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Chair

The Honourable Judy A. Sgro

Standing Committee on Transport, Infrastructure and Communities

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• (0845)

[English]

The Chair (Hon. Judy A. Sgro (Humber River—Black Creek, Lib.)): I am calling to order the meeting of the Standing Committee on Transport, Infrastructure and Communities.

Pursuant to Standing Order 108(2) we are doing a study assessing the impact of aircraft noise in the vicinity of major Canadian airports.

This morning, in our first portion of the meeting, we have Colin Novak, associate professor, University of Windsor. From the Community Alliance for Air Safety, we have Mark Kuess, director; and Al Kaminskas, public relations. From the Mississauga Board of Trade, we have David Wojcik, president and chief executive officer.

Thank you all very much for being here this morning.

Mr. Novak.

Dr. Colin Novak (Associate Professor, University of Windsor, As an Individual): Good morning, ladies and gentlemen. My name is Colin Novak. I'm an associate professor at the University of Windsor, specializing in acoustics, environmental noise and psychoacoustics. I'm also a principal with the firm of Akoustic Engineering, and a licensed professional engineer with 25 years of practical experience in the field of noise engineering.

In my capacity as a professor, I am the principal investigator for a three-year collaborative research project on the mitigation of aircraft noise annoyance, and the related community impacts through the development of targeted annoyance metrics. This research is equally funded by the Greater Toronto Airports Authority and Mitacs, a federal funding agency. You'll learn more about this research in the next session from my Ph.D. student, Julia Jovanovic.

As a practising engineer, my experience working with airports and aircraft noises is comprehensive, having worked with Toronto's Pearson airport, Montreal's Pierre Elliott Trudeau airport, Calgary's international airport, and Toronto's Billy Bishop airport. I've also been engaged by Nav Canada in the past to perform environmental noise impact studies on communities affected by flight path changes in the Toronto area.

Last, I'm a technical adviser for Toronto Pearson's Community Environment and Noise Advisory Committee, or CENAC. In this capacity, I provide technical answers and advice to the committee on issues of noise and deliver educational seminars to the committee and public groups.

An important tool to monitor, understand and manage community noise impacts are the airport's noise monitoring terminals. Toronto Pearson airport has 25 noise monitoring terminals. In addition to measuring the noise levels from above aircraft, the measured and archived noise data is associated to specific aircraft and their operation. The real-time noise levels are also shared with the public through the airport's WebTrak web page. This information sharing has been shown across many industries to be an effective community engagement tool and can increase an operator's environmental capacity.

The data has the potential to be used in several ways, including: as a method to monitor impacts during special cases, for example, runway construction or maintenance; as a research tool, as in the university's investigation of social impacts from aircraft noise; as a means of comparing effectiveness of noise mitigation initiatives or impacts of procedural changes; and for community relations, urban planning and public education.

The point that I am trying to make is that airports have and use tools which go beyond the simple measuring and reporting of sound levels. The key is to understand how to interpret the data, and effectively use it in a meaningful way to manage impacts.

I'm sure many of you are aware of the recently released World Health Organization study on environmental noise guidelines for the European region. From both my practical and academic experience, I recognize and support the initiatives that this report has undertaken. The report has clearly identified the problem from not only a European perspective but also a global one. Most importantly, it has identified the potential impacts from airport noise, particularly with respect to health. At the same time, I question the strength and validity of some of the conclusions, and certainly the recommendations.

The report acknowledges that many of the conclusions are weakly supported by the current state of science. Similarly, the recommendations are vague, impractical, and not strongly supported by the research. The report also clearly missed identifying the most significant intermediate between the generation of noise, and the resulting potential health impacts, and that is the annoyance.

It is very clear to me that more understanding of annoyance due to aircraft operation is required. The most important take away from the report is that more research is needed. Studies relevant to Canada, our people, our culture, and our economics are needed.

In closing, looking back as far as the 1960s, the aircraft industry and the airports, through their operations, have done an effective job at mitigating aircraft noise. This has partly been done through improved engine and airframe designs. The Airbus A320 retrofit is an example.

Noise mitigation has also been done through careful in-air operations. Air traffic is strategically managed with safety being paramount, but noise mitigation is also given high importance. However, these efforts are at a point of diminishing returns, with little more noise attenuation expected.

● (0850)

Moving forward, it is paramount that aircraft noise expectations and mechanisms for annoyance impacts and resulting health outcomes be more thoroughly studied and understood through good, relevant and properly funded research initiatives.

I thank you for listening. I welcome your questions later.

The Chair: Okay.

We'll now go to the Community Alliance for Air Safety.

Mark, perhaps you would like to lead off.

Mr. Mark Kuess (Director, Community Alliance for Air Safety): Thank you.

Madam Chair, distinguished committee, we're honoured to be invited by the chair of the House of Commons Standing Committee on Transport, Infrastructure and Communities to appear before your committee today as a representative of the Community Alliance for Air Safety.

The Community Alliance for Air Safety represents more than 40 communities and more than 45,000 people. Our focus is to ensure the safe operations and responsible growth of Toronto's Pearson International Airport and other airports across Canada.

Since our formation about a year ago, we've engaged with most of the operational stakeholders, including pilots, airport unions, industry experts, the airlines, the GTAA and Nav Canada. In the past year we've also engaged with several key government stakeholders including the GTA caucus, Transport Canada and the Transportation Safety Board of Canada. After more than a year of effort, we are encouraged that Transport Canada has recently accepted our invitation to engage in a collaborative discussion on the concerns of the communities that we represent.

