



# Airport Community Consultative Committee

September 12, 2018



# Agenda

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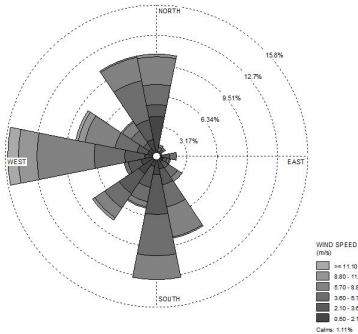
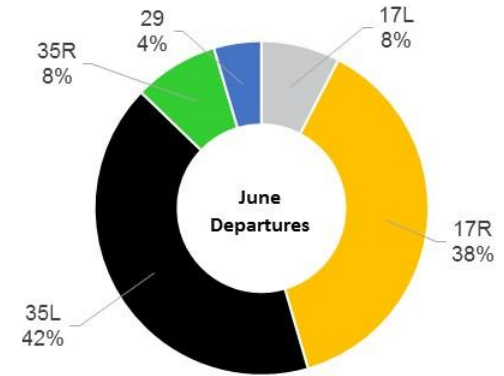
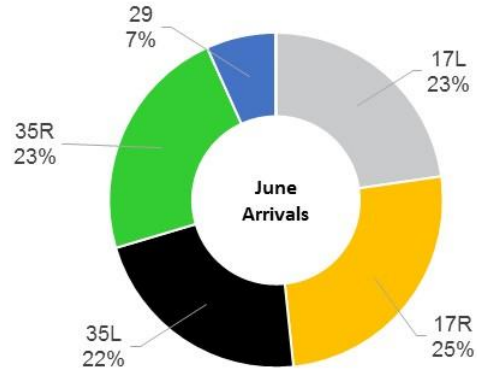
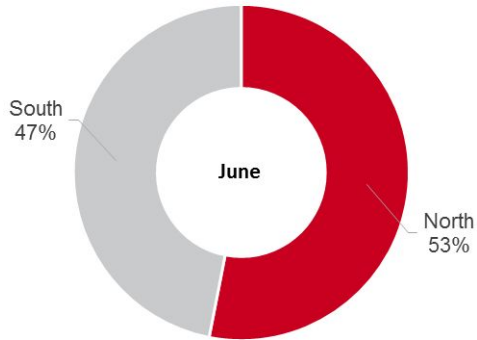
- 6:30 p.m. Welcome & Introductions
- 6:35 p.m. Aircraft Operations (June-August)
- 6:45 p.m. Runway Use Trial update
- 6:55 p.m. Summer Construction
- 7:05 p.m. NMT Update
- 7:15 p.m. NAV CANADA RNP update
- 7:30 p.m. Q&A

# Aircraft Operations

June – August 2018

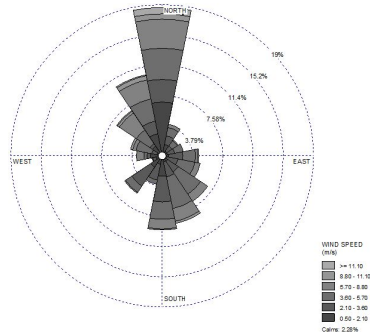
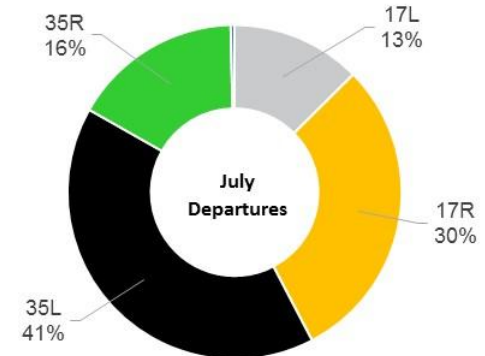
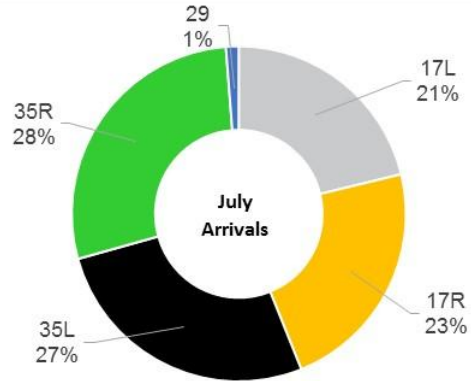
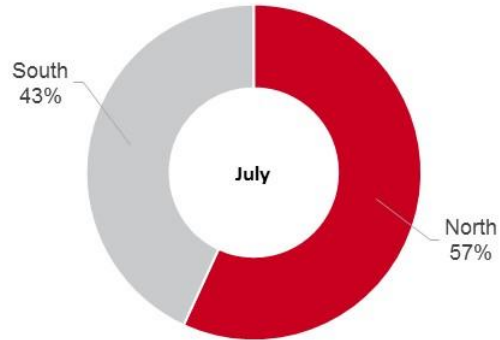


