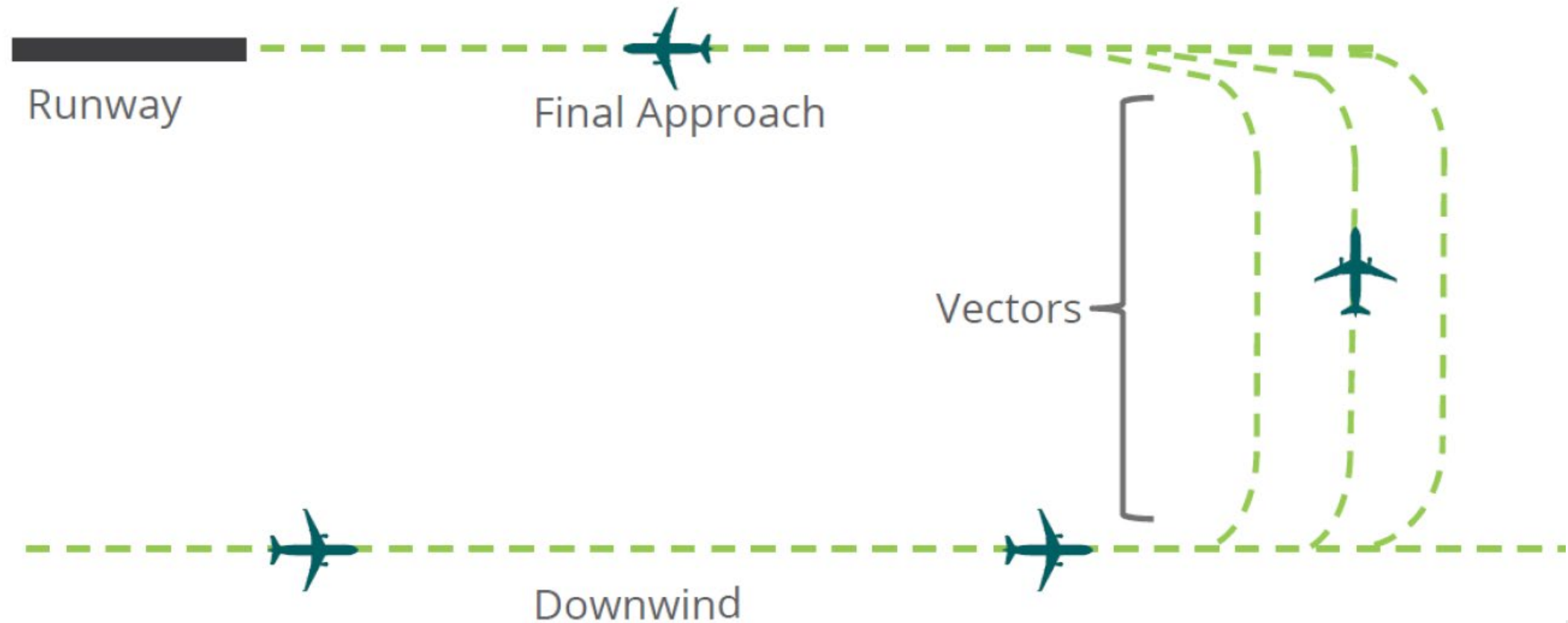
Runway Length –sometimes a longer runway is needed for long haul, large/heavy aircraft

The east/west runways are used for ~95% of traffic, due to predominant easterly/westerly winds, and capacity

Runway Circuit Pattern



Runway Circuit Pattern



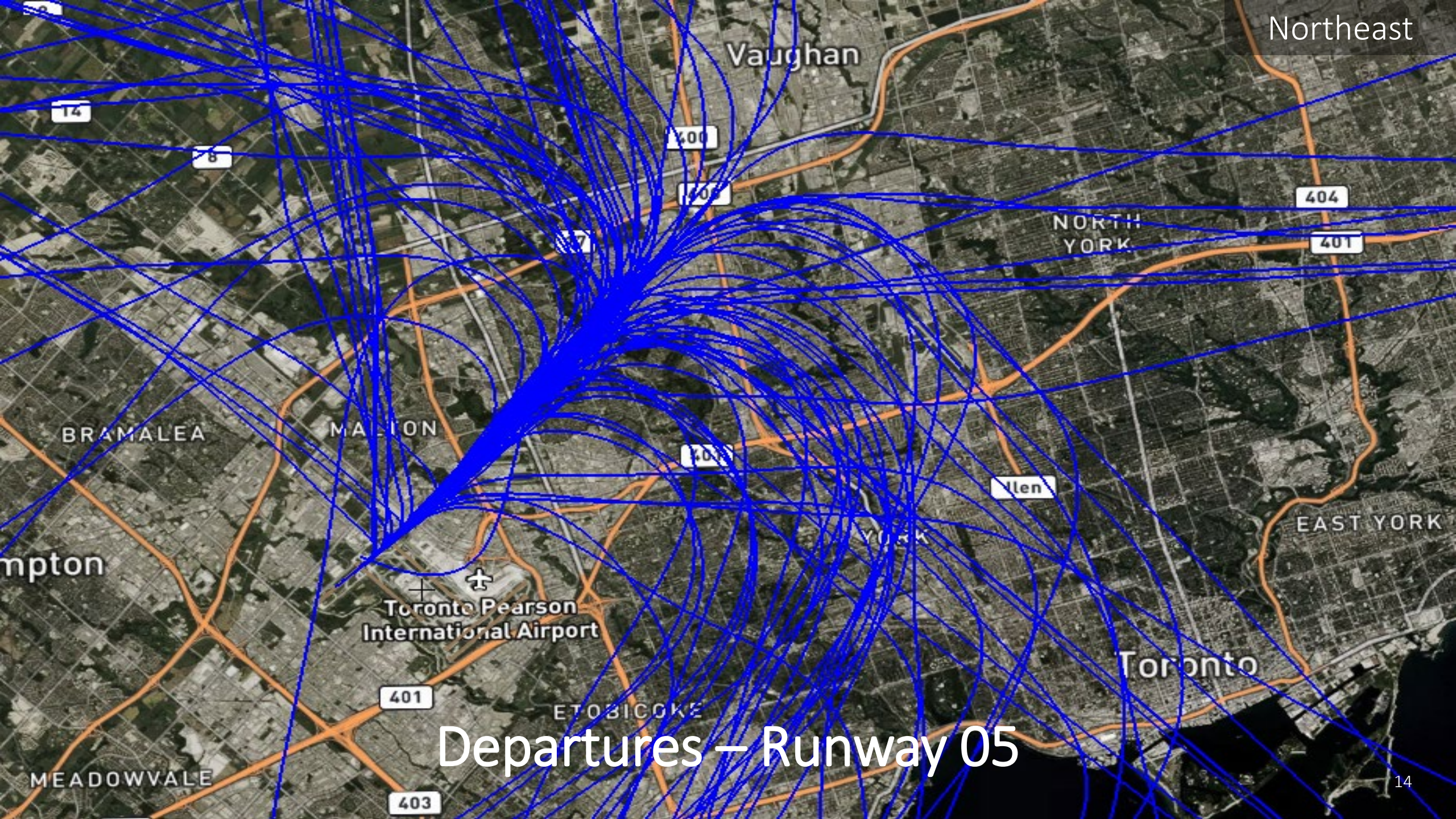
Arrivals Runway 23 Departures Runway 05

Communities impacted:

Maple/Vaughan, Richmond Hill, Thornhill, Rexdale



Arrivals - Runway 23



Northeast

Vaughan

14

8

400

407

17

404

401

NORTH YORK

BRAMALEA

MALTON

402

Allen

EAST YORK

mpton

YORK

Toronto Pearson International Airport

Toronto

401

ETOBICOKE

Departures – Runway 05

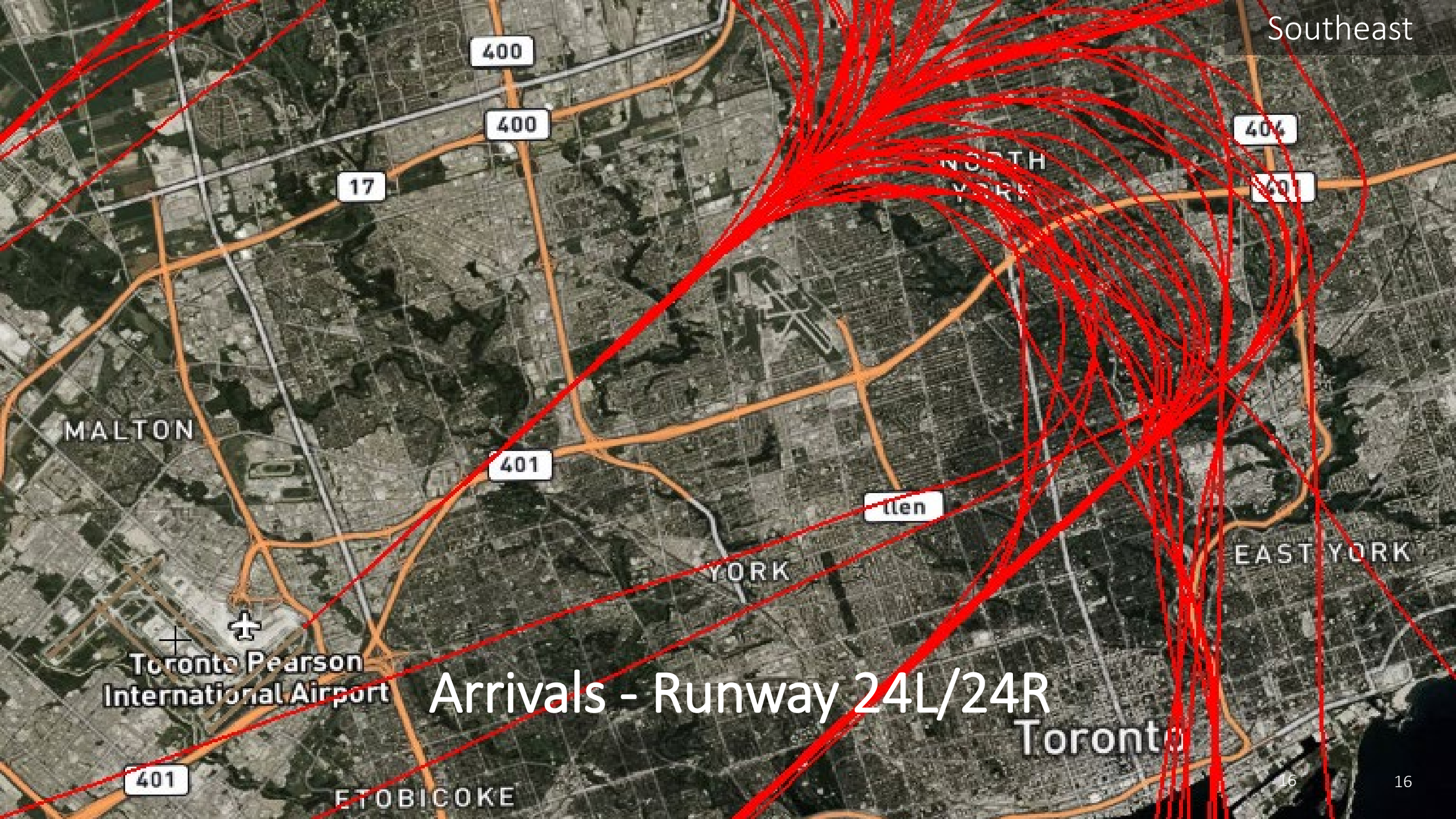
MEADOWVALE

403

Arrivals Runway 24L/R Departures Runway 06L/R

Communities impacted:

Midtown Toronto, North York, Weston, Markham



Southeast

400

400

17

404

407

MALTON

401

Allen

YORK

EAST YORK

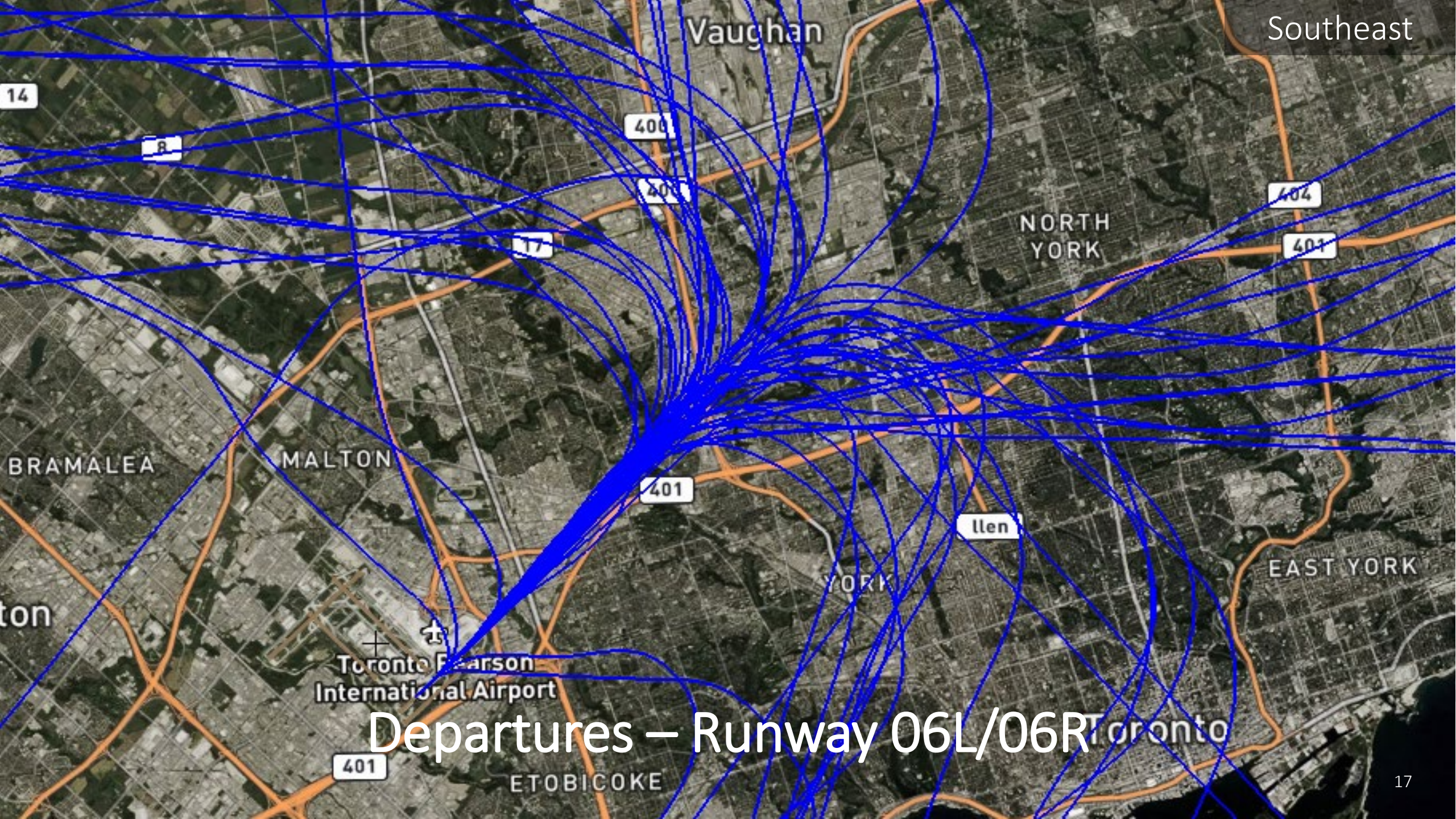
Toronto Pearson
International Airport

Arrivals - Runway 24L/24R

Toronto

401

ETOBICOKE



Southeast

Vaughan

NORTH YORK

MALTON

EAST YORK

YORK

Toronto Pearson International Airport

Departures – Runway 06L/06R

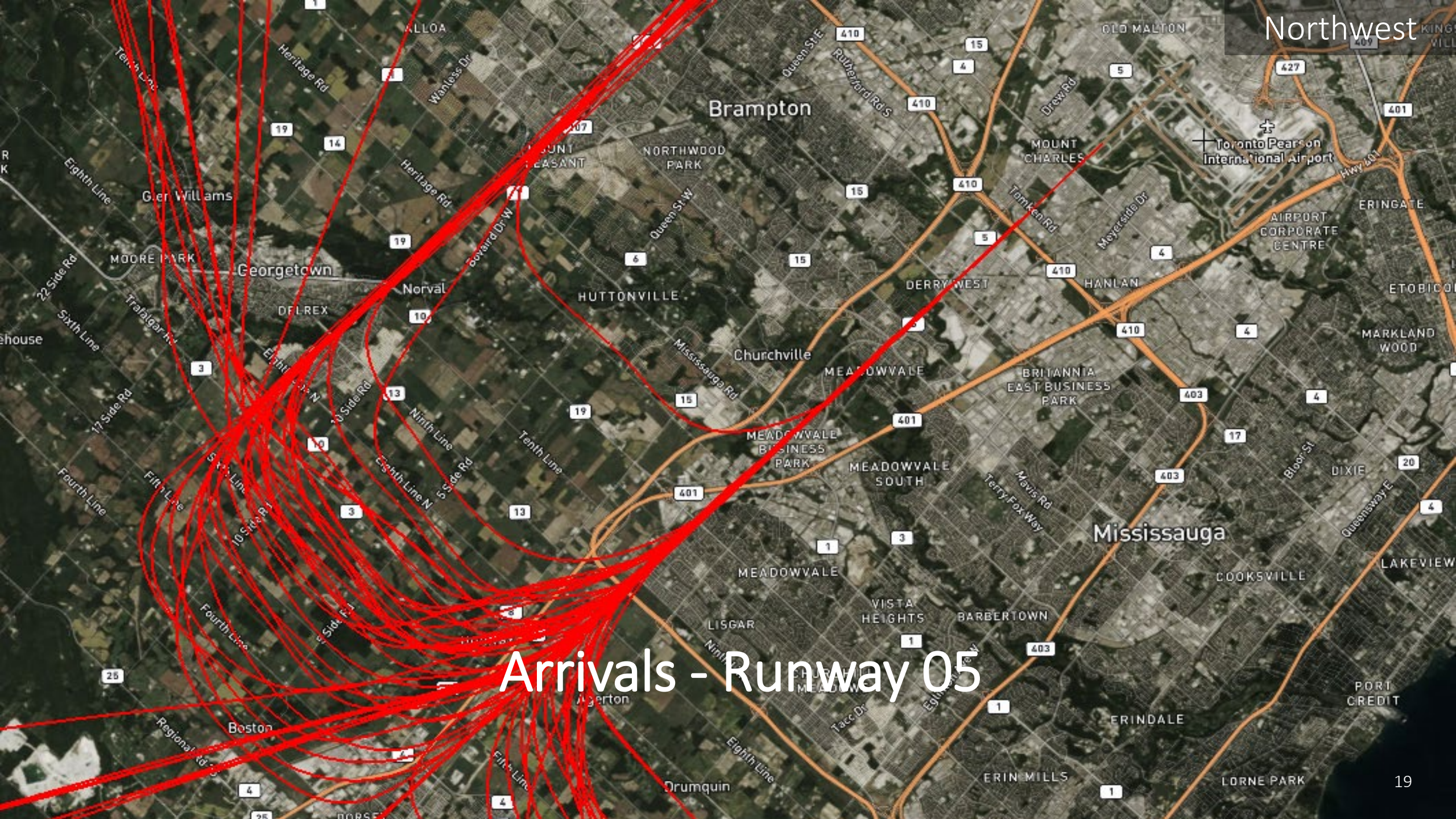
ETOBICOKE

Arrivals Runway 05

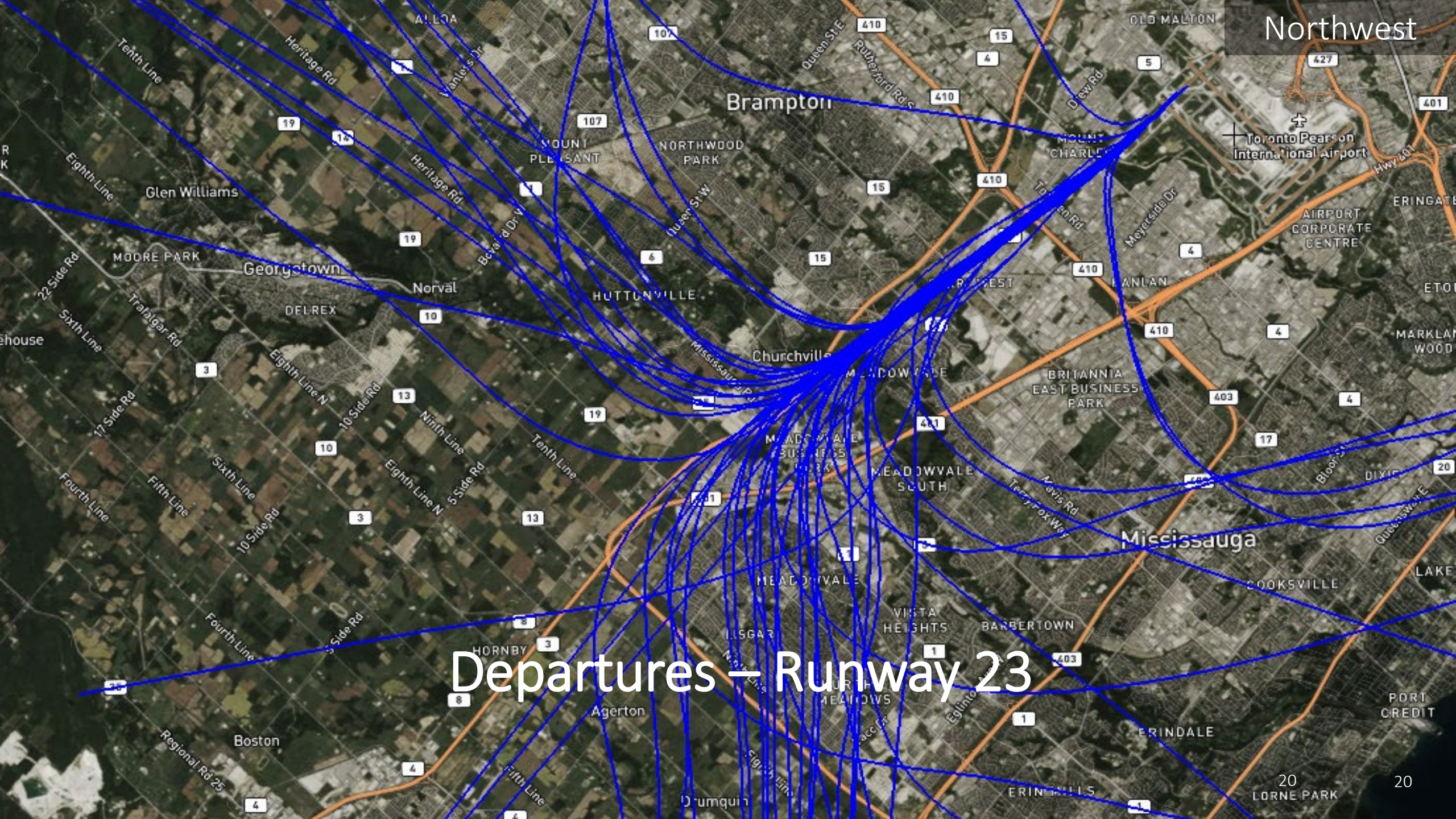
Departures Runway 23

Communities impacted:

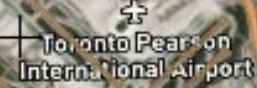
Brampton, Georgetown, Milton, Meadowvale, Streetsville



Arrivals - Runway 05



Departures - Runway 23



Toronto Pearson International Airport

AIRPORT CORPORATE CENTRE

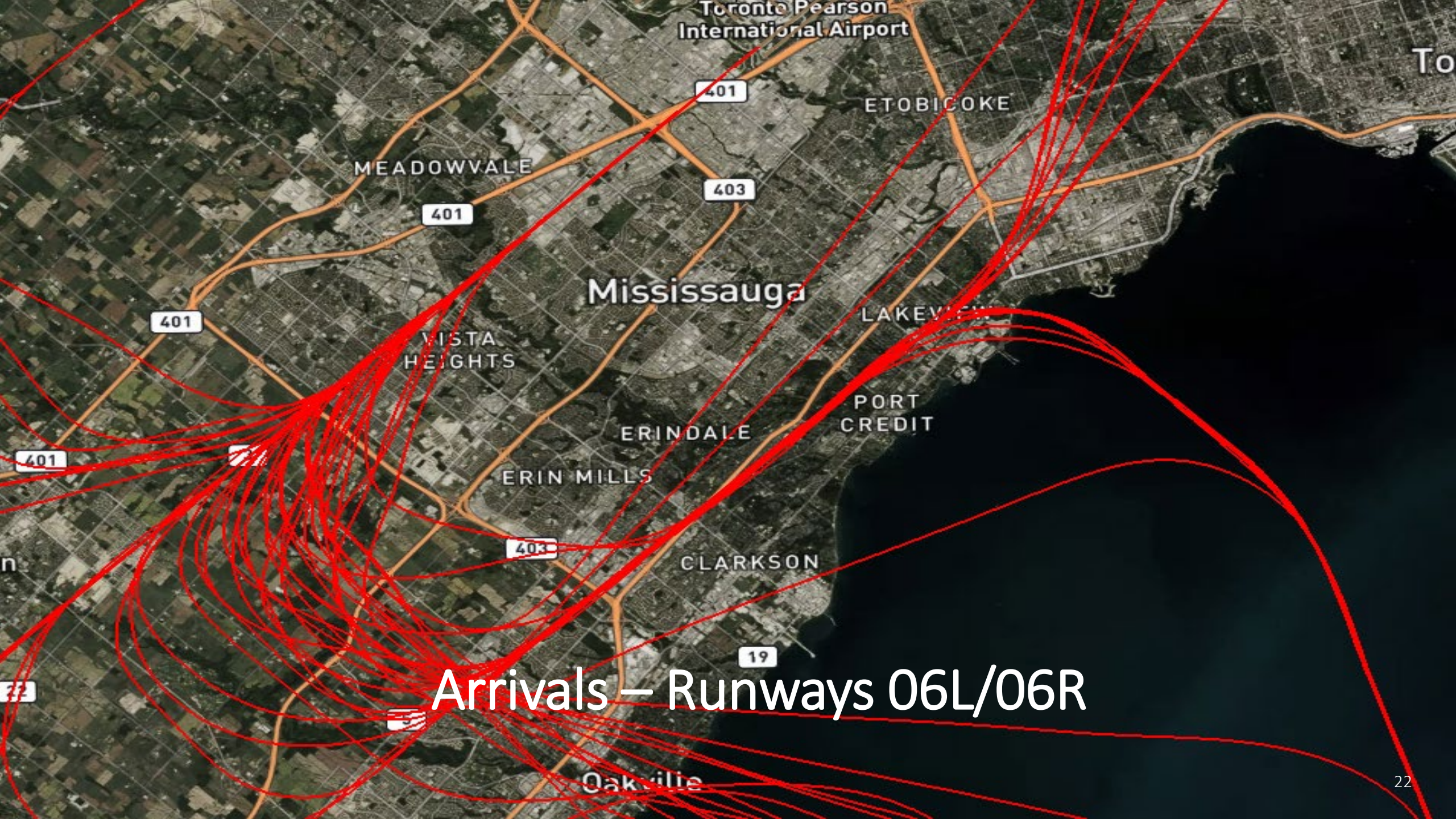
ERINDALE

20 LORNE PARK

Arrivals Runway 06L/R Departures Runway 24L/R

Communities impacted:

Meadowvale, Alderwood, Erin Mills, Streetsville, Clarkson, Port Credit, Oakville



Toronto Pearson International Airport

401

ETOBICOKE

MEADOWVALE

401

403

Mississauga

LAKEVIEW

401

VISTA HEIGHTS

PORT CREDIT

ERINDALE

401

ERIN MILLS

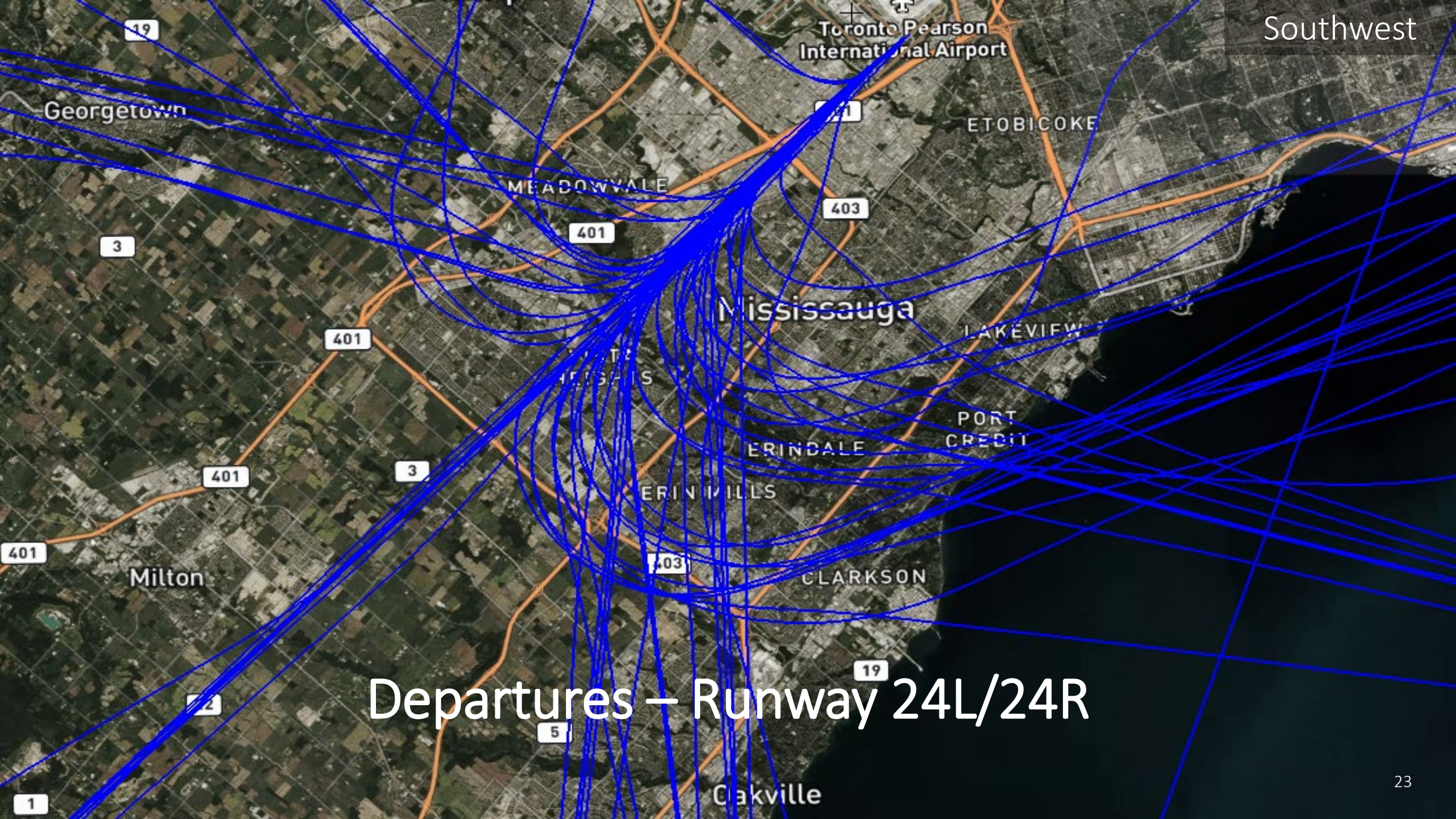
CLARKSON

404

19

Arrivals – Runways 06L/06R

Oakville



Departures – Runway 24L/24R

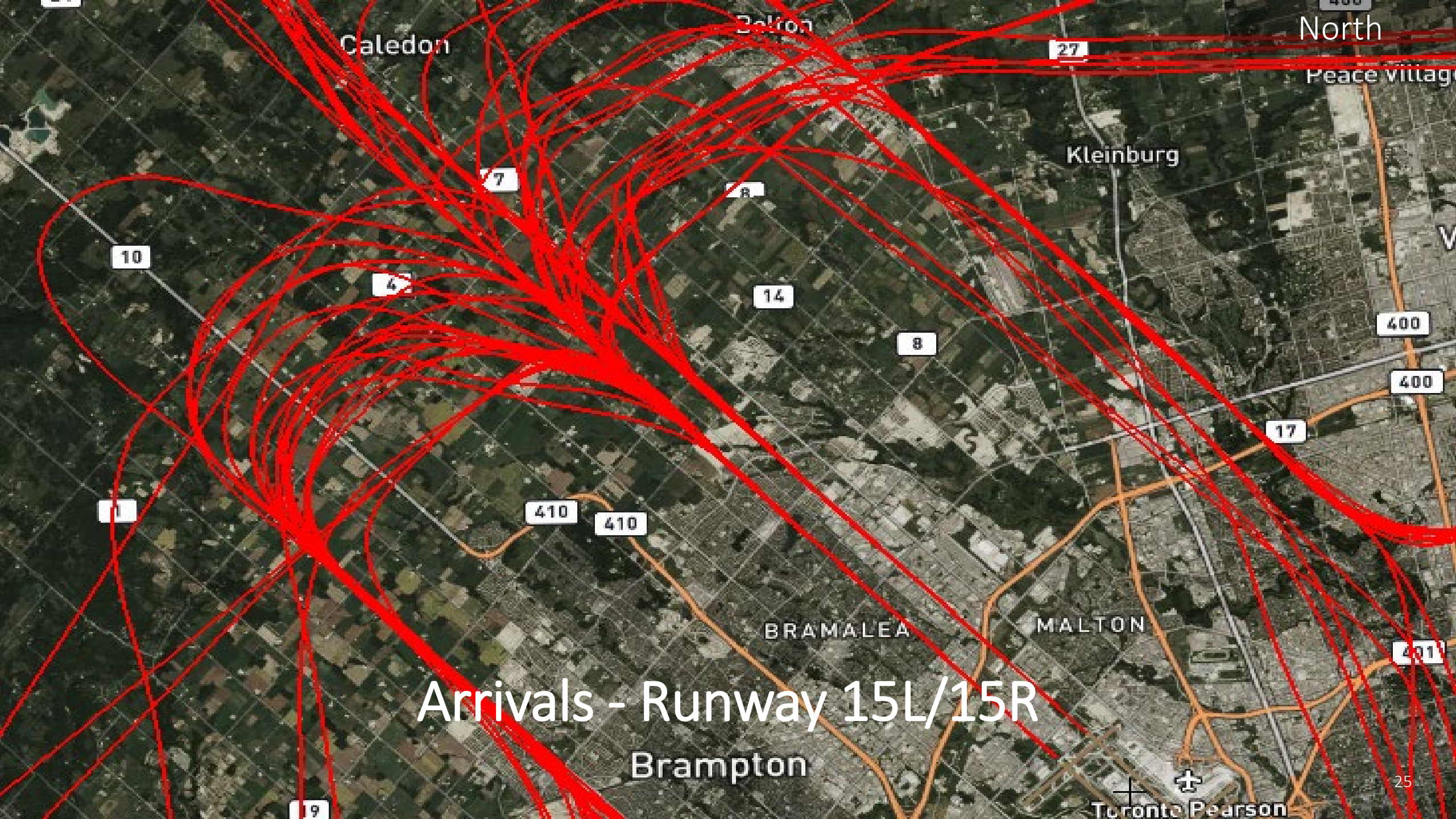
Arrivals Runway 15L/R

Departures Runway 33L/R

Communities impacted:

Brampton, Malton





Arrivals - Runway 15L/15R

Brampton

Toronto Pearson



North

Vaughan

400

400

17

410

404

BRAMALEA

MALTON

401

Brampton

Toronto Pearson
International Airport

19

Georgetown

Departures – Runway 33L/33R

ETOBICOKE

MEADOWVALE

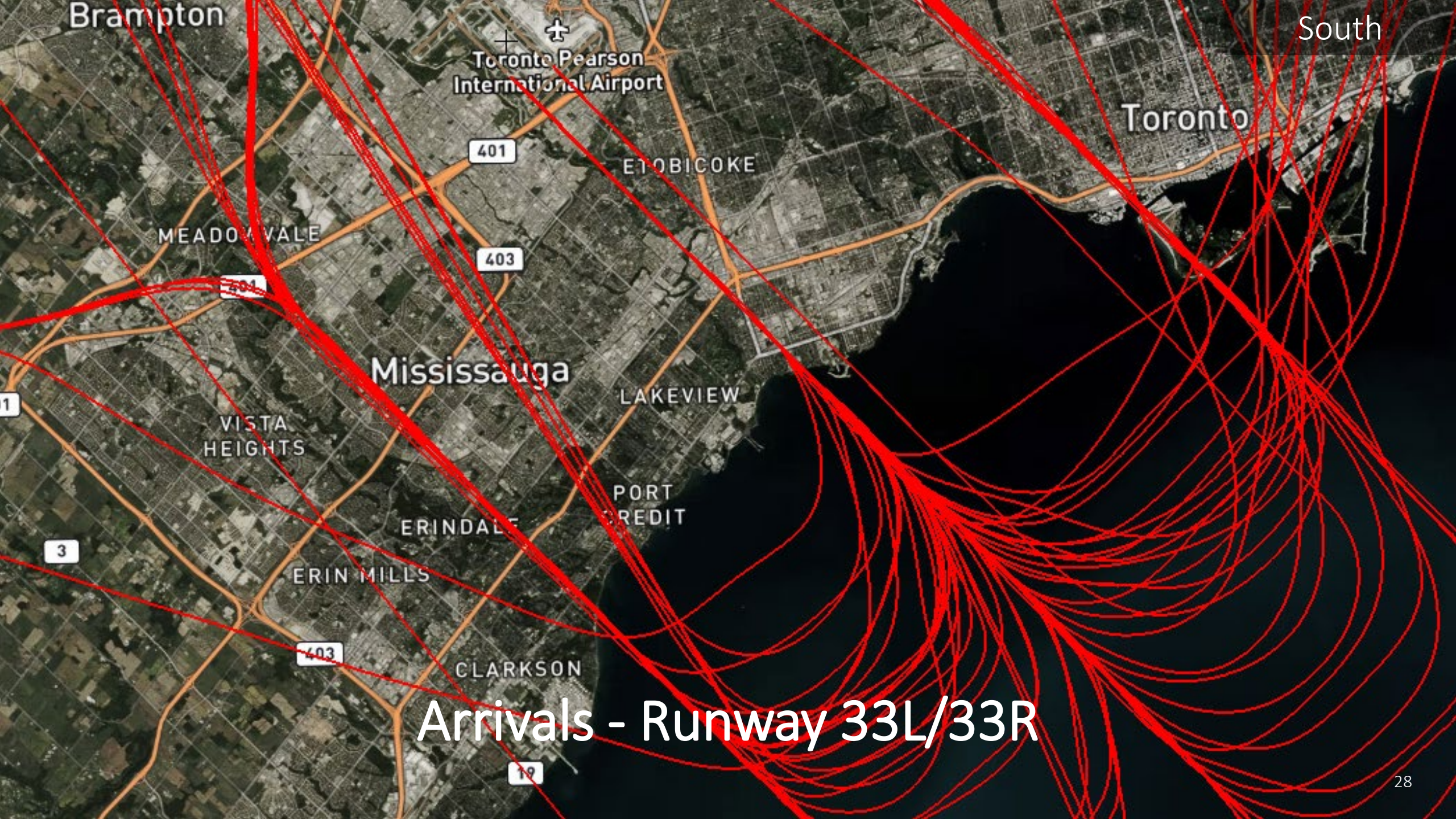
401

Arrivals Runway 33L/R

Departures Runway 15L/R

Communities impacted:

Etobicoke-Lakeshore, Alderwood, Long Branch, Markland Wood



Brampton

South

Toronto Pearson
International Airport

Toronto

401

ETOBICOKE

MEADOWVALE

403

Mississauga

LAKEVIEW

VISTA
HEIGHTS

PORT
CREDIT

ERINDALE

3

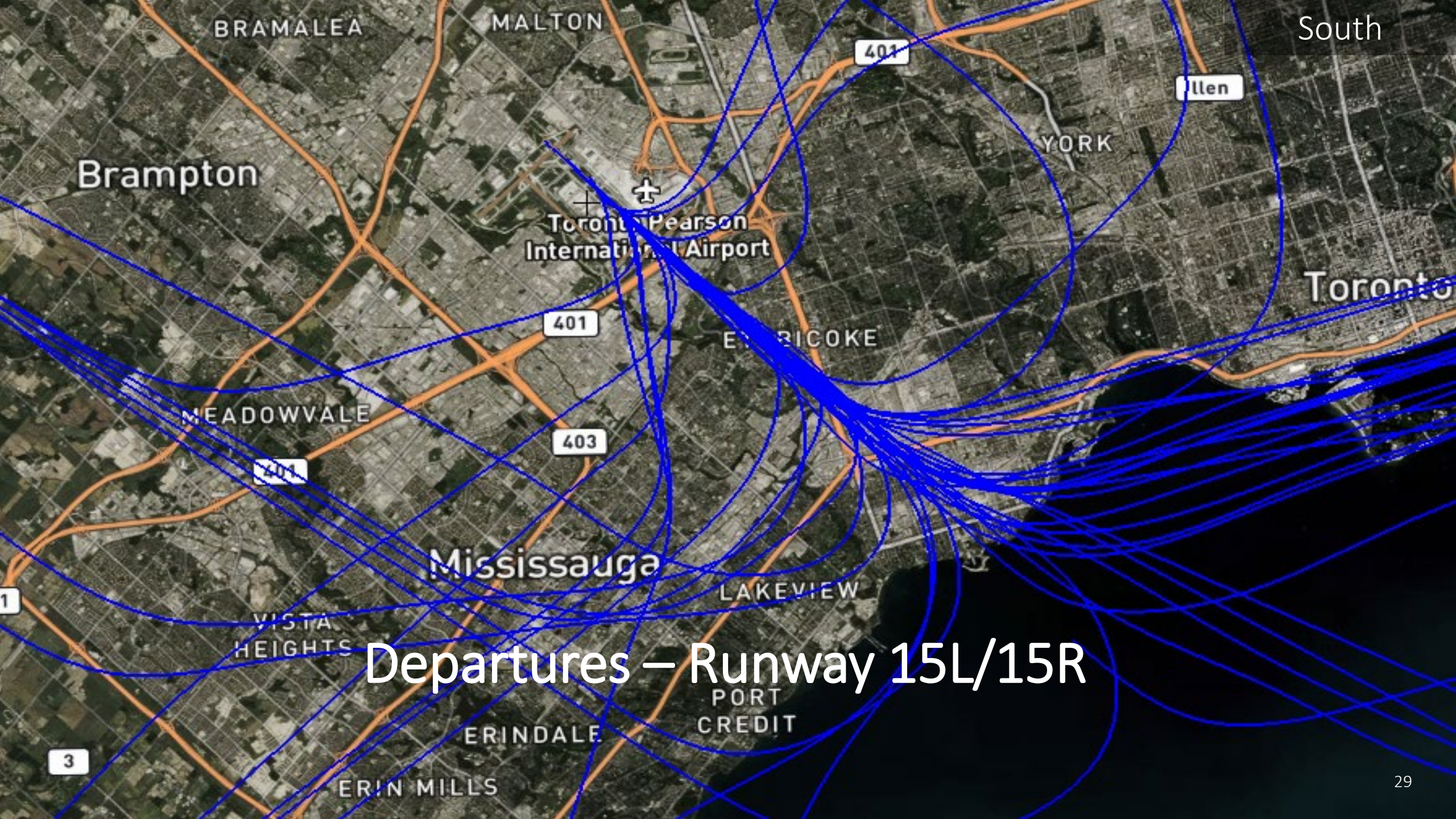
ERIN MILLS

403

CLARKSON

Arrivals - Runway 33L/33R

10



BRAMALEA

MALTON

South

401

404

YORK

Brampton

Toronto Pearson International Airport

Toronto

401

ERINDALE

MEADOWVALE

403

Mississauga

LAKEVIEW

VISTA HEIGHTS

Departures – Runway 15L/15R

PORT CREDIT

ERINDALE

ERIN MILLS

3

Runway Operation		2022	2023 Year to Date
Northeast	Arrival 23	25.1%	11.7%
	Departure 05	14.3%	27.7%
Southeast	Arrival 24L/R	19.1% and 11.5%	31.3% and 11.5%
	Departure 06L/R	7.8% and 11.8%	13.5% and 1.1%
Northwest	Arrival 05	21.4%	16.8%
	Departure 23	35.4%	47.1%
Southwest	Arrival 06L/R	1% and 12.5%	10.4% and 14.9%
	Departure 24L/R	19.5% and 0.5%	0.3% and 5.2%
North	Arrival 15L	1.6%	0.5%
	Departure 33R	8.6%	4%
	Arrival 15R	1%	0.5%
	Departure 33L*	0.7%	0.5%
South	Arrival 33L	6.3%	2.2%
	Departure 15R	0.3%	0.1%
	Arrival 33R	0.6%	0.2%
	Departure 15L	1.1%	0.6%

*** Departures from Runway 33L follow same path as for 33R**

NAV CANADA Updates





NAV CANADA UPDATE

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navcanada.ca




WHAT IS RNP AND RNP AR?

- › Required Navigation Performance (RNP) is a type of aircraft navigation technology.
 - Required Navigation Performance Authorization Required (RNP AR) is a special type of RNP approach
- › RNP uses an aircraft's flight management system and satellite positioning to fly a precise three-dimensional path in the sky.
- › RNP makes it easier to design safe efficient, predictable routes.



APPROACH TO RUNWAY 05 (TODAY & FUTURE)



**RNP Approach and Historical Tracks -
Approche RNP avec des routes
historiques**

Runway 05 - Piste 05

Overview - Aperçu

Map / Carte

Region of Interest / Région d'intérêt

Runways / Pistes

RNP planned altitude above sea level ●

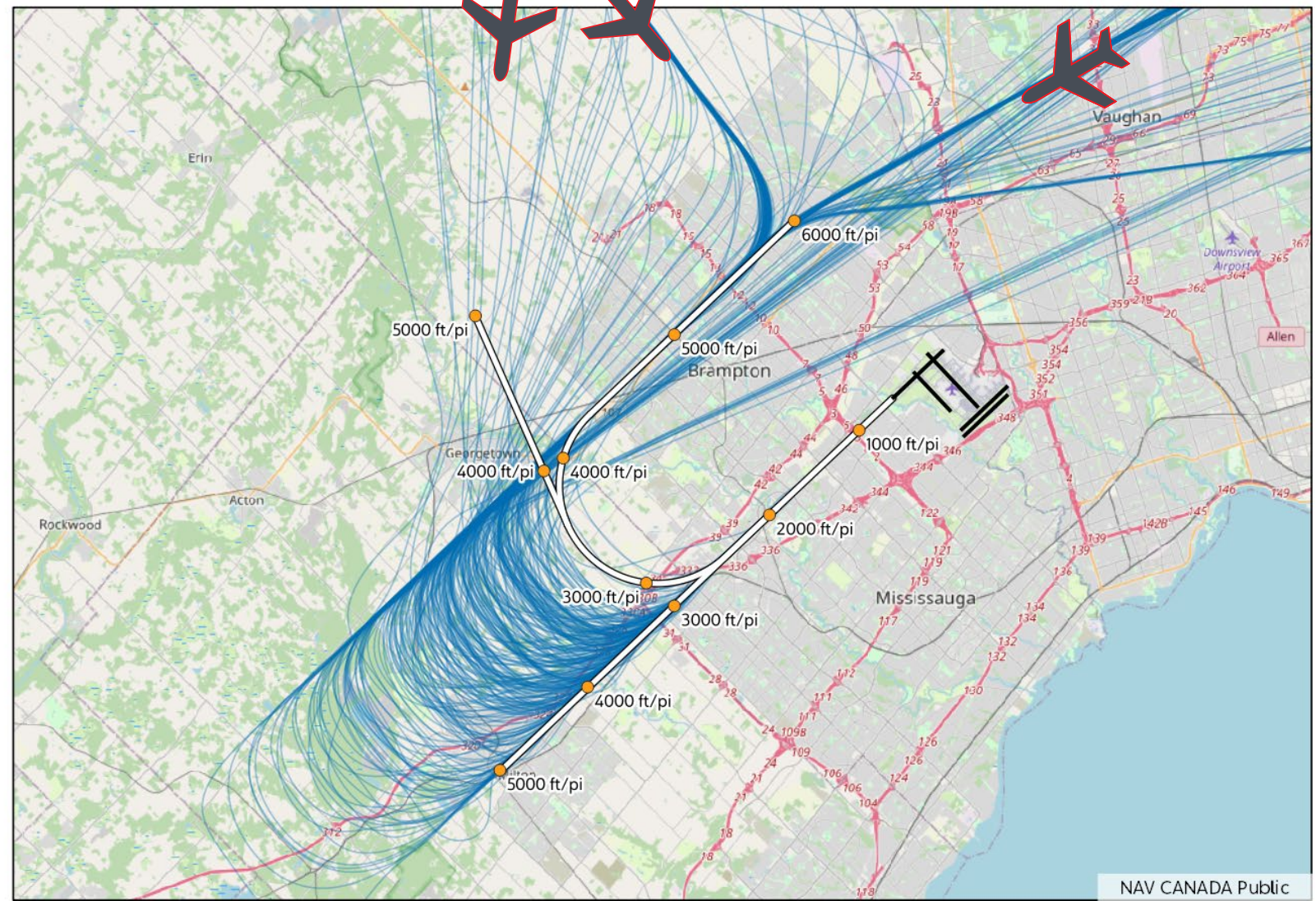
Altitude planifié au-dessus du niveau de la mer

RNP Approach path centre line

Axe de la trajectoire d'approche RNP

Historical Tracks / Routes historiques —


●



For additional information, visit
www.navcanada.ca/YZRNP
 pour information supplémentaire

Updated November 2021
 Mis à jour en novembre 2021

APPROACH TO RUNWAY 23 (TODAY & FUTURE)