We completed our first face-to-face discussion with Transport Canada a few weeks ago and raised three areas of concern. We believe this summary highlights the core of our concerns and we're going to use these as the basis of our introduction today.

The first one is that Transport Canada has been challenged to do more with less in the last 15 to 20 years as a result of available funding. We ask Transport Canada how they're going to bridge this gap between their budget constraints and the objective oversight of the airports across Canada.

The second one, further to the point above, is that Transport Canada has now started to move the responsibility of operational compliance to their operators. This trend is called self-regulation.

This is concerning as CAAS is not sure how clear, objective oversight can be achieved when the operator such as the airport, the airlines and Nav Canada are checking themselves. Recent press has highlighted the issue and has included statistics about the lack of effectiveness of this self-regulation model.

The third one is the transparency of Transport Canada's approval process and oversight. We have a few examples. CAAS has requested regular public disclosure of data regarding enforcement of penalties and rule violations. We've received some limited data but we still believe there are significant gaps with the violations that are happening today and what's being enforced. There continues to be no commitment from Transport Canada to publish and discuss this data on a regular basis in a public forum.

We have a few other examples that we've shared in the transcript.

A key point is that the significant growth is concerning us on a number of fronts. At today's volume, the airport experiences a significant number of safety issues annually. As previously stated, the self-regulation model is simply not effective in creating meaningful accountability to ensure these safety issues are reported and resolved.

Second, the current footprint of the GTAA is landlocked on all four sides, which means the growth in traffic is limited to the same size airport. There is simply no physical room to grow.

Third, Transport Canada stated in 1990 that the GTAA is at capacity. The operational density at the airport is at an all-time high. CAAS's view is that if the GTAA continues to grow as quickly as possible to 90 million passengers, we will have planes landing every 15 seconds. This will introduce a significant level of higher risk operationally. We believe that has not been appropriately evaluated. It's definitely not been addressed with the public. We've raised this issue on many occasions. Transport Canada is the only organization in Canada that has full responsibility and full authority to ensure that these critical issues are acknowledged.

In summary, we're honoured that CAAS has been invited to share these concerns with the committee. CAAS is committed to continuing regular discussions with all stakeholders to ensure that the safety and well-being of all those who work and live in close proximity to any airport in Canada are respected. In the end, we're here to ensure that all key stakeholders keep safety top of mind when all decisions are being made regarding the past or future Canadian transport policies or procedures.

We hope we can add to this discussion. We welcome any questions.

● (0855)

The Chair: Thank you very much.

Mr. Wojcik.

Mr. David Wojcik (President and Chief Executive Officer, Mississauga Board of Trade): Madam Chair and members of the committee, thank you for the opportunity to appear before you to discuss this critical economic issue that is impacting international airports across Canada, in particular, Toronto Pearson International Airport, which is Canada's busiest airport and the fifth most connected airport on the planet.

Being a good neighbour is of paramount importance, and airports in general are sensitive to this. No other airport in Canada does more to accomplish and accommodate this good neighbour policy than Toronto Pearson. A major economic component to globalization is Canada's position on that stage, and it's dependent on our ability to move goods and people on a 24-7 basis.

Although technology has vastly improved the ability for people to connect virtually, humans still prefer to do business face to face. Technology has not created a way to move goods across continents. At times, human life hangs in the balance while waiting for organs and tissue. Our Prime Minister, the Minister of Innovation, Science and Economic Development and the Minister of International Trade continually talk about Canada on the international stage, about the importance of Canada to be recognized globally and about how we must adapt to globalization.

A critical factor in competing at this level lies within our airports. In order for a package to arrive on time on another continent depends on the originating departure time. This means leaving Canada during these sensitive nighttime hours. For a tissue sample or an organ to arrive in Canada on time to save a human life, it means having to arrive at an airport during these sensitive nighttime hours. In order for global trade and deals to take place, business travellers must depart or arrive in Canada during these sensitive nighttime hours. In order for Toronto Pearson in particular to remain a Canadian gateway and a global connector, we must examine and expand these sensitive nighttime hours.

Night hours represent 25% of the production time at airports. No economic model would ever suggest shutting down supply and production when demand is present. Lost economic activity during these periods is estimated to be \$6 billion per year, and this does not include the lost employment income. If our federal government is serious about Canada competing on an international basis, we must rethink our airport night hours strategy and give consideration to the economic impediment this restriction creates.

Thank you.

The Chair: Thank you all very much.

Mr. Liepert, you have six minutes.

Mr. Ron Liepert (Calgary Signal Hill, CPC): Thank you, gentlemen, for being here. I suspect that the folks representing Community Alliance for Air Safety in Mississauga will be the focus of a number of questions because we have a number of members here from central Canada.

Mr. Novak, I'd like to ask you a couple of questions.

I represent a Calgary riding. In good traffic, I'm at least half an hour's drive from the airport. After they put in a new runway in Calgary, which I think you're probably familiar with, I am now getting complaints about air noise half an hour away from the airport because I guess they changed the flight path to come now over my area.

