



Fair Flight Path

A Submission to

**The Honourable Lisa Raitt, M.P.
Minister of Transport**

On behalf of the

**Toronto Aviation Noise Group
(T.A.N.G.)**

September 10, 2014

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**Mitigating the Impact of the February, 2012 Implementation of Flight
Path Changes at Lester B. Pearson International Airport**

Introduction

The Toronto Aviation Noise Group is a coalition of concerned residents and ratepayers associations across multiple federal ridings through mid-town Toronto. It was established in spring of 2012 to obtain relief from the aircraft noise and frequency caused by the highly concentrated flight path that was unilaterally imposed upon our communities.

While fully supporting the need for safety and the objective of increased efficiency and minimizing environmental impacts, T.A.N.G. is committed to achieving an amended air space design that represents a more balanced approach to flight traffic for Toronto residents.

Background/Context

The NAV CANADA air space redesign implemented in February, 2012 over our mid-town neighbourhoods, which are many kilometres away from the airport, follows the most aggressive, business-friendly route at the expense of the quality of life and health of residents under its path.

The air space review that led to the changes did not seek nor include input from the potentially affected residents or their elected representatives. It was only at the tail-end of that process and shortly before the implementation of the changes that any notices were provided, and in the most minimalist fashion. ([Appendix 1 - NAV CANADA Ad & Notice Schedule](#))

T.A.N.G. is pursuing a community-sharing approach. Lester B. Pearson International Airport is an asset for all of the GTA. Its impact needs to be shared more equitably. The following proposals are directed toward that end.

PROPOSALS & COMMENTARY

Proposal: Lengthen the downwind-leg segment further east, with co-related descent profiles (higher altitudes for longer in the segment) and direct 50 percent of flights to a second waypoint location beyond the existing waypoint location

NAV CANADA's explanation for the changes to the Windsor-Toronto-Montreal corridor was that they resulted from the first air space redesign in more than 30 years. Flight routes were amended in order to adhere to contemporary international standards governing aircraft approaches established by the International Civil Aviation Organization (ICAO). In addition to new routes, some "modifications" were made to existing routes in an attempt to reduce delays in both travel time and greenhouse gas emissions.

As TANG's Mitigation Strategies presentation ([Appendix 2](#)) graphically illustrates, the February 2012 changes were not mere "modifications" or "adjustments." They represented a fundamentally different strategy for arriving aircraft into Pearson airport.

This fundamental realignment involved moving the arrivals flight path 1.8 KM to the south and concentrating the flight path into a very narrow pathway, an issue discussed in the Proposal below.

It also involved two other very significant changes that have intensified the disruption for the affected neighbourhoods.

The descent profile was altered in a way that has shortened the altitude transitions and requires aircraft to frequently use noisy speed brakes. ([Appendix 3 - NAV CANADA \(Michelle Bishop\) emails](#)).

At the same time, the aircraft are instructed more frequently to begin their 90 degree turn, or transition, from the downwind leg to the base leg much sooner than previously.

The combination of these changes has greatly intensified the noise experience, including what many residents report as the "falling missile" noise effect.

A fairer sharing of the impacts of these disturbances would see the points at which the transition is made from the downwind leg onto the base leg extended further to the east. In other words, extend the "slide" of the "trombone", keeping some of the aircraft at a higher altitude before beginning the final approach and descent.

Proposal: Widen the downwind-leg segment. Consequently, lengthen the base-leg segment to a length between ICAO's guideline for the minimum base-leg segment length (the current 5.2 NM) and the maximum allowable length.

At Lester B. Pearson International Airport (LBPIA), in order to meet ICAO design standards for the base leg segment of the arrivals route, the downwind portion had to be relocated a minimum of 1.8 kms (1 nautical mile) south of the pre-implementation route, thereby lengthening the base leg. As explained by NAV CANADA:

“Instrument approach design standards rule out moving the downwind leg back to its previous location or anywhere north of its current location, as that would reduce the base leg of the approach to below the new minimum and compromise safety.