# 2018 Q2: June



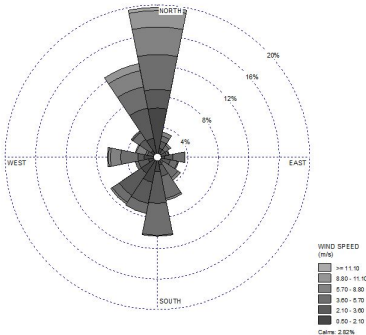
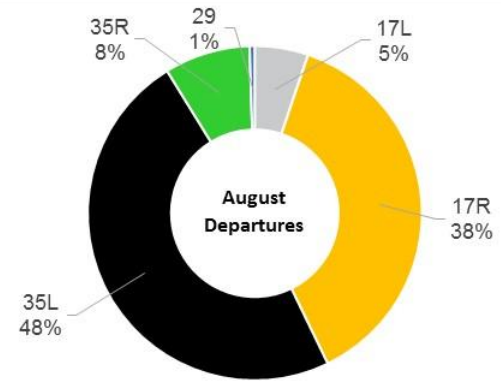
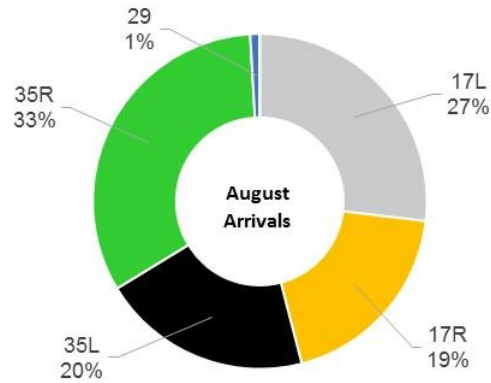
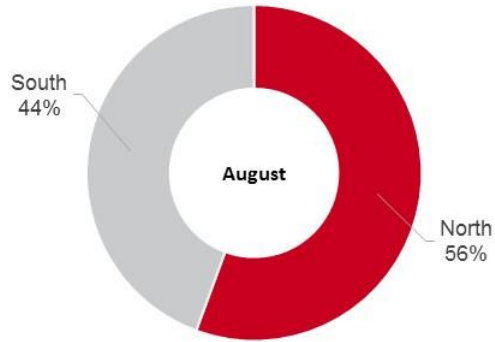
- Balanced arrivals
- Departures primarily on 35L & 17R due to construction

# 2018 Q3: July



- Balanced arrivals
- Departures primarily on 35L & 17R due to construction

# 2018 Q3: August



- Balanced arrivals
- Departures primarily on 35L & 17R due to construction

# Runway Use Trial

Update



# Trial Implementation – April to September 2018



Apr-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
17L	Easter Monday					17L
17R						17R
17L						17L
17R						17R
17L						17R

May-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						17L
17R						17R
17L						17L
17R						17R
17L	Victoria Day					17R

Jun-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						17L
17L						17L
17R						17R
17L						17L
17R						17R

Jul-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
Canada Day						17L
17L						17L
17R						17R
17L						17L
17R						17R

Aug-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						17R
17L	Heritage Day					17L
17R						17R
17L						17L
17R						17R

Sep-18						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						17L
17R	Labour Day					17R
17L						17L
						17R
23/30	24	25	26	27	28	29



# Update

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- Construction over the summer meant runway closures that impacted the ability to run the trial
- Fall usually brings northerly winds so aircraft will be departing to the north rather than the south, which is where the trial is focused

# Summer Construction

2018



# Construction Schedule Update

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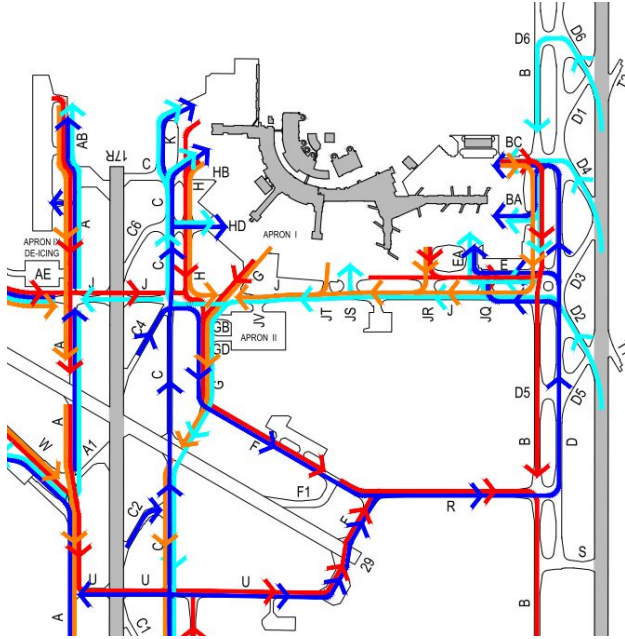
- Taxiway C & A – Paving occurred in June with minimal impact
- Taxiway J – occurred during the month of August
  - Required segregated runway operations
  - Departures on the west runway with arrivals on the east.
- WestJet Apron – June - September
  - Required segregated runway operations
  - Departures on the west runway with arrivals on the east.