I guess it's one of these things where we're victims of our own success. If we want to be an international trading country, if we want to have three flights per day, increasing to five flights per day, from

Calgary to Palm Springs as my city now does—and they're all full. Again, we're victims of our own success.

Would you concur with that? At the same time, in spite of that, are there solutions that you could propose that might alleviate some of the concerns of constituents? I would like you to comment on the presentation from the Community Alliance for Air Safety, which mentioned that there was a gap in Transport Canada funding. Is this a funding issue? Could you make some comments on those observations?

• (0900)

Dr. Colin Novak: Absolutely. There's a lot there.

I think your first question was whether I concur with your observations. Absolutely. What you're describing isn't unique to Calgary. It's what we're seeing at most major airports, especially the airports that are near urban centres. Also, some of the comments are very common to airports that have experienced flight path changes. Toronto Pearson also went through the same thing in 2012, and a lot of the discussions and community concerns are still tied to those flight path changes.

There are solutions. Some are better than others. Some solutions deal with how the aircraft are handled and how they are put on approach. In other words, they deal with the airspace design. Pearson is looking at some changes despite the fact that they did an airspace redesign in 2012. An example that is possible at some airports is continuous descent, where the aircraft would start descending well before they're even near the airport. In doing so, it's almost like a glide down to the airport. They don't have to use flaps which create a lot of noise. They don't have to adjust their position by adding thrust, etc., which also creates a lot of noise. However, this technique isn't possible at all airports. It depends on where the traffic is coming from and which way the runways are oriented.

One of the things that we're advocating, as part of the challenge, is that we have to deal with it at the receiver as well. There are a lot of questions and studies being done, particularly in Europe, in terms of the health effects from this noise. Let me be clear that when I say "the health effects", it's not the noise itself that's causing you to have high blood pressure or cardiovascular effects; it's the annoyance and the tension associated with being exposed to this aircraft noise. That's why it differs so much from person to person, where you—

Mr. Ron Liepert: Could I get you to comment on transportation funding?

Then I have a quick question I'd like to sneak in before my time expires. In fact, I'll ask it now, and then you can answer at the same time.

I was at an event last night and I was talking to a retired air traffic controller. He maintained that one of the benefits of some of these changed flight paths is a reduction in emissions. Can you comment on that?

●(0905)

Dr. Colin Novak: That's true. That is one of the mandates they looked at when doing the airspace changes. It's because the aircraft don't have to be put in a holding pattern for as long as they used to be, and they can be taken right from their flight and brought down to a descent quicker, and they're not circling around the airport. Those result in reductions of—

Mr. Ron Liepert: What about transportation funding?

Dr. Colin Novak: Transportation funding, as well. Yes, I think with many government agencies they experience the same problem. For example, the models that we use are mandated by Transport Canada. They haven't looked at them or revised them since the 1970s. We're really one of the only countries in the world that are still using NEF contours as a planning tool, and I think that's due to a lack of funding to Transport Canada to do the appropriate research. That's just one example.

The Chair: Thank you, Mr. Novak.

We're moving to Mr. Iacono.

[Translation]

Mr. Angelo Iacono (Alfred-Pellan, Lib.): Thank you, Madam Chair.

I want to thank the witnesses for being here this morning.

Mr. Novak, in this room, you're the noise professional. To give me and my colleagues a better idea of how to manage noise, can you shed light on the different airport noise measurements that currently exist around the world? What measurement best establishes the sound environment perceived by the human ear?

[English]

Dr. Colin Novak: Many different metrics are used by airports, and it changes from country to country. For example, the European region uses something different from what we use in Canada, and what we use in Canada is different from what is used in the U.S.

A lot of the metrics are average-based noise metrics, where they'll measure the sound over an extended period of time and give you an average.

For example, in the U.S., they use something called Ldn, or in some states, like California, Lden. They take the daytime noise over the entire day, and the nighttime noise over that 8-hour period. They add a 10 decibel penalty, then come up with this one single-value number to represent that entire 24 hours.

In my opinion, it's not an appropriate metric to use for impacts that are cyclic, where we have an aircraft flying in anywhere from every 90 seconds to several minutes. It is that frequency of the aircraft, the coming and the going, as well as, if you think about nighttime noise, the Lmax levels. It's not that eight-hour average over the nighttime that's waking you up; it's the maximum levels, the high-impact sounds.

Europe does do a better job, for the most part, than what we do here in Canada.

To answer your other question, yes, certainly there are better metrics out there. With respect to human perception and how we

hear sounds, there's another factor that really isn't being taken into account in evaluating aircraft noise, but it is being used in other industries, and that's the human impact of the sound.

A typical metric would be a loudness metric, where it takes not only the sound pressure level, but also includes other factors that affect the quality of the sound, like the frequency, whether it has modulation or is sporadic. All of these have significant impacts on the impression of the sound we hear.

In other words, with psychoacoustics, it's not necessarily how loud or how quiet the sound is, but also how good or bad the sound appears to the human.

[Translation]

Mr. Angelo Iacono: What type of measuring device is best suited to assess the noise? Are we using the right model in Canada? What could Canada do better in comparison with other countries?

●(0910)

[English]

Dr. Colin Novak: Airports use noise monitoring terminals to assess the sound. On the hardware side, I know what is used in Calgary, Montreal and Toronto is a Brüel & Kjær type 2250. Brüel & Kjær is a Danish company. They are the world's oldest manufacturer of sound measuring equipment, going back to 1942.