*For traffic management purposes, the downwind leg of the approach must follow a path parallel to the runway itself. We have examined the flight paths as they relate to population density maps and have concluded that there is not a viable corridor that would be navigable while enabling reduced noise exposure. If the current flight path were relocated slightly southward, **it would simply transit over new communities from Etobicoke through Don Valley.**” [emphasis added]*

Michelle Bishop, January, 2013

NAV CANADA apparently had no such difficulty in 2012 causing the flight path to “transit over new communities” nor with concentrating the flight path over those communities, without meaningful notice to or consultation with those communities

T.A.N.G. understands that NAV CANADA chose the **minimum** acceptable distance with the approach re-design for the base leg and has yet to consider the range of options between the minimum and **maximum** acceptable distances for the base leg.

As noted in the above proposal, the downwind leg was also shortened and compressed from the east. The combined effect of these changes was the creation, for the first time, of a very highly concentrated arrivals flight path over residential areas of the city that had not previously been under the flight paths.

As a consequence, the integrity of the “lived experience” in these areas has been severely degraded with intensive and constant noise intrusions day and night. As a ‘quality of life’ indicator, see the chart of the “400 Aircraft Weekend”. ([Appendix 4](#))

Also instructive, anecdotal as they may be, are the comments of the residents themselves upon whom these changes have been unilaterally imposed. See the residents’ commentaries on the problem. ([Appendix 5 - The "Lived Experience": Residents' Commentaries](#))

We understand that aviation navigation needs to meet international standards but T.A.N.G. also is aware that the International Civil Aviation Organization (ICAO) has

guidelines that offer a range of options for the redesign of routes. Other ICAO recommended “balanced approach” options that could have been implemented weren’t. As a result, NAV CANADA chose the shortest, most aggressive airline friendly route. Communities now living under this new arrivals flight path are burdened by an unfair, concentrated amount of traffic. Published data indicate 40% of all arrivals annually at LBPIA fly over these new neighbourhoods. ([Appendix 6 - CENAC data on aircraft movements at LBPIA](#))

While we appreciate the desire to reduce greenhouse gas emissions, we do not believe the route should be designed exclusively for the benefit of the airline industry at the expense of the integrity of our communities or our health. We agree with the objective of saving GHG emission. Those emissions, given the route changes, significantly impact our neighbourhoods. We do not think, however, that our proposals will materially detract from achieving the GHG emission reduction targets. In this respect, please see the emails from Michelle Bishop of NAV CANADA to the Vice-Chair of T.A.N.G. ([Appendix 3 - NAV CANADA \(Michelle Bishop\) Emails](#))

Shortening the distance of the route is only one way of achieving a reduction of GHG emissions. A longer term solution would be to improve the overall efficiency of the fleet and require aircraft to meet emission standards.

We understand the safety issues with relocating flight paths to the north. If the route were relocated to the south it would actually increase safety standards by lengthening the base leg segment to something other than the minimum. While density maps indicate larger affected populations south of the existing route, NAV CANADA should also consider that a corridor to the south would allow for air traffic to fly over business/commercial buildings unoccupied in the evening and condominium and apartment dwellers that are insulated from and unaffected by aviation noise.

A negotiated “balanced approach” compromise between the old and new designs should have been implemented.

Proposal: Create efficient uses both of Lake Ontario for night-time arrivals and of currently underutilized runways at LBPIA

Lake Ontario is used by both arrivals and departures for flight path purposes. T.A.N.G. proposes that the lake be used with greater frequency for the downwind leg of arrivals destined for runways 24 left & right at night when there are is very limited, if any, movement at Billy Bishop airport.

As noted above, the impetus for the establishment of the new flight paths in the locations that they are currently in was saving of flight time, fuel costs and GHG emissions, all creditworthy objectives. At the same time, it was also a money saving objective for the airlines.

While lengthening the base leg further south at night so that the arrivals leg is over Lake Ontario may add fractionally to flying time, that must be balanced against the health costs to residents from noise, emotional stress and pollution, factors which are every bit as worthy of consideration as fuel cost savings; savings which only accrue to the airlines.

Health costs are a heavy burden on all taxpayers. These costs affect quality of life and integrity of neighbourhoods and should be a major concern of all as well.

