



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

***Response to NAV CANADA'S  
response to the HELIOS report for  
Toronto Airspace Review***

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## Executive Summary

Toronto Aviation Noise Group (T.A.N.G.) has reviewed the NAV CANADA response to the HELIOS report for Toronto Airspace Review. We appreciate the analysis that HELIOS has provided, ***given the constraints imposed on the review at the outset that we disputed***, but we have concerns over some of the recommendations as well as the NAV CANADA responses. We are also concerned about the lengthy timelines given for projected action.

While HELIOS states a number of solutions and recommendations regarding noise mitigation, our fundamental concern is the lack of oversight for most of them. This applies in particular to the recommended Industry Noise Management Board (INMB), where no citizen representation exists. We believe that representation from outside the industry is essential.

Any reporting of information through a clearly flawed GTAA Community Environment and Noise Advisory Committee (CENAC) would not be adequate. Throughout the HELIOS review process the message was loud and clear: CENAC doesn't work and is seen as a barrier to any effective noise mitigation. It is seen as a place where citizens go to vent; a place where they can send in thousands of noise complaints that are logged and presented at quarterly meetings. An organization that monitors noise and then presents information that we already know: There is a severe aviation noise problem.

We believe the mandate of NAV CANADA must be amended to include noise mitigation and that consideration of this must be included in day to day operations, as well as in the planning of future air route changes. In this regard we believe that the decision-making process must be transparent. A guiding principle applied to aircraft route changes affecting people on the ground must be to minimize terrain over-flight, whenever and wherever possible, for areas of significant population density. If aircraft must be flown, as a last resort, over densely populated areas then aircraft must be flown higher and cleaner. It is simply not enough to focus on saving time and fuel at the expense of those under the routes.

New technology must not be used to make life unbearable for citizens, irrespective of commercial spin-offs – a common theme heard from communities all across Canada, the USA and indeed all over the world. Airspace must be leveraged to provide the least impact on citizens living under flight paths and further concentration is not an option. Therefore, we are opposed to any suggested changes that would increase flight concentration.

In the short-term, we believe that maximizing the use of “short cuts”, preferably over Lake Ontario, will give some relief in terms of noise mitigation, as will higher flight altitudes and the implementation of controller managed, continuous descent operations. However, we believe that moving the south downwind over Lake Ontario, or removing it entirely, is the only viable long term solution.

Finally, it is imperative that recommendations adopted by NAV CANADA be embraced by the airlines and their crews. And, it is critical that there be a foundation set for guiding principles to noise mitigation as stated by ICAO Balanced Approach to Noise Mitigation <https://www.icao.int/environmental-protection/Pages/noise.aspx>.

The current situation has plagued residents of Toronto and surrounding municipalities since NAV CANADA made air space changes in February 2012. We are entering 2018 and still little or no noise mitigation has happened. Therefore, we believe that any expansion at Pearson airport must not happen unless, and until, significant noise mitigation initiatives are in place and working successfully.

## Recommendations 1A & 1B

### Sunset date for A320 without FOPP vortex generator

We completely agree with this recommendation. However, given that the issue of the noise generated by the Airbus A320 series has been known for many years, we want to see an accelerated timeline and the appropriate oversight/mechanism for tracking compliance.

### Toronto-Pearson sunset date for unmodified A320s and noise

Again we want to see an accelerated timeline. If there are valid and defensible reasons why timelines cannot be accelerated then, in the interest of complete transparency, we request that these be defined and shared with all interested parties including T.A.N.G.

## Recommendation 2A - Create an Industry Noise Management Board

### Implementation

We applaud the creation of an Industry Noise Management Board. We appreciate that you recognize a collaborative effort is required. However, in the interest of transparency, we request that at least one member of the general public be included with an equal voice and voting rights in matters of decision making/recommendations pertaining to the Board's mandate. We understand that this is a technical committee but, in the past, decisions made "behind closed doors" and reported out after the fact, have caused a lack of trust by members of the general public in both NAV CANADA and the GTAA. This has led to where we are today. It is our opinion that transparency and input into decision-making are crucial going forward.

Since early 2012, when route changes were made with minimal public consultation, the issue of the lack of government oversight, or any other oversight of NAV CANADA, has been front and centre. We believe that, in the absence of such oversight, total transparency pre, post and during the formulation of decisions must occur.

### Reporting Progress

Given the flaws that have been identified in the current structure of the Community Environment and Noise Advisory Committee (CENAC), as well as suggestions in the Helios report regarding changes going forward and the need for transparency, it is our opinion that other forums for dissemination of information are critical. We believe that the GTAA and NAV CANADA websites should be used to report out as well as social media, emails, etc. This information must be disseminated to everyone at the same time to avoid the current perception that limited information is shared with the general public.