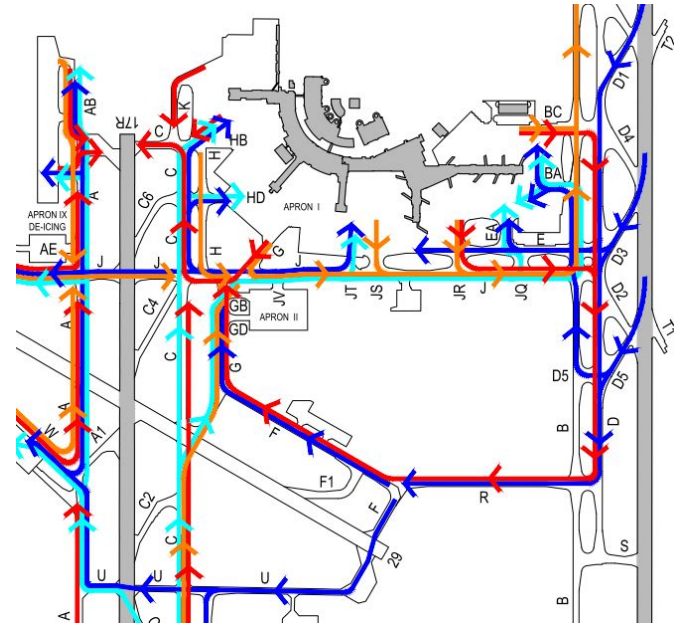
# Juliette is the busiest taxiway on the airport



35 Operations



17 Operations



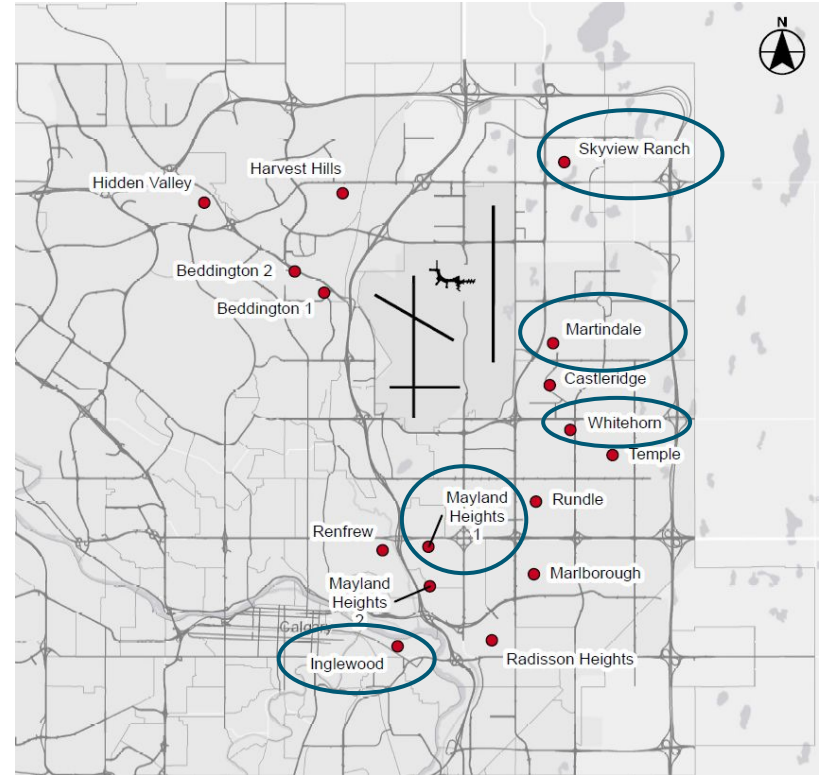
# NMT Updates



# Permanent NMT Update



- 5 NMTs are being upgraded:
  - Inglewood
  - Mayland Heights 1
  - Whitehorn
  - Martindale
  - Skyview Ranch
- The planned NMT relocations will take place in summer of 2019