**RNP Approach and Historical Tracks -
Approche RNP avec des routes
historiques**

Runway 23 - Piste 23

Overview - Aperçu

Map / Carte

Region of Interest / Région d'intérêt

Runways / Pistes

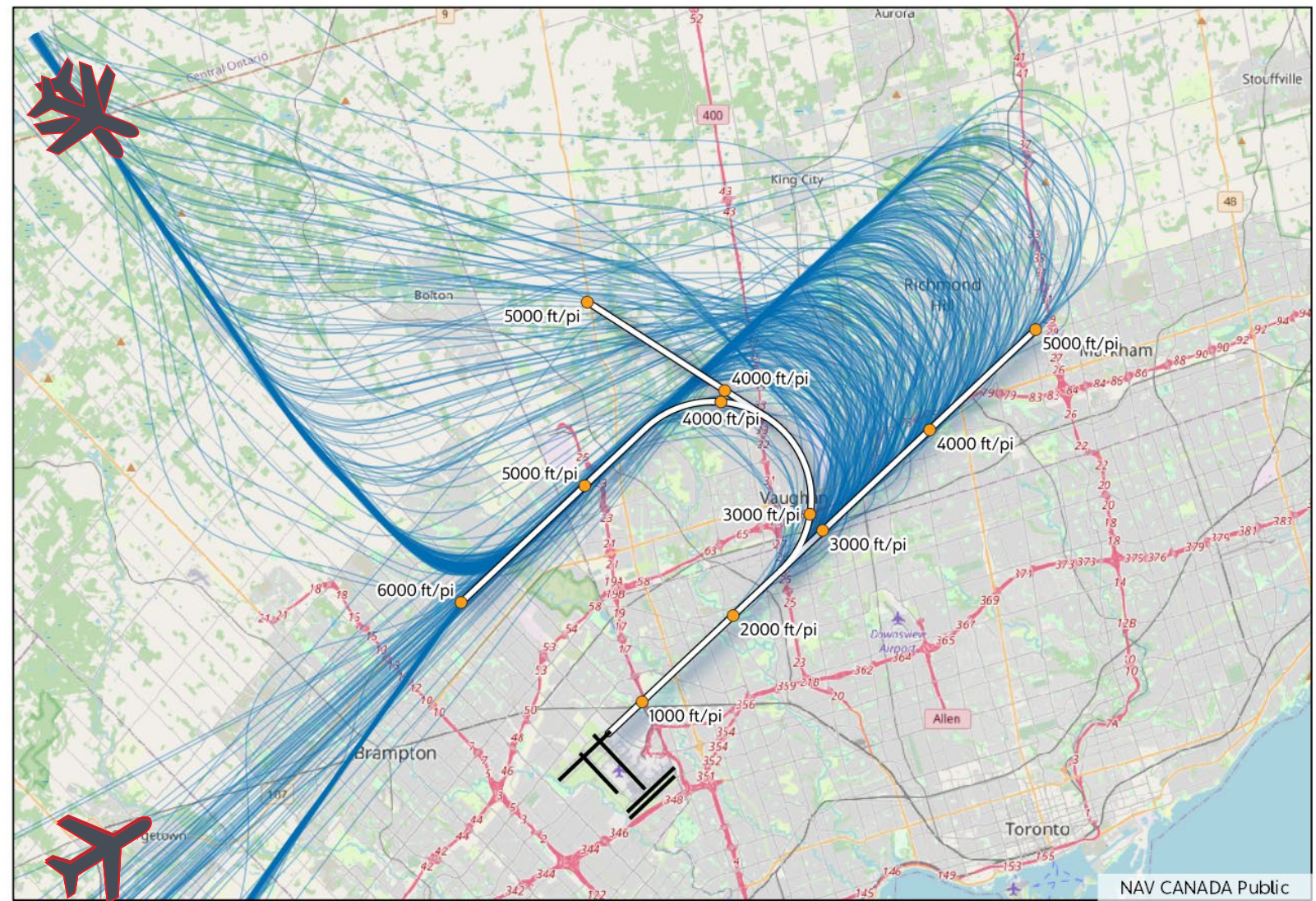
RNP planned altitude above sea level ●

Altitude planifié au-dessus du niveau de la mer

RNP Approach path centre line

Axe de la trajectoire d'approche RNP

Historical Tracks / Routes historiques —



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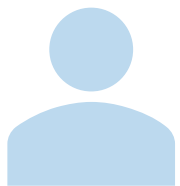
PUBLIC CONSULTATION

Information Sessions



Public Information Sessions

- 8 sessions
- 557 session registrations by 460 unique people
- 269 recorded attendees

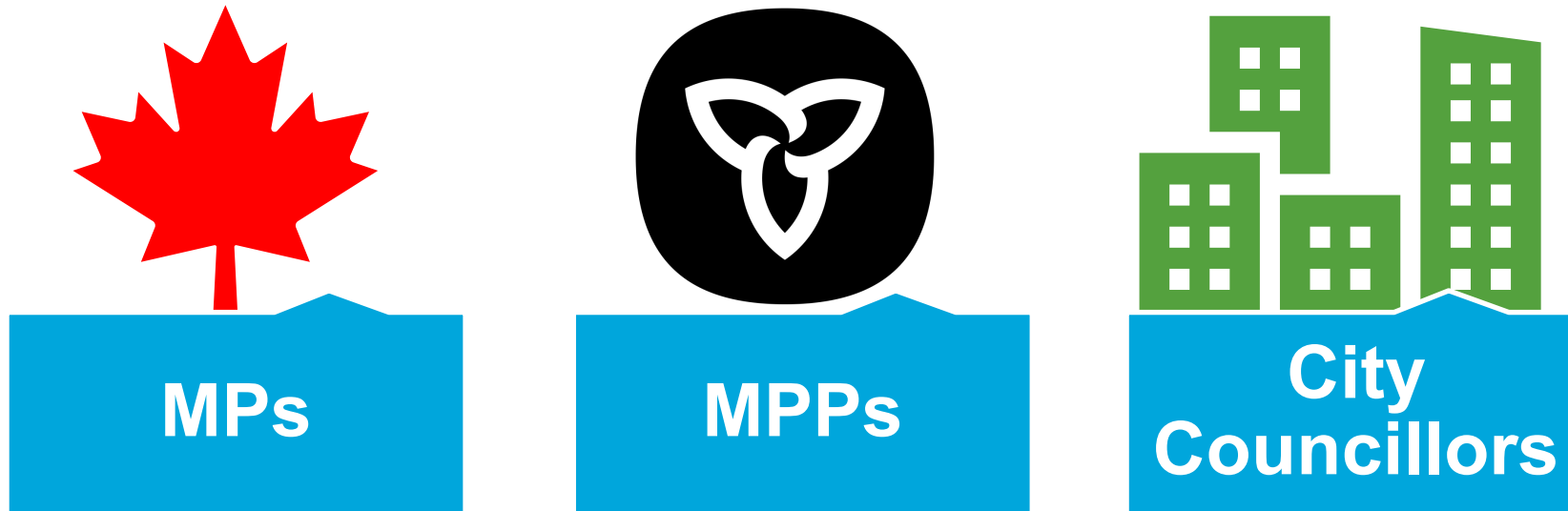


One-on-One Information Sessions

- 119 sessions made available for booking
- 14 30-minute sessions delivered

PUBLIC CONSULTATION

Briefings to Elected Officials



Proactive outreach to offices of elected officials. Additional communications through the GTAA Noise Forums (Elected Official Briefing).

REPORT AND FINDINGS

Consultation Report

- › Consultation report is published
- › Available on the Toronto RNP AR page on the NAV CANADA website (link below)

<https://www.navcanada.ca/yzrnp>



NEXT STEPS

- › Identify opportunities to increase utilization
- › Working with INMB and GTAA to identify timing
- › Complete Post-implementation review will include
 - Noise data
 - Complaint data
 - Performance data

HOW RUNWAYS ARE ASSIGNED

- › Winds
 - Predominant wind direction, wind speed, crosswinds. Predominant winds are westerly and easterly.
- › Runway surface conditions
 - Wet, dry, contaminated (accumulation of precipitation)
- › Runway Length
 - Pilots can request a specific runway based on operational requirements. For example Runway 15L/33R, the longest and can be requested at times by long haul (heavy) aircraft
- › Runway availability
 - Maintenance or other factors that make one of the five runways temporarily unavailable
- › Traffic Demand & Capacity
 - Traffic levels vary throughout the day. Weekend and overnight can mean lower traffic so more configuration options. Most capacity on the east/west runways (3 parallel runways in this direction)
- › Time of Day
 - Between 12:00 a.m. & 6:30 a.m., Toronto Pearson uses a preferential runway system to direct planes over the fewest residents

95% of operations are on the east/west runways because winds are predominantly from the west or the east and the three parallel east/west runways provide the most capacity.

RUNWAY UTILIZATION

Post Pandemic

- › Land one – depart one operation
- › Runway 05/23 is often used as the main departure runway due to length
- › Runway 06L/24R is often used as the main arrival runway when in an easterly or westerly configuration
- › Dualling unnecessary due to traffic levels and simplicity/standardization of operation.

Recent Trends

- › An east-west operation is the most streamlined operation. Depart 05/23, arrive on 06L/24R.
- › It is important to note that construction (planned and unplanned) and other factors present challenges that make it difficult to have the same operation every day.
- › When traffic permits, aim to use south complex (06 and 24) for departures to avoid longer taxi time.
- › Pilots will almost always prefer to depart from the longer runway – even when we plan to depart 06, we anticipate a lot of requests for the north runway. This interrupts the arrival flow to accommodate a departure from the arrival runway.



INDUSTRY NOISE MANAGEMENT BOARD

INMB MEETING #17

- › Further discussion on CPRP proposal for delayed turns on departure.
 - Proposal has merit. Staffing constraints have delayed work on this.
- › Technical discussions on descent guidance on standard arrival routes.
 - Working to ensure greater consistency between pilots and air traffic controllers
- › Improving usage of nighttime RNAV (GNSS) X approaches.
 - Discussion centred on uncovering methods to track current usage, using historical data
 - Looking to further communicate usage
- › Meeting #18 scheduled for December 6.