The equipment these airports use is installed at 80% of the major airports in the entire world. These are type 1 sound level meters. Sound level meters are type 0, 1, 2 or 3. Type 0 is used as a reference in a laboratory to calibrate other instrumentation, and type 1 would be the next level. From a practical perspective, type 1 is the most accurate of all of the equipment used. This data is then sent in real time to servers in Australia via 3G communications.

It's just measuring the data. They're measuring it in terms of the best quality of the signal itself. Next though, the key is what you use that data for. Is it just put there on a server where it's archived or do the airports actively take that data, use it to respond to complaints and monitor infractions, etc.?

I believe that a lot of airports, while they're measuring very good-quality data, are doing very little effectively with the data.

Mr. Angelo Iacono: Thank you.

The Chair: Thank you very much.

Now we will go to Mr. Aubin.

[Translation]

Mr. Robert Aubin (Trois-Rivières, NDP): Thank you, Madam Chair.

I want to thank all the witnesses for being here this morning. It's a pleasure to hear from them.

We're here to discuss an issue that affects the comfort zone of communities located near airports and the airports themselves. We're not talking about banning air traffic, although we could discuss night departures at greater length, and we'll certainly do so.

Mr. Kuess, I want to start with you.

Your opening remarks didn't surprise me. However, once again, I'm disappointed with the situation. You seem to be saying that, once again, in this area as in many other areas, Transport Canada has been neglecting its responsibilities in order to move toward self-regulation. As we've seen in other areas of transportation, this rarely produces the desired results.

Can you briefly describe how you deal with airport authorities when you try to resolve the issues caused by airport noise for surrounding communities?

[English]

Mr. Mark Kuess: We've been at this for about 16 months. Sixteen months before that, we weren't too informed about how the process works. We've learned a lot on how things go.

What we understand is that the Greater Toronto Airports Authority is responsible for operations on the ground, parking the planes and moving them around. Once they get to a runway, they become the responsibility of Nav Canada. Nav Canada controls the runways and the airspace.

They are two private companies. They used to have connections to the government, but now they operate completely independently. Then you have Transport Canada, which we called, the last time we talked to them, the police in this process. They enforce the rules. You also have the Transportation Safety Board of Canada, which does the investigations.

That's the way it's structured here in Canada. It has worked quite well for many years.

In terms of the challenge, this is industry experts coming to us. We don't go and ask for the questions; it's amazing how many people come to us. They say the funding challenges are there. Transport Canada has difficulties doing what they've done in the past, and we have incredible growth. The GTAA talked about a 2% growth of their passenger volume on an annual basis. They're somewhere between 7% and 9%. Business is really good.

[Translation]

Mr. Robert Aubin: Did you know that a number of countries—France is an excellent example—have established an airport noise pollution control authority? The group is responsible for hearing complaints, conducting investigations and imposing penalties for non-compliance with the regulations. Could this type of model be imported to Canada?

[English]

Mr. Mark Kuess: That's an excellent point. Countries such as the U.K. and Germany have done a phenomenal job and we've raised this issue on several occasions.

If you think about industry best practices, airports such as Frankfurt have done a lot of operational changes that have made the local communities happy. They've made a safer environment and the business is growing quite well. We know that in the U.K. and Germany they're doing great things to progress. These best practices have been talked about with the GTAA, but they have not been implemented. There is a better way to do things.

We can grow. We can have strong economic growth here in Canada. We can have international travel. We can still do it and keep people safe and local communities happy. For sure, it can be done.

● (0915)

[Translation]

Mr. Robert Aubin: Thank you.

Mr. Novak, I now have questions for you.

At the start of your presentation, you said that you had participated in a three-year project on the mitigation of noise. Have the project results been released to the public? If so, can the committee obtain a copy of the work?

[English]

Dr. Colin Novak: Actually, the research has just begun this year. The study started in May.

Throughout the three years, we have several deliverables. The first one will be potentially released for public viewing at the end of this year. That's a very comprehensive literature review of what the problems are throughout the world and what is being done both from a technical perspective as well as from a health perspective.

[Translation]

Mr. Robert Aubin: At the end of your presentation, you said that we need the mandate to set our expectations for the future. Have you set these expectations on your end? Can you suggest any guidelines?

[English]

Dr. Colin Novak: There's still a lot to learn. We feel that the crux of the problem, though, is that we have noise and that noise isn't going away. We have people who are being impacted negatively by this noise, but as we said, the intermediate is the annoyance associated with this. That's where we need to have a better understanding. It's the annoyance from the aircraft and the expectations that people have of the noise that are generating the complaints and some of the health impacts.

Statistically, when you look at the number of people actually impacted through annoyance, it's not nearly as high as we think. However, they're also a very vocal group with a very valid concern. This is the approach that we need to take, to tie in the subjective with the real physical aspects of the noise that's being generated.

We should look to Australia and some of the things they're doing, because this is a more holistic approach that has been very effective so far, even though it's also in the early stages.

The Chair: We'll go to Mr. Hardie. Maybe you can try to get your comments in during Mr. Hardie's time.

Mr. Ken Hardie (Fleetwood—Port Kells, Lib.): Thank you, Madam Chair, and thanks to all of you for being here.

We'll start with you, Mr. Novak, but with just a brief answer if you could, please, because I have a question for a couple of others.