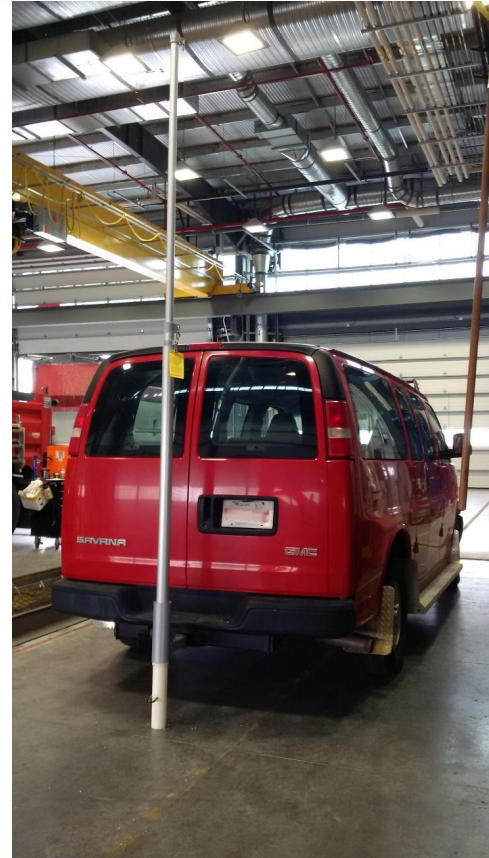


# Roving Noise Monitor

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- Roving program:
  - Noise monitor installed on vehicle
  - Vehicle will be parked in communities
- Benefits:
  - Not restricted to commercial properties
  - Can monitor more communities due to reduced amount of time to relocate and install







September 12, 2018

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# RNP UPDATES @YYC

James Carr  
Manager, Calgary Tower Operations,  
Tower-Terminal Procedures

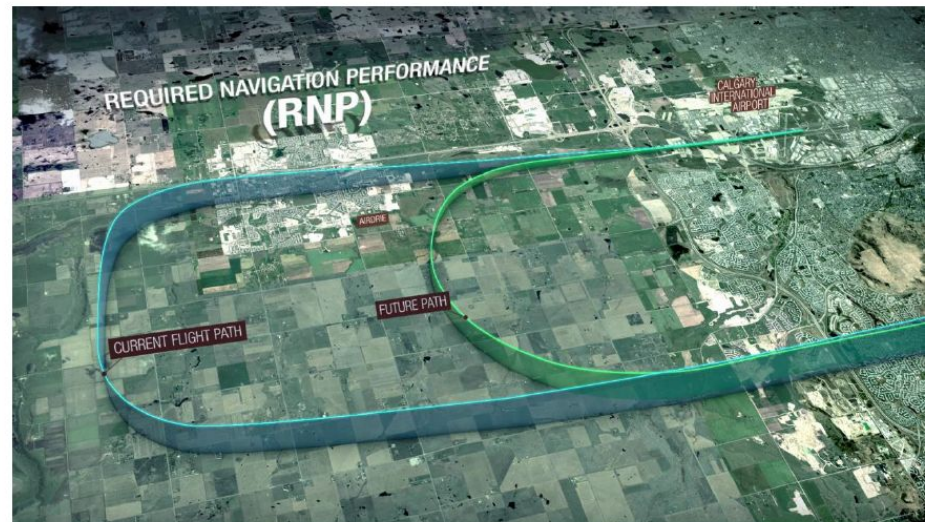
Serving a world in motion  
[navcanada.ca](http://navcanada.ca)





# BACKGROUND

- › Public RNP implemented in May 2016
- › Delivering significant benefits
  - operational predictability
  - environmental benefits
  - Continuous Descent Operations – a quieter approach
- › RNP operations are not driving concerns from the community
- › 1,000+ RNP approaches flown per month @ YYC
- › Reduction of 2,500 mt in 2017 in GHG from RNP deployment across Canada





## PLANNED UPDATES

- › SAFETY ENHANCEMENTS
  - Adjustments to crossover segments and new tangents
  - Designed to increase situational awareness and provide earlier recognition of risk
  
- › NEW INTERNATIONAL CRITERIA
  - Known as Established on RNP (EoR)
  - Leverages the predictability of RNP
  - Improves how traffic is integrated

