



A FLEXIBLE AND COLLABORATIVE APPROACH TO AIRSPACE CHANGE

Jonathan Bagg
Senior Manager, Stakeholder and Industry Relations



OUR STORY

TOLD IN FACTS AND FIGURES

Private, non-share capital company

One of the largest ANSPs in the world by total IFR flight hours



18 million km²
Airspace managed by
NAV CANADA



40,000
Customers, which includes airlines,
air cargo operators, air charter
operators, air taxis, business and
general aviation, helicopter
operators



330
Charities and community
organizations supported in fiscal
2017



3.3 million
Flights handled each year



5,000
NAV CANADA employees across the
country



1,270
Flights in the Gander
oceanic airspace daily on average



8.4 B litres
Forecasted achievable fuel savings
for our customers from 1997 to 2020



21 million tonnes
Forecasted achievable GHG
emissions savings for our customers
1996-2020



1,600
Active controller workstations using
NAV CANADA developed
technology world-wide



\$2.4 B+
Invested in enhancing and developing
NAV CANADA infrastructure since
1996

FRAMEWORK FOR OUTREACH

- Airspace Change Communications and Consultation Protocol.
- Signed by Canadian Airports Council and NAV CANADA.
- Promotes collaboration with airports on airspace change projects.
- Proactive engagement and information sharing on potential impacts.



WHEN IS CONSULTATION REQUIRED?



When is consultation required?

- Moving flight path laterally below 4,000', over populated areas

OR

- Procedure increases volume on an existing flight path (+30%/+15%)

+ at an airport with:

more than **60,000** IFR movements

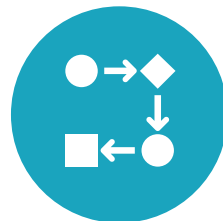
STAKEHOLDER RELATIONS CONCEPTS



Lead with our stakeholders in mind



Engagement is expectation



Sequence matters



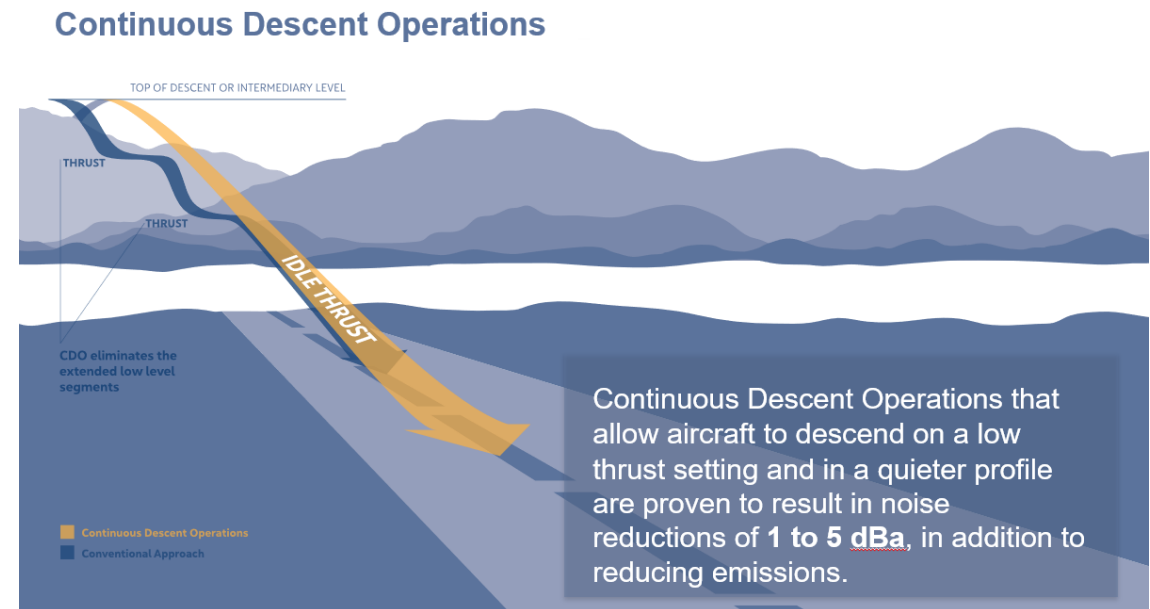
Show that we listened



Share the success

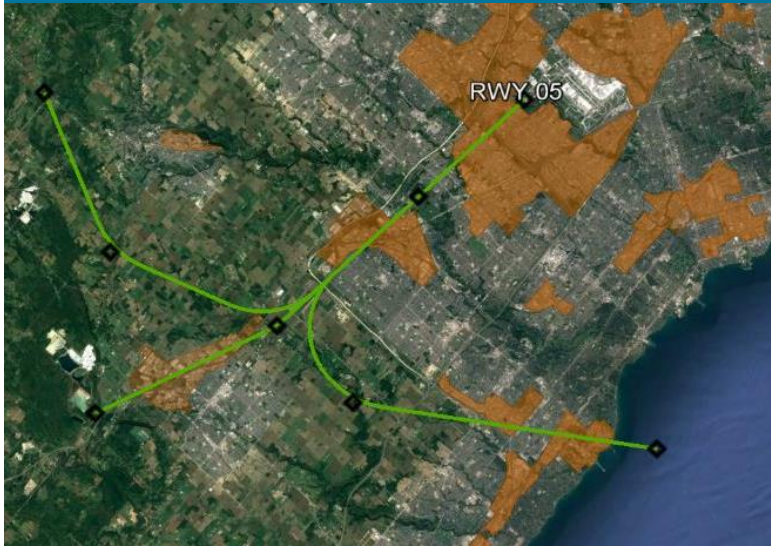
AIRSPACE DESIGN AND NOISE MITIGATION TOOLS

- Performance Based Navigation
 - Continuous Descent Operations (CDO)
 - Concentrate Away From People
 - Leverage Distribution with Hybrid Procedures
 - Special Procedures
- Track Over the Ground (favouring non-residential)
- Population Data
- Reduced Time In Flight (and over people)



RECENT PROJECTS

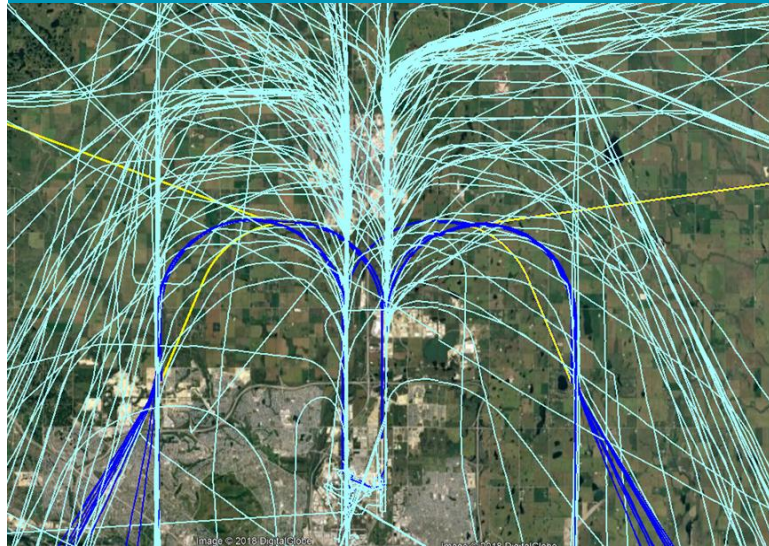
TORONTO PEARSON: 6 IDEAS



Nighttime procedure:

- 268,000 fewer residents overflowed
- 135,000 fewer households.

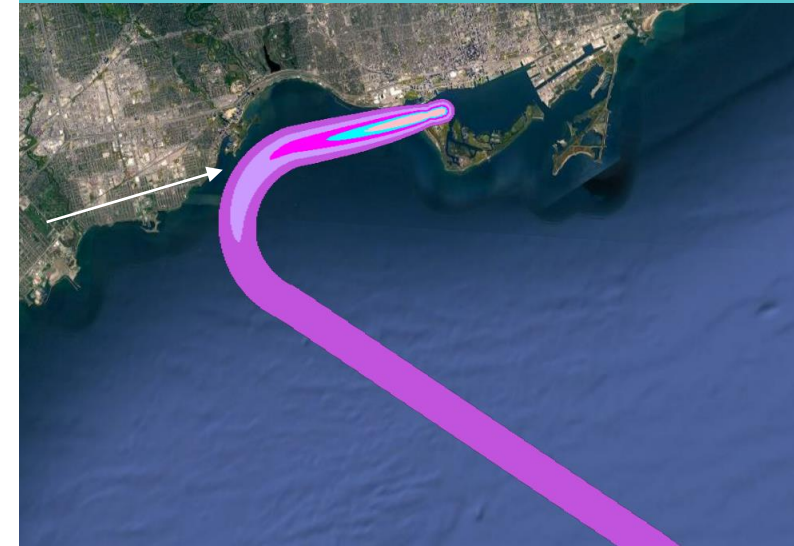
YYC: ESTABLISHED on RNP



First year of operations:

- Reduction of 250,000 nm
- 1,400 hours less of low altitude level flight
- -4,1M kg GHGs

TORONTO BILLY BISHOP



Reduction of

- 33,920 residents overflowed @ 55 dBA
- 16 Nautical Miles
- 71 litres of fuel

CONSULTATION

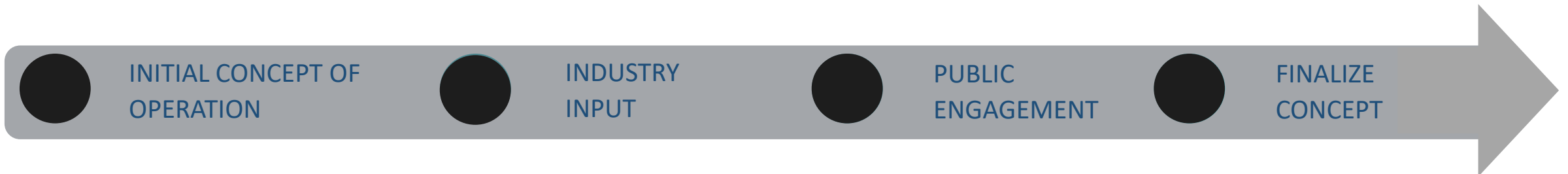
Some fundamentals – but not one size fits all

Components:

- Notices and Promotion
- Web content
- Open House-style events + Webexes
- Briefing Stations
- Elected Official Briefings
- Airport Noise Management Committees
- Feedback Mechanisms

Considerations:

- Notice of consultation at least 3 week prior to event
- Minimum 45 day consultation period.
- Post-Consultation Reporting
- Notice prior to implementation.



| NEW APPROACH

**VANCOUVER AIRSPACE
MODERNIZATION PROJECT**

AIR TRAFFIC, INTEGRAL TO REGIONAL AND NATIONAL ECONOMIC DEVELOPMENT, CONTINUES TO GROW



The Greater Vancouver Region and Southern Vancouver Island connects Canada to the global economy.

We have seen an increase of more than 100,000 movements across the region per annum compared to five years ago.

16%

Increase in **total** flights

18%

Increase in **IFR** flights

10%

Increase in **VFR** flights

2013 vs 2018

COMPLEX AIRSPACE

 VFR Arrivals
 IFR Arrivals

Source: FDE, Google, RDPSR
Prepared by Operational Analysis (sf)

DRIVING SAFETY IN ANTICIPATION OF LONG-TERM GROWTH



Wake Turbulence

Light VFR operating in proximity to heavier IFR traffic



Sector Boundary Complexity

Creates confusion, uncertainty, and delay in recognition and resolution of conflicts



Airspace Classification Constraints

VFR avoiding or restricted from Class C Airspace operate in increasingly congested areas with no positive control

EXPERIMENTING WITH EARLIER INPUT

Series of four Stakeholder Forums

- Municipal Officials
- Commercial and Carriers
- Recreational and Flight Training
- Airport Authorities

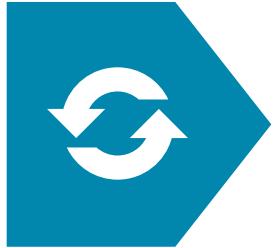


ITERATIVE PROCESS



LAUNCH FORUM (OCT 2019)

- Briefing on Terms of Reference and Forum approach
- Initial requirements/input, feedback and plans



SECOND FORUM (MAR 2020)

- Initial concept work shared for further discussion
- Additional requirements/input



THIRD / FOURTH FORUMS

- Finalizing concepts, clarifying airspace concepts
- Public engagement plan overview

VALUE ADD/BENEFITS

MUNICIPAL OFFICIALS

- Early awareness and understanding of “why” and “how”.
- Land use designation/zoning
- Municipal perspective on aircraft concerns + areas of concern
- Feedback on designs
- Conduit to City Hall

AIRPORTS

- Key partner in public engagement
- Community stakeholder identification
- Knowledge of best outreach approaches for their communities
- Long-term growth/investment plans
- Infrastructure/survey data changes

OPERATORS

- Fleet, equipage and future operations plans
- Airspace requirements
- Greater understanding of trade-offs
- Operationalization

Increased understanding; improved management of expectations; better prepared for change;

A BETTER AIRSPACE CONCEPT FOR ALL STAKEHOLDERS

WRAP UP...

Airspace design/development and stakeholder engagement are part of the same process.

Complaints are an important consideration, but having a wholistic view on mitigation can drive improvements.

Engage early, but pay particular influencers who can help increase understanding.