Is the source of most of the complaints the area around the airport where you have the takeoffs, landings and taxiing happening or is it the flyover?

Dr. Colin Novak: It's mostly the flyover on the approach as well as the takeoff, but more so on the approach, because it's a longer line of aircraft that are coming in. In my experience, we're talking about 40 or 50 kilometres away from the airport.

Mr. Ken Hardie: Mr. Kuess, you said something quite revealing, which was that Pearson airport is surrounded. I guess this sort of bridges over to Mr. Wojcik as well. Municipal planning certainly has a role to play here. If the City of Toronto or the surrounding cities have allowed development to basically encircle the airport, that's a guarantee there's going to be conflict between people on the ground and aircraft flying over.

Given the economic importance of this, and perhaps given that if we see this growth continuing.... As you said, Mr. Wojcik, there's going to be a lot more by way of cargo, etc. Do we have to start thinking about new cargo-only facilities that are placed well away from residential areas and about putting a deal in place to prevent towns and municipalities from growing up around these facilities?

• (0920)

Mr. Mark Kuess: I'd love to answer that question. I think that's a tremendous idea. We've really focused it at CAAS not to make the recommendations, but to reveal the challenges and then work with the appropriate stakeholders to find the solutions. We're definitely trying to land on a postage stamp with a big envelope. It's a big problem.

In 1990 Transport Canada stated that the airport was at full capacity. The airport was originally designed as a regional airport, so there are problems with landing the aircraft in how the runways are aligned. Every other major new airport in North America is designed east-west, because that's the way the wind flows.

We have a legacy airport with a legacy footprint. It's one of the smallest footprints in all of North America. We have a lot of industrial land beside the airport, but we also have a lot of residential land, and you're not going to move that. There has to be something else. Cargo moving to another location sounds like a great idea.

Mr. Ken Hardie: The better part of a month ago now, we were out studying trade corridors. It was interesting to see that, again, municipal development is allowing people to build new townhomes next to industrial areas. In fact, they're gobbling up industrial land to do it. It just seems to be counterproductive, both for quality of life on site as well as the economic vitality of the region.

Mr. Wojcik, on your comments on this, as we become a little more concerned about the effect of air travel on climate change, could we not see a gradual shift away from as much passenger travel but a maintaining of the importance of moving cargo, especially special cargos like the ones you mentioned?

Mr. David Wojcik: There is a tremendous amount of cargo that gets moved with passenger planes today. Separating out that cargo is possible, but it may be problematic if you were to start splitting that cargo into two different airports. I agree with Mark that looking at moving cargo to other airports, other regional airports or other areas is certainly a solution well worth examining.

Today, of course, the economic hub is in southern Ontario. The economic hub centres around the city of Toronto. You can look at the number of companies that have located around the airport, and the

number of freight forwarders and transport truck companies that have located around the airport. It certainly would be a long-term strategy to assist them to move to other areas in order to accommodate that request.

Mr. Ken Hardie: I'll set up the question that I'll ask the next panel to get them thinking about it in the meantime.

My dog can hear me lift the lid off his treat jar from half a block away. My kids can smell fresh twenties in my wallet. I think some people are perhaps more tuned to be sensitive to this, so we need to look at that and some of the dynamics there, but perhaps we can also have a discussion about home design and noise suppression. We have noise-cancelling headphones such that even on an aircraft it's very quiet.

Perhaps there's more to this discussion and there are more options if we start to drill a bit deeper. I'll save those questions for the next panel.

The Chair: Thank you very much.

Mr. Sikand.

Mr. Gagan Sikand (Mississauga—Streetsville, Lib.): My first question is for Mr. Novak.

Clearly, there is an effect on the quality of life due to the noise from airports. Can you describe to what degree?

Dr. Colin Novak: As was suggested in the previous question that was posed, it varies from person to person. It also varies with lifestyle and expectations.

I think one of the potentials that can affect us more than anything else is deprivation of sleep at night from high-level incidences, although this does not reflect the overall time average. I've also heard concerns from people such as stay-at-home mothers who are playing with their children outside.

Mr. Gagan Sikand: Let me jump in there as I have a limited amount of time.

Perhaps you could describe how this affects the cognitive development of children.

Dr. Colin Novak: There have been studies done in Europe where they looked at the levels of noise exposure and the effect on children learning to read. It was found that every 10 decibel increase in the noise level they were exposed to slowed down the learning process by, I believe, six months. There definitely is evidence of impacts on children learning when they are exposed to high levels of noise.

• (0925)

Mr. Gagan Sikand: Thank you.

David, welcome. You know better than I do that Mississauga's expansion was mainly a result of its appeal to big business. We are a product of that. It's good that we want to increase our business, and productivity is great, but a problem with that now is that there's a lot of noise. I have people calling in like Gale Santos, who's a frequent flyer and has been there forever and is now seeing the traffic increase.

How do we reconcile the need to grow productivity with the need to keep the quality of life we used to have?

Mr. David Wojcik: I don't know if you knew this, Gagan, but I was a 20-year resident in Meadowvale, right where you serve as an MP. While some people may disagree, it hasn't affected my mental capacity.

Voices: Oh, oh!

The Chair: Maybe we should take a vote on it.

Mr. David Wojcik: Please, Madam Chair, I'd be afraid of the outcome.

Voices: Oh, oh!