# **SAFETY ENHANCEMENTS**

# WHAT IS THE ISSUE?

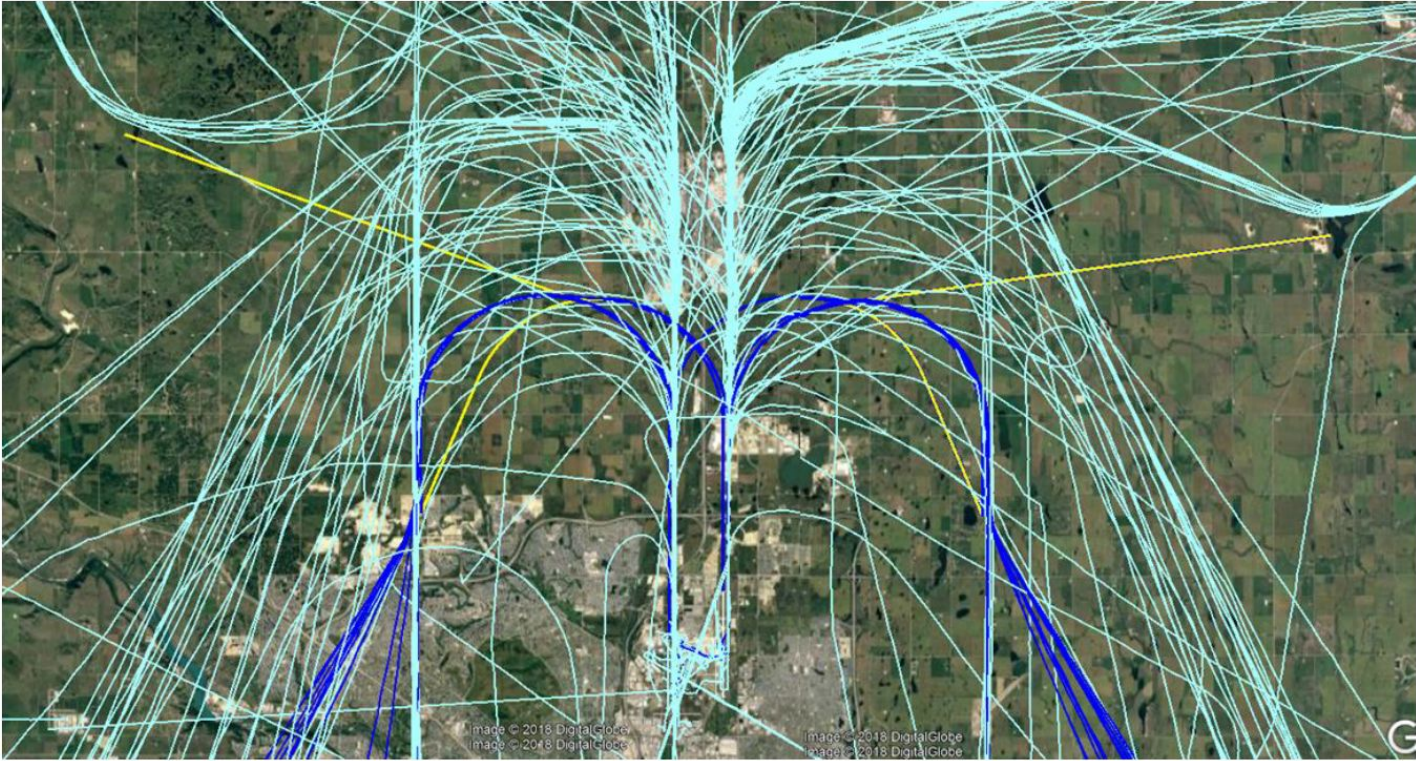
- › Common “arc” for portion of crossovers
- › Late detection if there is an error in the arrival runway selected by the pilot
- › Small subset of the traffic
- › Requires a small adjustment to location of divergence