Efficient use of available runways

In addition to the 2013 numbers, T.A.N.G. reviewed the annual movement information from 2010-2011, prior to implementation, and then for 2012 following the “change” in February. Analysis of this data indicates that there appears to be an attempt to significantly reduce the use of the north/south complex. Over eighty percent of the arrivals utilized four runways that run east/west. Eighty percent of the departures used only 3 runways.

The result is an over-concentration of both arriving and departing flight paths to and from the runways that are being most heavily used. ([Appendix 6 - CENAC 2013 data on aircraft movements](#))

Proposal: Cap night-flights over residential areas and commit to not including runways 24 Left and Right as “preferential” runways

The night flight restriction is too short, beginning at 12:30am after most residents' preferred sleep time. An expanded restriction by at least 30 minutes is necessary in order to provide some marginal night-time relief.

Other major international airports have found ways to more closely restrict night flights and to minimize the impact on residents of the cities in which the airports are located. Appendix 7 provides an overview of the night restrictions at a few such airports that are as busy as or busier than LBPIA. ([Appendix 7 - Night Flights Airport Chart](#))

Particularly noteworthy are the bans on night flights in place at Narita and Frankfurt, the 5th and 9th busiest airports in the world respectively. Both are true International hub airports, which Toronto, currently the 35th busiest airport, aspires to become.

Preferential Runways

The proposal to cap night flights is consistent with the objective of not further imposing a disproportionate amount of the pain on the residents of one series of neighbourhoods.

T.A.N.G. is aware that the GTAA has been conducting a preferential runway study since the Fall of 2013. Again, consistent with the objective of not imposing a disproportionate amount of the pain on any one group of residents, so long as the current flight paths remain in effect, runways 24 Left & Right should not be treated as preferential runways.

The impact of such a change was proven during this past summer as work was being performed on the existing preferential runways and night flights were routed to runways 24 Left and 24 Right.

Despite their current non-preferential status, runways 24R and 24L represent a grossly disproportionate 40% of all Pearson arrivals traffic. ([Appendix 6 - CENAC 2013 data on aircraft movements](#)).

Any consideration of making these runways preferential for night flights is unacceptable and would worsen what is for many residents and for all of the members of T.A.N.G. an already intolerable living experience as well as exacerbating the health impacts.

Proposal: Prescribe limits on activity for evening hours, particularly on weekends and statutory holidays

As can be noted in [Appendix 7 - Night Flights - Airport Chart](#) , many of the international hub airports have “core” hours in which night flights are severely capped or banned altogether.

It also appears to be a common practice to prescribe the number of aircraft movements for certain times on either side of the core hours as an acknowledgement of the sleep patterns of a majority of residents, especially children. This holds especially true for the non-working mornings for the majority of residents,

A commitment should be made to imposing restrictions on aircraft activity at LBPIA during reasonable times on either side of the airport’s “core” period for night flights, particularly during the relatively early morning hours on Saturdays, Sundays and Statutory Holidays.

Proposal: Undertake independent studies to measure the impacts of NAV CANADA-designed flight paths on people living under the flight paths

T.A.N.G. understands that NAV CANADA conducted simulation studies for fuel savings and Greenhouse Gas Emissions related to the new air space design. We also understand that there was no off-setting Human Risk Assessment study commissioned to examine the associated health and environmental factors affecting the residents living under the new concentrated route.

A search of the existing literature discloses numerous studies that point to the negative health impacts on people, particularly children, from exposure to aircraft noise. ([Appendix 8 - Summary List of Aircraft Noise Health Effects References](#))

The issue is currently being explored with Toronto's Chief Medical Officer, Dr. David McKeown and the Toronto Public Health staff. Their expertise and considerable data from credible sources such as the World Health Organization and others support our concerns. Toronto Public Health has initiated dialogue with the GTAA (CENAC) to determine why our neighbourhoods are not being included in the 2014 Air Quality Study.

Dr. McKeown has also recently raised his concerns with the GTAA regarding the health effects of aviation related noise. ([Appendix 9 - Dr. D. McKeown to Mr. H. Eng](#)). Dr. McKeown is urging that a Health Impacts Study be undertaken to examine this issue. T.A.N.G.'s view is that just such examinations ought to have been undertaken prior to the implementation of the February 2012 changes, particularly in light of the City of Surrey representations.