THANK YOU



GTAA Updates



Noise Management Updates

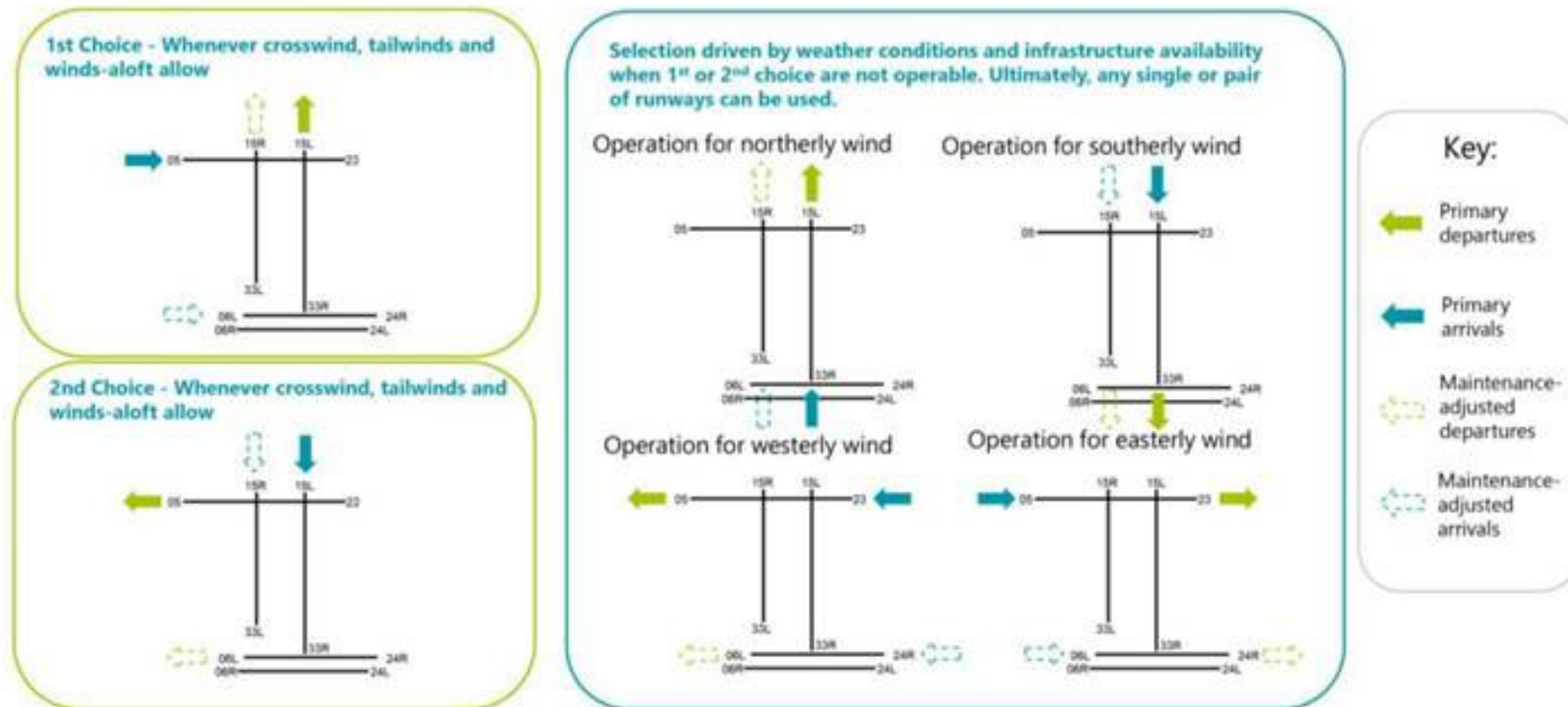
Noise Management Action Plan

Quieter Fleet Incentive Program

- **Phase 1 A320 series retrofit program** – In 2022, 83% of A320 series operations performed by retrofitted aircraft compared to 51% in 2020, the first year reported on. In Q2 2023, 90% of A320 family movements were performed by retrofitted aircraft. Reports available under [A320 Retrofit program usage reports](#)
- **Phase 2 – Reduction in Chapter 3 operations in favour of Chapter 4 or higher.**
 - Monitoring Toronto Pearson’s fleet operations by noise chapter type
 - Latest findings showed a percentual decrease in overall use of Chapter 3 aircraft in favour of quieter, Chapter 4 or higher aircraft
 - Overall, usage of chapter 3 aircraft has decreased from 26% of operations in 2019 to 17% in 2023.
 - At the same time, use of chapter 4 aircraft has increased from 52% of operations in 2019 to 73% of operations in 2022.

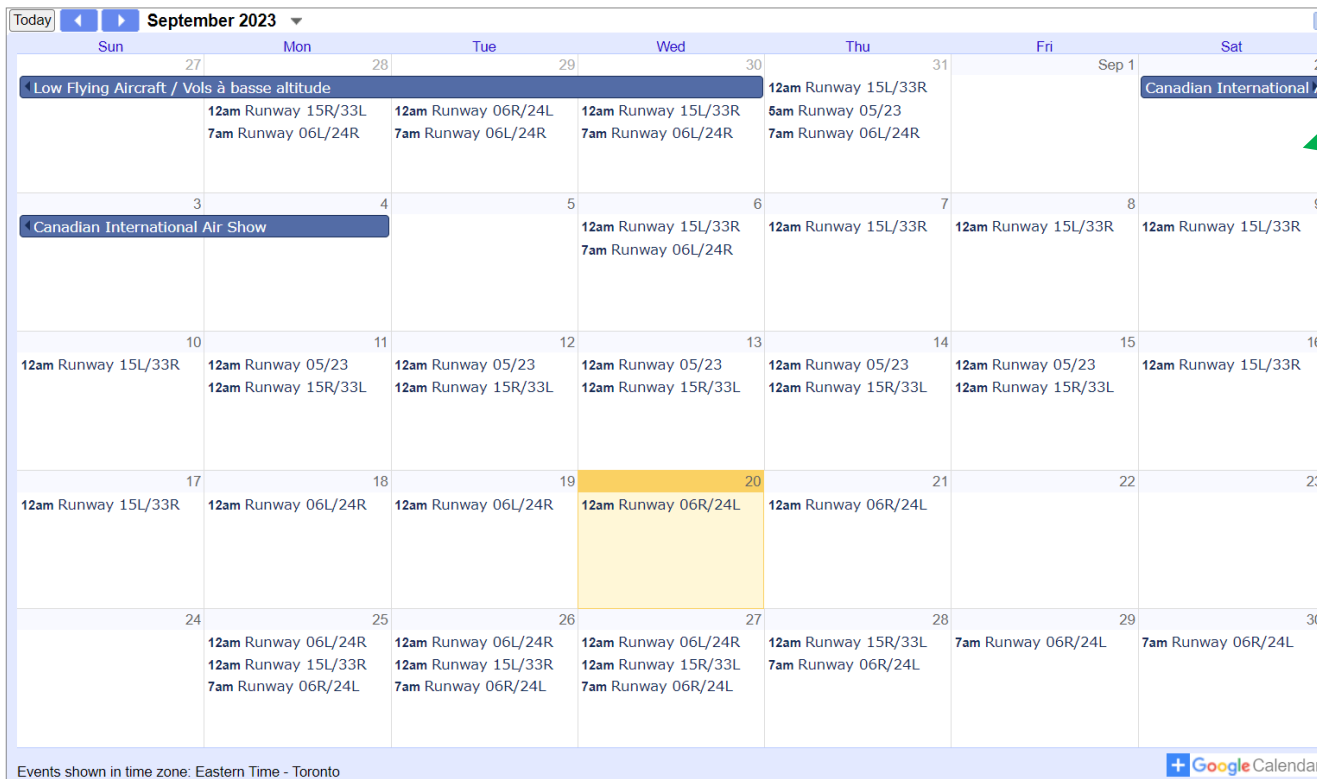
Six Ideas- Updated Preferential Runway System

- Transport Canada has approved the updated Nighttime Preferential Runway system as a permanent operating procedure for Toronto Pearson. We have been trialing the updated system since February 2020 after extensive public consultation as part of the [Six Ideas for Noise Mitigation](#)
- Adherence to the system has consistently been above 90%. (Q2 2023 – 92% adherence) Quarterly reports are published at [Trial of an updated nighttime preferential runway system | Pearson Airport \(torontopearson.com\)](#) -



Reports and Noise Advisory Calendar

- [InsightFull](#) provides interactive information about Toronto Pearson's operations, providing location-specific information to help answer commonly asked questions.
- Noise Advisory Calendar added Spring 2023



The screenshot shows the InsightFull website navigation menu and a grid of report cards. A green circle highlights the 'Noise Advisory Calendar' card.

- How does Toronto Pearson operate?**
- What operations are over my area?**
- Has something changed?**
- How is noise managed?**
- Does the airport close at night?**
- Interactive Reports and Statistics**

Noise Advisory Calendar
Overview of scheduled runway closures and other activities that may impact surrounding communities.
[Read more](#)

Complaints report
View an interactive report on noise complaints received by the airport, organized by federal riding or city.
[Read more](#)

Operations report
View an interactive report on Toronto Pearson's operations.
[Read more](#)

Noise reports
View interactive noise reports on aircraft, community and ambient noise levels from our 25 noise monitoring terminals.
[Read more](#)

Quarterly & annual complaints report
View interactive quarterly and annual complaints reports
[Read more](#)

Quarterly & annual operations reports
View interactive quarterly and annual operations reports
[Read more](#)

Email us at community.engagement@gtaa.com to arrange a session on using InsightFull.

Stay in Touch



[Noise Advisory Calendar](#) – includes airport maintenance and activities.



Sign up for our monthly community e-newsletter, Checking In at torontopearson.com/checkingin



Learn more about airport operations and community impacts at airportnoise.torontopearson.com



Email us at community.engagement@gtaa.com



To log a complaint, call us at 416-247-7682 or [submit online](#)



[Pearson Public Meetings](#) – next meeting - December 7, 2023

Question Period



Thank You

Next Meeting – September 14, 2023