# WHAT IS THE SOLUTION?

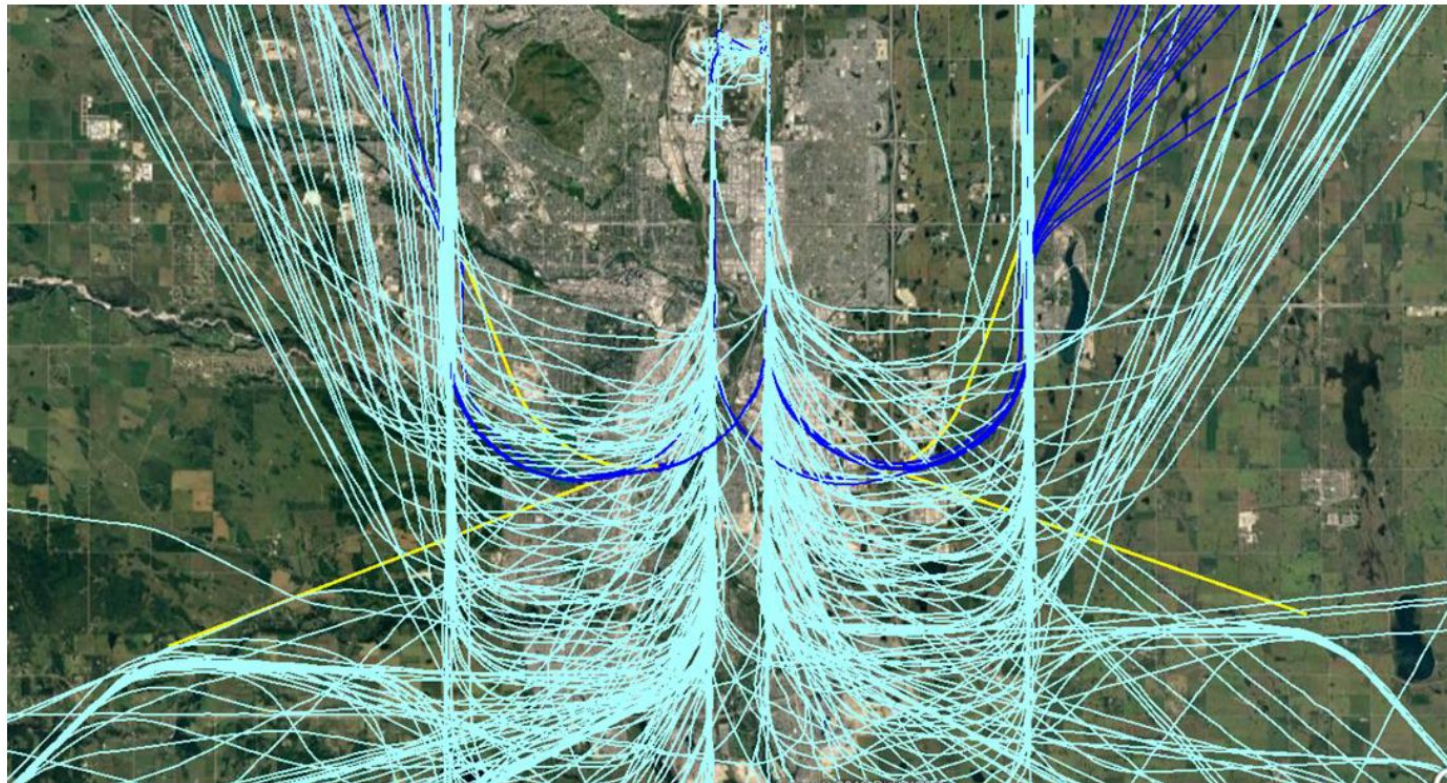
> Runways 17L/R





# WHAT IS THE SOLUTION?

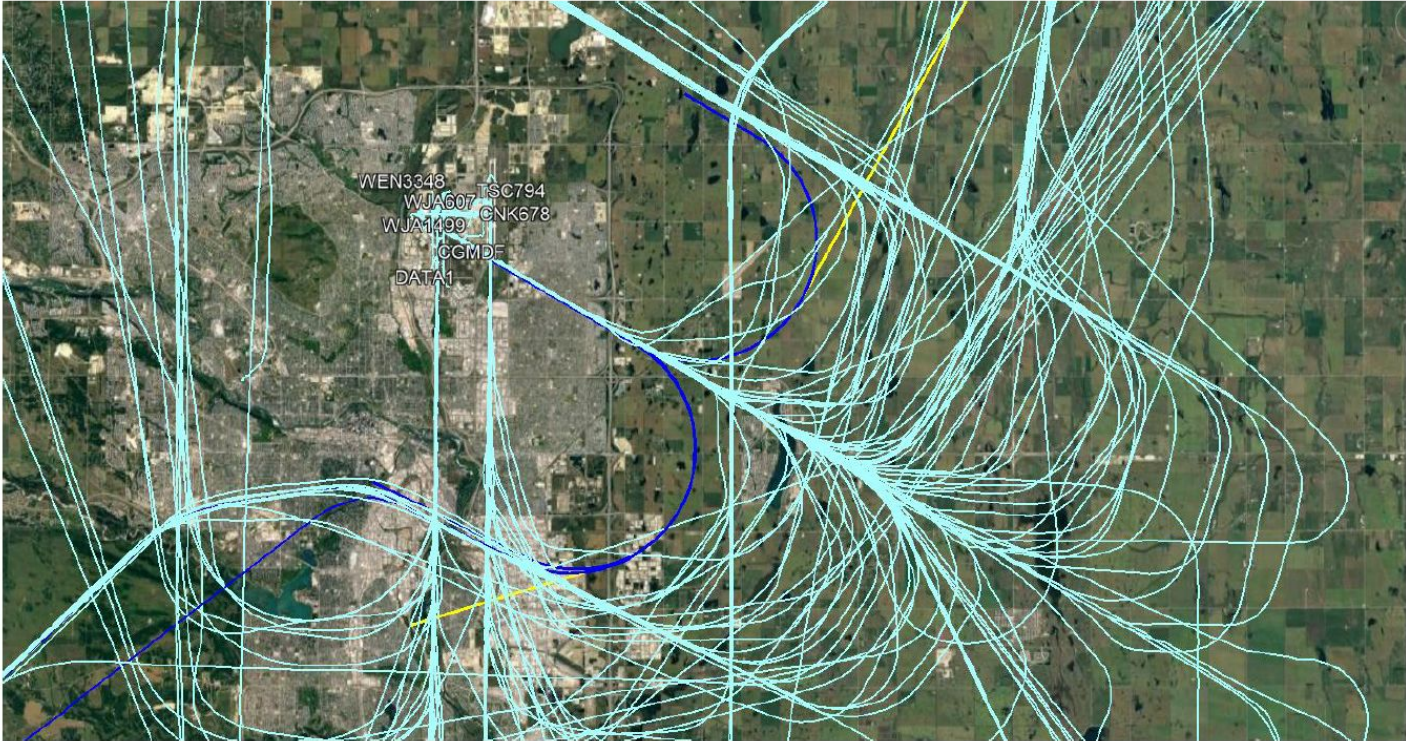
- › Runways 35 L/R





# WHAT IS THE SOLUTION?

> Runway 29



# WHAT ARE THE BENEFITS?



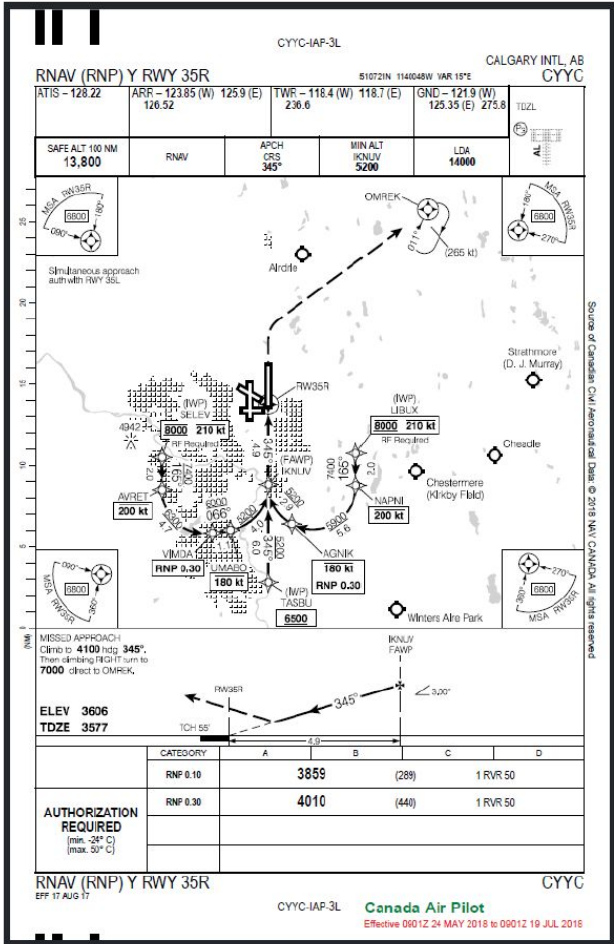
- › Similar environment and noise benefits as today for crossovers
- › Increased use of continuous descent