Mr. David Wojcik: That's absolutely right; we have encouraged companies to locate in the area. We have built a strong economy in that area based on an airport. The airport didn't just pop up over the last couple of years. The airport has been there for a long, long time. While I'm not suggesting we shouldn't be sensitive to this, it is a fact that if you are going to locate close to an airport, you're probably going to have to experience a little bit of noise.

I was on a flight path and I would sit in my backyard and I swear I could count the tire treads on some of the big jumbo jets flying overhead. Again, Madam Chair, in reference to my mental capacity, maybe I just got used to it.

I agree we have to be sensitive to it, but we also have to realize that we cannot stand in the way of progress. We cannot limit this economic hub that resides around the Mississauga international airport, as I like to refer to it.

Mr. Gagan Sikand: I definitely know you're a sharp tool in the shed.

What lessons could we learn if we were to expand and have another airport in the GTA, maybe out towards Pickering? What lessons could be learned from our example to help mitigate the noise versus the expansion and need for productivity?

Mr. David Wojcik: That's an excellent question.

I think we also have to couple that experience with what we experienced at Mirabel. When you build an airport so far away from another major international airport and try to separate passengers, it becomes problematic. Certainly, I concur with my fellow panellists that there needs to be an adequate amount of space around an airport. Where would you build another one? If it's Pickering, that's built out now as well, so you're going to have to go well north of Pickering in order to look at that solution. You also have to take into consideration the problems that happened at Mirabel, which is now virtually a white elephant airport sitting out in the middle of nowhere.

Mr. Gagan Sikand: Last, could you comment on the number of jobs associated with more nighttime flights, since you have the operators and people in the airport?

Mr. David Wojcik: We know that the area around the GTA supports in excess of 130,000 jobs. Just at the airport, there are 44,000 jobs. Mississauga, Brampton and all of Toronto have benefited from that as well. The economic impact of the airport

being where it is has certainly benefited all of the communities around the airport.

The airport is not a big, bad economic machine that doesn't care about the community. It does a lot for the community, including—

• (0930)

The Chair: Thank you very much, Mr. Wojcik. I have to go to Ms. Block.

Mrs. Kelly Block (Carlton Trail—Eagle Creek, CPC): Thank you very much, Madam Chair.

I want to thank all of the witnesses for joining us here today.

As my colleague who kicked it off has said, I think this conversation has highlighted the tension between competing values. When it comes to finding solutions, it's not as easy as we might think.

Mr. Novak, you made the observation that Europe does a much better job than we do here in Canada. You also suggested that we need to take a look at what is happening in Australia.

Mr. Kuess, you mentioned that there are some best practices out there that need to be looked at.

I need you to describe what some of those are. What are the first things that we should be looking at, in terms of what's happening in Europe? Canada has a much smaller population than Europe, so if Europe has found a way to manage this issue, we would benefit from knowing what Europe is doing and what some of those best practices are.

Dr. Colin Novak: Was that question for me?

Mrs. Kelly Block: Either of you could answer.

Mr. Mark Kuess: I'd love to comment.

Frankfurt is an excellent example. If you compare Frankfurt airport to the greater Toronto airport, they're similar. When they were going through some changes about how they were going to flow traffic into the airport, they did a lot of studies and reports. They were studies and reports that we had actually done in the past. There's a lot of data out there. They were able to achieve zero night flights. They shut it down. The airport has grown. From the management of Frankfurt airport at the time, the testament was that this was going to tank the airport, that they were going to lose their business and profitability, and that it was not going to be a viable airport. It has actually grown.

In addition, there are other examples. Atlanta is a great example. Denver, Colorado has a great example of a well-planned airport.

To the gentleman who was speaking earlier about Pickering, they did do the impact studies. Excellent planning was done for the Pickering airport. They did their homework and Transport Canada was very involved. We need to utilize that information. It's there. We just have to use it.

Mrs. Kelly Block: Thank you.

Mr. Mark Kuess: You're most welcome.

Mrs. Kelly Block: Mr. Novak, do you have anything to add?

Dr. Colin Novak: With respect to Europe, what I think they're doing very well is the studies they're conducting to learn more about the problem. When Frankfurt put the moratorium on nighttime flights, the research showed it was not effective from a health perspective. While it did lessen the number of sleep awakenings, the surveys of people within the community showed that the level of annoyance had not changed since the departure of nighttime flights.

What I think they're doing very well in Australia is information sharing, equal engagement between the community and the airports, and the sharing of information much more freely, to the point where the public can go to the airports and ask for specific information or types of information. There are systems in place that allow the airport to facilitate those requests.

● (0935)

Mrs. Kelly Block: Thank you.

I have lived under a flight path for over a decade. My husband has lived there all his life. We purchased his family home and now I've moved and I listen to train whistles. Again, therein lies the tension of what my colleague has raised in terms of municipal planning.

When we talk about moving, building an airport in a more remote area from a community, Mr. Wojcik, I would be interested in hearing what your thoughts are from a business perspective in terms of the impact of that on the business community. While we can perhaps have cargo flown in much farther away from a community, you're then going to have to load it on to trucks, which then fill our roadways. Perhaps we aren't dealing with the emissions in the way we thought we would be by doing that. I'd like to hear from you what the impact of some of those solutions would be on the business community.