## Recommendation 2C – Achieving Low Power/Low Drag Descent

We strongly agree with the position of the Residents' Air Noise Group of Oakville (RANGO) on this subject:

*"... Low Power-Low DRAG (LPLD)/Continuous Descent Operations (CDO) operations are the basic building block of reducing noise in the arrival phase. We also feel that, below 7000 ft, Controller Managed Descents provide the shortest implementation timeline for the low level CDO solution.*

*Controllers already give clearances for descents. Controller Managed CDO would simply be requiring that they provide these clearances at the appropriate time/location rather than simply clearing aircraft down to 3000 ft on initial contact, which is often the case.*

*“ ... continuous descent operations should be easy and quick to implement.”*

We believe that flying planes higher and cleaner is the fastest way to bring immediate relief to those living under existing routes.

### **Recommendation 2D – Evaluate Reduced Landing Flap Operation**

T.A.N.G. supports this initiative, since it is fundamental to low power/low drag operations and the resulting noise reduction.

### **Recommendation 2E – Quarterly Publication of CDO Achievement**

See “Reporting Progress” under section “2A” above.

### **Recommendation 2F – Public Annual CDO Performance Improvement Targets**

See “Reporting Progress” under section “2A” above. It is important that CDO performance improvement targets be published at least twice per year and compliance statistics are published in concert with the targets to measure the success of this initiative.

### **Recommendation 3A – Design RNP-AR procedures that can reduce the need for a high/low operation.**

While this may provide noise mitigation for some, it has the potential to increase noise exponentially for others. While this would shave time off flights and save money for airlines, it will not mitigate noise for the majority of people under the south downwind, base leg and final approach to Pearson. T.A.N.G. is, and always has been, completely opposed to any changes that increase the concentration of flights on the south downwind, base leg and final approach. Indeed, it is the concentration of flights that is causing problems in major airports all over the world.

Shortening the current trombone, while extremely beneficial to airlines and the GTAA, will further concentrate flights, making life intolerable for those under the routes. However, we are in agreement with flying aircraft at higher altitudes all along the downwind and enabling a higher initial starting altitude for the base leg. If aircraft are flown at higher altitudes enabling a higher initial starting altitude at the base leg it will give some relief to those citizens along the flight track.

We understand that you are using tromboning for both fine tuning and delay management which results in both extended downwinds and final approach legs that overfly communities many miles from the airport. However, **Air Traffic Control at Pearson does not use either CDO or Controller Managed Descents, which means that aircraft are being operated thousands of feet lower than necessary and at speeds that require the use of flaps.** If you continue to use tromboning then keep the aircraft higher, faster, and operationally cleaner when a long downwind is required. This should be an immediate fix in terms of noise mitigation. We have observed recently that some flights are being flown at higher

altitudes and turned at the furthest point along the south downwind to Runway 24. We strongly support this and would like to see it continue and increase until you can eliminate tromboning completely.

We agree with RANGO that RNP approaches are one of the major causes for noise complaints at almost every airport where they have been introduced. As you also know, the Phoenix city administration recently won a lawsuit against the FAA which forced them to withdraw these procedures.

We believe that the rights of citizens must have equal importance with the needs of airlines. Using multiple/alternating RNP-AR tracks would permit dispersion and mitigate the concentration effect inherent with RNP technology, thereby reducing noise.

As stated by RANGO, Helios did not make any recommendation to introduce randomness into RNP approaches by providing variable base leg locations, only that NAV CANADA “*will need to consider*” the concentrated flight path that RNP creates. **Our position is that consideration is not enough, action is required and further concentration is not an option.** How does NAV CANADA plan to utilize RNP-AR to mitigate noise due to inherent concentration?

Going forward, we trust that new designs will not be done “behind closed doors” and then taken out for consultation as a fait accompli. As well, we believe that a thoughtful analysis must be done on a regular basis by NAV CANADA, of the impact of any route and/or operational change on those who live under the flight paths. Noise complaints should factor into this analysis.

An example of this would be an analysis of the impact of allowing departing aircraft to turn once they reach a specific altitude, at which point they are turned towards a Standard Instrument Departure waypoint. This simple procedure, designed only to meet the requirements to separate departing aircraft from parallel runways, does little or nothing for noise management standards suggested by ICAO. What impact does this have on those under the flight routes? Have there been complaints? Have you surveyed a sample of those living under the flight routes? While this practice facilitates the movement of aircraft, aircraft turned at lower altitudes make more noise than those that are required to fly to higher altitudes before turning.

### **Recommendation 3B – Maximize the usage of RNP-AR to incentivize equipage**

No comment.

### **Recommendation 3C – Publish RNAV approaches which will allow for an increase in Continuous Descent Operations**

See final paragraph under Recommendation 3A above.

We are in favour of Continuous Descent Operations **if aircrafts fly higher and cleaner.**

### **Recommendation 4 – Consider 3.2 degree glideslope for RNAV approaches**

No comment.

## **Recommendation 5A – Allow consultation to inform next steps on additional runway alternation options**

T.A.N.G.'s multi community membership is affected by the recommendation for “alternating runways” in a variety of ways, both positive and negative. As a result, individual communities are addressing their area specific concerns through their elected representatives.