- › Improved situational awareness for controllers and pilots
- › Bottom line: Enhanced safety



**ESTABLISHED ON RNP AR**

# WHAT IS EOR?

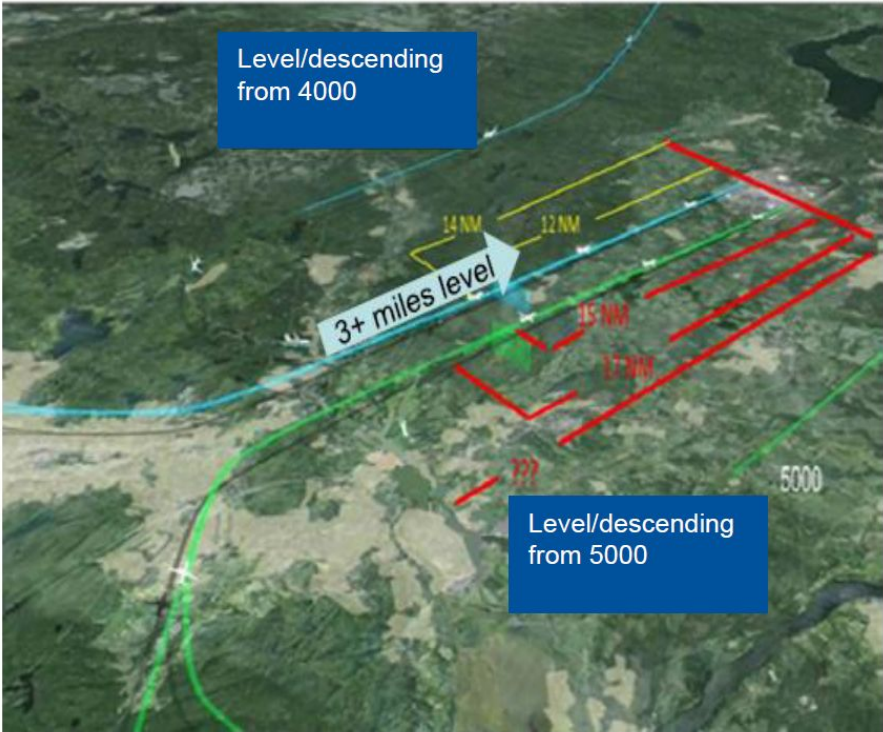
- > New ICAO separation standard for use in Simultaneous Independent Parallel Operations
- > Allows for improved integration of RNP AR operations with conventional ILS or straight in RNAV procedures