Mr. David Wojcik: Certainly, the impact on the business community would be far-reaching. While I recognize that it is a potential solution, it needs to form part of a much longer-term strategy for urban planners to recognize. While we could move those transportation hubs out into unpopulated areas, we get into the areas of environmental impact into those sensitive areas, which does tend to hold up the progress of moving businesses out there. There is the cost of moving businesses out there and, quite rightfully so, how would we get the goods from where they are to where they need to be? Is that through rail? Is that through some other technology that is being studied now that is more environmentally friendly? Those are all considerations. It's not a short-term solution.

The Chair: I believe Mr. Badawey is sharing his time with Borys. You'll notice I said Borys.

Please go ahead.

Mr. Borys Wrzesnewskij (Etobicoke Centre, Lib.): Thank you.

Mr. Wojcik, you referred to night hours as being sensitive. Why is that so?

Mr. David Wojcik: I think it's sensitive from the respect that these are hours that everyone believes should be quiet. I refer to them as sensitive because they're hours that are traditionally held to be quiet.

Mr. Borys Wrzesnewskij: Perhaps I can help you with that.

When I was doorknocking, one of the more poignant moments was in the late morning when a mother came to the door. She had a crying baby. She looked ragged and I said that it obviously was not a good time. She said, "No, I want to talk to you. I wasn't able to sleep all night. My baby was being woken up all night. Planes have been flying overhead all through the night."

They are sensitive because they seriously impact on the quality of lives of those people who find themselves directly under those flight paths. It's what Mr. Novak referred to, that all of a sudden you go from quiet to this loud rumbling noise. People fall back to sleep and a few minutes later, it happens again.

You referred to good neighbour policy. There are people in places like Markland Wood, which predates the operations. It's a mature neighbourhood that predates the GTAA. People's quality of life has been severely impacted by those night flights.

How does Toronto define nighttime hours?

Mr. David Wojcik: The nighttime flying hours are determined to be from 12:30 a.m. or 00:30 a.m. to 6:30 a.m.

Mr. Borys Wrzesnewskij: I would suggest even the definition is a problem. Frankfurt, for instance, which was referenced, has very limited flights between 10 p.m. and 11 p.m. and the night flights ban begins at 11 p.m. and ends at 5 a.m., with very limited flights allowed until 6 a.m.

Would you not agree that the definition of what nighttime, that sensitive quiet sleep time for people, should be is probably not reflective of people's sleeping habits?

Mr. David Wojcik: I think that as we move through a more robust economy, sleeping becomes relative to what we're doing. There are people who go to bed at 8 p.m. and get up at 3 a.m. to—

Mr. Borys Wrzesnewskij: Mr. Wojcik, I beg to differ. Most of my constituents do sleep when the sun is down. Usually people go to sleep by nine or 10 o'clock.

A lot of these night flight problems began when FedEx moved their operations from the Hamilton Mountain airport, which is on the escarpment above the city of Hamilton and basically in the middle of farmland, so it's already elevated away from the city, in farmland. Pearson undercut Hamilton airport to gain that night flight business. At that point, FedEx had no problem moving their hub and all their operations.

Is that not correct?

● (0940)

Mr. David Wojcik: I don't know if there's any statistical proof that noise complaints have increased since FedEx has arrived.

Mr. Borys Wrzesnewskij: My question is: Is it not correct that the nighttime cargo operations of FedEx, which began this process, was due to Pearson, the GTAA, undercutting Hamilton to gain that business?

Mr. David Wojcik: I don't know that undercutting is a fair term. I will acknowledge that they did end up with the cargo business.

Mr. Borys Wrzesnewskyj: I think there's an obvious opportunity with Hamilton when it comes to all of those nighttime operations—not passenger flights with cargo in the hold. There are literally only five farm fields and five farmhouses in that particular area.

Mr. Kuess, thank you so much for all the work that you're doing on behalf of various communities.

What you pointed out was quite insightful. In fact, the example of Frankfurt, the seventh busiest airport in the world... Everyone was saying it was going to be disastrous for the economy and the airport was going to go bankrupt. In fact, people still aren't happy about noise during the day, but they actually sleep restfully.

Do you have the data? Would you like to expand on how Frankfurt continues not only to be profitable but increase their profits, notwithstanding the ban on night flights?

The Chair: Please provide a short answer.

Mr. Mark Kuess: I would refer to their annual statement. I would also include Glasgow Airport and refer to their annual statement. You'll see that business is good. Things are growing. The business community is very happy.

Mr. Borys Wrzesnewskyj: Thank you.

The Chair: Thank you very much to our witnesses. You started off our study. I'm sure we'll be in touch with you as we progress.

I will suspend for a few moments while we change witnesses.

• (0940) _____ (Pause) _____

• (0945)

The Chair: I'll call this meeting back to order.

We have Chris Isaac as well as Julia Jovanovic, Ph.D. candidate, University of Windsor.

From Terranova International Public Safety Canada, we have James Castle and Priscilla Tang.

Mr. Isaac, you have five minutes and then we'll cut you off so the committee can get to their questions and comments.

Thank you very much.

[*Translation*]

Mr. Chris Isaac (As an Individual): Thank you.

You know my name. It's written here. I've lived in the city of Laval for 20 years. I've lived in different areas of the city. In recent years, the noise from airplanes flying over our homes has increased. I've noticed this more since I became a consultant and I have the option of working from home. The noise is unacceptable. Laval is a suburb of Montreal. We purchase homes in Laval to live in peace and quiet, but we're not finding this in the city.