It is recognized that this proposal is not new to NAV CANADA. It has been previously addressed to NAV CANADA by others, notably the City of Surrey, British Columbia following similar unilateral changes made to the standard arrival routes at Vancouver Airport.

A report to the City by the consultant retained to review and report on NAV CANADA's changes stated, in part, with respect to environmental assessments and the STAR/SID redesigns by NAV CANADA:

NAV CANADA Airspace Procedure Changes and Direct Approach Consulting Inc. (the "Consultant") Report and Recommendations

Proposed Regulations Requiring Environmental Assessments and Public Consultation

Under the Civil Air Navigation Services Commercialization Act, R.S.C. 1996, c. 20 ("CANSCA"), which establishes the authority of NAV CANADA, there is no statutory provision that requires NAV CANADA to undertake an

environmental assessment before implementing changes to flight paths. This is in contrast to Australian regulations, which require that environmental aspects be considered and assessed in flight path design. To ensure that environmental impacts are given proper consideration in Canadian flight path design, Legal Services recommends that CANSCA be amended and that a regulation be introduced, which clearly establishes that an environmental assessment must be undertaken prior to any changes in flight paths. The draft regulation also includes notification of proposed changes to municipalities and their inhabitants who are affected by the proposal.¹

The consultant presented for consideration draft amendments to The Aeronautics Act as a way to implement the proposals contained in his recommendations. That model amendment is attached as [Appendix 10 - Surrey BC Model Amendments to the Aeronautics Act](#)

¹ For the full staff and consultant's reports, which are also very instructive, go to <http://surrey.ca/bylawsandcouncilibrary/R070-49ED.pdf> .

Proposal: Create an independent complaint mechanism for receiving, reviewing and reporting on complaints

NAV CANADA and GTAA personnel frequently cite the lack of complaints registered with the GTAA. Presumptively, this is meant to indicate that there really isn't a significant problem with aircraft noise.

T.A.N.G. believes there is an alternate interpretation to be placed on the complaint data, and that is that the current complaints process lacks credibility.

In 2013 there was one Transport Canada noise violation sanction applied in all of Canada. This was in Montreal. There were none in Toronto or elsewhere in the country.

The problem with the concentrated flight path is not that most aircraft exceed the legal decibel limit, although some undoubtedly do. The problem is the constant audible noise intrusion into our neighbourhoods and homes because of the extreme concentration of the path.

Furthermore, the whining noise of planes descending to the arrivals path, speed braking or turning is heard at intolerably frequent intervals for large parts of the day and at greater intervals at night.

The steps required to register a complaint, or concerns, can be difficult, confusing and cumbersome. Residents outside the current 10 nm radius to the GTAA are advised to take their complaints to Transport Canada. The route for plugging in correctly to Transport Canada can be difficult to navigate.

T.A.N.G. has received far too many separate but consistent expressions of frustration from people about their experiences in attempting to register complaints to be able to credit the current process as being anything but a public relations exercise. It presents to T.A.N.G. members as having been designed to impose "complaint fatigue" on concerned residents rather than to gather, analyze and employ input that could be meaningful management information data.

Decision-makers require a much more effective means of gathering and distilling such information, as subjective as it often is, and without it being filtered through the self-interested analyses of those with a vested interest in minimizing its significance.

Therefore, we believe that citizens would be better served by the appointment of an independent Air Noise Ombudsman for third party oversight, one that consolidates the functions currently performed by the GTAA, NAV CANADA and Transport Canada.

The model proposed in November, 2013, by the organization London First in its report "***More Flights Less Noise: A Manifesto for Balancing Aviation Growth and Aircraft Noise***" ([Appendix 11](#)) is worthy of consideration as it has attracted multi-party endorsements from both the "pro" and "anti" airport expansion camps.²

² <http://www.theguardian.com/world/2014/mar/10/heathrow-critics-supporters-independent-ombudsman-airport-noise>

Proposal: Integrate a meaningful role for citizens' groups and elected representatives in future flight path refinements or reviews

NAV CANADA is not politically accountable except for safety issues. As a result, its consultation approach involves the dispensing of information. T.A.N.G. has learned through its research that the information given by NAV CANADA can be inconsistent and misleading. For example, In the CENAC minutes of February 1st, 2012 the Above Sea Level altitudes announced for this flight path are quite different from the actual implementation heights.