Residents living directly off the north-south runways have raised concerns regarding increased use of those runways and have, in some cases, articulated an opposition to sharing the flight noise. It is important to distinguish between avoidable noise, and the unavoidable noise which occurs near the airport due to the final approach or departure trajectory. These are distinct issues and T.A.N.G. is focussed on the former as opposed to the latter.

We understand that the GTAA has decided not to pursue the option of alternating runways. However, we are still concerned about route crossover points as we believe that there will be more usage of the north and south runways in the future. Due to the current airspace route designs, some communities receive arrivals from several different routes, dependant on wind direction, and they are also crossed by several departure routes. We trust that NAV CANADA will ensure that crossover points are relocated to industrial lands, golf courses, railway tracks, major highways, commercial sites, etc. and that planes will be kept as high as possible at these points. It is completely unacceptable that residential areas already receiving a disproportionate amount of air traffic should be afflicted with even more due to poor planning of cross-points. Note: *One point detailed by the Helios as a crossover point is inaccurate (planes routinely fly further west) and the altitudes listed are often much lower than stated.*

## **Recommendation 6A – Encourage “short-cuts” on an ad-hoc basis to reduce downwind usage when traffic permits**

T.A.N.G. supports this recommendation. We have observed the short-cut detailed under 6A being used at various times. However, short-cuts should be employed on a constant basis, other than during extremely high demand times, vs. on an ad-hoc basis. Should the recommendation be approved, given that some communities would have increased overflights, it would be critical for NAV CANADA to ensure that higher altitudes be adhered to.

RANGO has stated that: *“With a properly designed CDO procedure, aircraft overflying these areas would be higher than they are in the current ad hoc environment, actually reducing the noise impact. A published and well-designed CDO arrival would have aircraft higher and in quieter configurations than today. The biggest problem with the ad hoc procedure is that controllers still clear flights to 3000 ft while on the diagonal when they should not be descending below 5000 ft until crossing the current downwind. Having aircraft at altitudes above 5000 ft over or near Billy Bishop airport would have no impact on operations there.”* RANGO also cites additional noise mitigation possible for departing aircraft and savings for airlines in the range of 40 million dollars per year as well as the reduction of greenhouse gas emissions.



**We believe that flying, as much as possible, over Lake Ontario is the only viable, long-term solution,** not only for providing the maximum mitigation for the maximum number of citizens, but also to accommodate projected expansion at Pearson. In this regard, we are disappointed that you have not addressed this in your response. Although the Helios report does not recommend this solution at this time, they did state:

*With advances in aircraft and ATM systems, it may be possible in the future for pilots and air traffic controllers to achieve a level of timing and precision to enable efficient operation of a downwind segment over Lake Ontario, or in fact, remove the need for a downwind at all.*

This technology is necessary as Helios recommended that, in order to minimize impact on lake front communities, the south downwind would have to be moved at least 2NM off the shoreline. We do not agree with this. A cursory look at development along the shoreline shows that parkland, commercial space and high rise buildings comprise much of the shoreline route. As well, 2NM is an arbitrary distance off-shore. The current flight path is centered on residential areas, creating a 4NM (2NM on either side) noise footprint along the route. Moving the flight path even 1NM off-shore would leave a 1NM land-based noise footprint, reducing the noise footprint by 75%. We believe this must be considered.

Moving the south downwind over the lake must absolutely be considered further and investigated in a timely manner, with a firm commitment to invest in the necessary technology. As well, a process must be put in place to monitor emerging technology to facilitate this. It is critical that NAV CANADA provide timely updates on progress. Changes made in response to the Helios report must not be “etched in stone”. Rather, NAV CANADA must strive to mitigate noise whenever, and wherever, possible if there is to be a true partnership between the citizens of Toronto, the GTAA and NAV CANADA. Going forward, we must all work together to ensure that what happened in 2012 never happens again.

### **Recommendation 7A – Investigate Single Point Merge**

Any straight in approaches are obviously preferable to the use of downwinds. However, we believe there should also be single point merge options in other areas, especially over Lake Ontario, with straight in approaches.

### **Recommendation 8A – Implement Arrivals Manager System (AMAN)**

We are not industry experts but support the use of any new technology that will help mitigate noise. We anticipate the use of the AMAN system will be a significant part of new technology required to: **“achieve a level of timing precision to enable efficient operation of a downwind segment over Lake Ontario, or in fact, remove the need for a downwind at all.”** (Helios report, section 10, page 110). However, to be clear, the use of AMAN to further concentrate flights is not acceptable.

### **Recommendation 8B – Extend horizon of influence of AMAN system**

See response under 8A, above.

### **Recommendation 8C – Invest in development of Time Based Operations**

Again, we are not industry experts, but support the use of any new technology that will help mitigate noise. As well, we anticipate that the development and use of Time Based Operations will help ***“achieve a level of timing precision to enable efficient operation of a downwind segment over Lake Ontario, or in fact, remove the need for a downwind at all.”*** (Helios report, section 10, page 110). Again, the use of Time Based Operations to further concentrate flights vs. the mitigation of aviation noise is unacceptable.