# HOW WILL EOR BE USED?

## CURRENT PARALLEL OPERATIONS

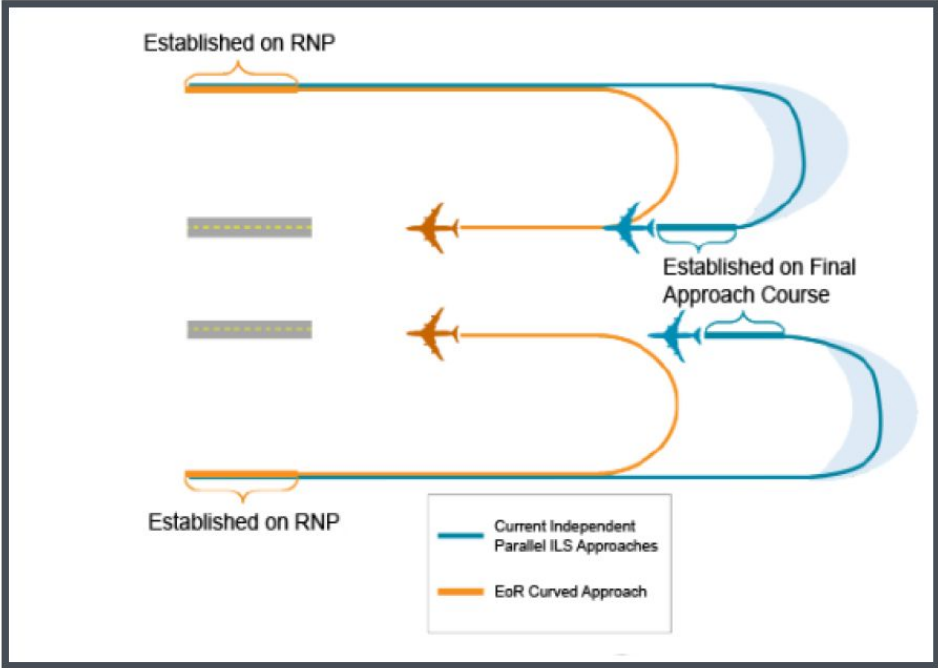
- > Existing simultaneous parallel operations require ATC to apply 1000 feet or 3 nautical miles separation until aircraft are established on the straight in portion of the approach
- > Need to push aircraft to lower which can result in low altitude level segments



# HOW WILL EOR BE USED?

## FUTURE PARALLEL OPERATIONS

- > EoR will allow RNP AR “arc” approaches to be sequenced independently with straight in or other RNP AR “arc” approaches
- > RNP AR arrivals considered “Established” at the commencement of the procedure
- > Allows for simultaneous RNP AR operations in IMC and VMC meteorological conditions
- > Reduced need to push aircraft to lower altitude



# WHAT ARE THE BENEFITS?

- › RNP AR approach track containment
  - No risk to safety
  - Improved integration of different traffic types
- › Environmental considerations
  - Reduced fuel burn through efficient flight path of RNP AR procedures
  - Reduced track mileage for RNP AR approaches
- › Positive noise benefits
  - Enables continuous descent to both runways
  - Reduced low altitude level segments
  - Low altitude level-offs reduced





# WHERE WILL EOR BE USED?

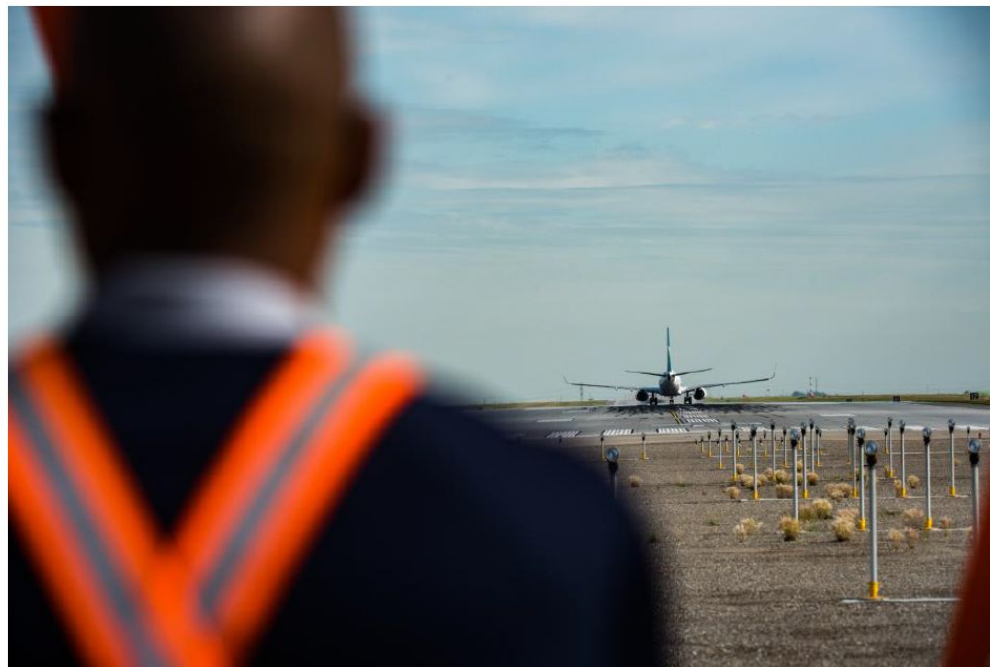
## A FIRST...

- > Calgary International Airport (CYYC)
  - One of the first in world to use new ICAO EoR Standard
  - Only 2<sup>nd</sup> airport in world to operate simultaneous parallel RNP approaches



# IMPLEMENTATION

- › Crossovers: September 2018
- › Established on RNP: November 2018\*



# Next Meeting

Wednesday November 28 2018





# Q&A