There appears to be no interest on NAV CANADA's part in a two-way consultation process as envisioned by the International Civil Aviation Organization, in accordance with whose guidelines NAV CANADA operates. ICAO, in its publication "**Guidance on a Balanced Approach to Aircraft Noise Management**", ([Appendix 12](#)), section 2.4, has clear expectations about the consultation process. The process that resulted in the concentrated flight path is not consistent with either the letter or the spirit of these guidelines. Our elected representatives at all levels were not advised of the changes.

In a letter to MP Carmichael in May, 2013 NAV CANADA wrote, "While we are not required to provide notification of flight path changes to anyone other than the pilots who fly them..." To T.A.N.G., this seems to summarize NAV CANADA's attitude towards consultation.

The opportunity for residents and elected representatives to inform the review process leading to the flight path redesign simply was not afforded. The process was initiated in 2008 but notification, minimal as it was (see [Appendix 1 - NAV CANADA Ad & Notice Schedule](#)), was only provided in mid-2011. As was evident by the media coverage of the changes, as of November, 2011, the decisions were already made. ([Appendix 13](#))

Further, the content of the notifications were profoundly misleading, dramatically understating the potential impact. The changes were to be, according to NAV CANADA spokespeople, "slight" alterations; "adjustments".

T.A.N.G. finds NAV CANADA's position to be disingenuous. As the organization responsible for civil air navigation in Canada since 1997, it could not have been anything but intensely aware of the sensitivity of residents around such changes. They had powerful international as well as domestic precedents. It had to know that imposing an intense concentration of low flying aircraft over residential areas that had previously experienced little if any air traffic would be exceptionally disruptive.

The impact on people living under the new flight paths outside of the neighbourhoods traditionally regarded as the "neighbours" of LBPIA was a factor that was obviously consciously not factored into NAV CANADA's calculations and, in fact, appears to have been studiously avoided. As is noted in the **Surrey Air Space Task Force Submission** ([Appendix 14](#)) these issues were raised with NAV CANADA in 2007-08 leading to the City of Surrey to petition the Federal Government to:

1. *Direct NAV CANADA to redo its YVR airspace redesign and in doing so to,*
 - *provide effective public notice of any proposed major airspace changes,*
 - *provide full public disclosure of the reasons for the proposed change,*
 - *arrange for comprehensive, independent studies to assess the impacts of the proposed change in all relevant areas including environmental (including noise), social, health and economic,*
 - *disclose all reasonable alternatives to the proposed change,*
 - *consult with all affected stakeholders (including communities) and conduct public hearings,*
 - *publish its findings and the reasons for any decision,*
 - *present and defend those findings before an independent quasi-judicial body, and*
 2. *Modify the CANSCA to enshrine the foregoing in legislation so that public notification, community consultation and an independent environmental assessment are vital components whenever flight path (airspace) changes are made **anywhere in Canada** [emphasis added].*
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NAV CANADA's Social Obligation

As a private corporation, NAV CANADA has been provided licence to utilize the Canadian airspace for its purposes. Therefore, it ought to be compelled to take into account the impact of its activities on **all** other rightful users of what is public domain.

Given the manner in which it has managed these processes, it is readily apparent that NAV CANADA, as a private corporation with its governance body dominated by airline industry and business representation, will be unlikely to be moved to invest the time and expenditure required to carry out these measures.

Accordingly, it is imperative that a role be created within these planning processes, especially any process for reviewing the changes already made, for individuals who will have as their principal frame of reference the "lived experience" of those affected by the changes.

Concluding Statement

T.A.N.G. very much appreciates the invitation by the federal Minister of Transport to convey its proposals for her consideration and for examination by her officials within the Ministry of Transport.

T.A.N.G.'s members take this invitation as the initiation of a dialogue directed to achieving the needed relief from the impacts on our communities from the NAV CANADA actions.