Airport management has been privatized for the next 60 years. I gather that all the companies involved, such as NAV CANADA and ADM, couldn't care less about the public.

At this time, airplanes must climb to 1,000 m before they can make a turn. That's what they do. When airplanes reach this altitude,

they're 10 km from Dorval airport, so they turn directly over us. Since the airplanes are climbing, the manoeuvre is performed at maximum thrust. According to my noise level surveys, the noise increases to 65 decibels and sometimes reaches 80 decibels. Laval is a quiet suburb where regulations are supposed to limit noise to 55 decibels. However, the noise level is often above this standard. This prevents us from making full use of our yard in the summer. Even in the colder seasons, when the windows are closed, we still hear all the rumbling. All the accompanying sounds enter the house. I don't want to be forced to build a bunker to escape the noise. I don't see any other solutions at this point.

We had a meeting with NAV CANADA and ADM. They seemed to care on the surface. They told us that they wanted to help us and to resolve the issues. However, we received a letter containing contradictory information. As you'll see in the appendices that will be handed out to you, the number of flights, the flight altitude and the flight schedule are indicated. Some flights are also late in the evening or at night. There are more and more flights. The number of flights is increasing at a rate of 7% a year. That's a huge amount of traffic. For people who live in the suburbs, this is completely unacceptable. I feel very sorry for all the people who live in Montreal and who endure this at an even more severe level. However, that's Montreal. I don't know the solution for Montreal, but we must find solutions for Laval.

NAV CANADA isn't listening. Minister Garneau also wrote a letter that doesn't show any willingness to take action. I'm very surprised that a government has no oversight over private companies. I don't think that's true. I think that the government has oversight over everything happening in communities and in the country. In the appendices, you'll also find the letter from Mr. Garneau and other statistics. Whenever the winds come from the northeast or east, airplanes take off and fly over our area. Laval isn't part of Montreal. Laval doesn't benefit in any way from the economic impact of the airport.

I heard another witness talk about Mirabel and call it a white elephant. That's all well and good, but I used to use the airport back in the day, and it worked well. The decision to move flights from Mirabel to Dorval to be closer to Montreal was a business decision.

I want to thank the committee for working to ensure that citizens are respected. I hope that this will lead somewhere.

• (0950)

[*English*]

The Chair: Thank you very much.

Now we'll go to Mr. Castle or Ms. Tang, whoever wants to make the presentation.

Mr. James Castle (President, Terranova International Public Safety Canada (Terranova Aerospace)): Ms. Tang will be doing it.

Ms. Priscilla Tang (Senior Vice-President, Terranova International Public Safety Canada (Terranova Aerospace)): Thank you, and good morning, Chair and members of the committee.

My name is Priscilla Tang, and I am senior vice-president of Terranova Aerospace. Allow me to introduce to you James Castle, president of Terranova Aerospace.

Thank you for conducting the study on assessing the impact of aircraft noise in the vicinity of major Canadian airports. Thank you for the opportunity to present to you our witness statement. You have asked us to speak to this topic and any relevant issues of importance.

Improving flight safety in Canada is of national importance. Improving flight safety, as it pertains to all aircraft, remotely piloted aircraft systems, unmanned aerial vehicles and unmanned aircraft systems commonly known as drones, is of national and international importance. Canada is well positioned to lead in drone industry innovation, economic development and use for public safety.

Drones can be used to save lives. At Terranova Aerospace, we are driven by our purpose to save lives. Everything we do is in alignment with the mandates of Public Safety Canada and designed to strengthen the Canadian infrastructure for emergency management. The drones we use, called the Silent Falcon unmanned aircraft system, are fixed-wing aircraft that span four metres across and fly up to 20,000 feet. They can be used in emergency search and rescue to locate missing persons in weather or terrain conditions such as avalanches, natural disasters and forest fires, which are otherwise not safely accessible by human-piloted helicopters and civil aircraft.

In the United States, our unmanned aerial vehicles are currently being used to help the U.S. government in wild-land fire operations, search and rescue, emergency management, land management and wildlife management.

Drones can assist in the recovery of human remains. When integrated with infrared detection technology and artificial intelligence, drones could pinpoint the location of human remains in Canada's ocean war graves.

Drones are seeing unprecedented levels of global innovation and accessibility. Today, anyone can purchase a drone at their local electronics retailer or online, and suddenly our airspace has become accessible to the common citizen and not just to pilots.

We at Terranova Aerospace are currently developing a scalable data solution similar to that of Google Maps or Waze, which integrates artificial intelligence, blockchain and big data to chart the Canadian airspace for the common user. In the same way drivers can open up an app on their smart phone and get directions, traffic and safety information on reaching their destination, we plan to build the same publicly accessible capabilities for common users of our airspace.

Finally, drones make up an inevitable economic development opportunity for Canada. With the right regulations in place to ensure that all aircraft, unmanned or not, are tracked and operating safely, Canada could become a world leader in industry development and benefit from its economic prosperity.

Work with us, Terranova Aerospace, and we can be your partner in developing and maximizing the potential of this opportunity for

Canada to lead in drones for public safety, innovation and economic prosperity.

Thank you, Madam Chair, for allowing us to present.

• (0955)

The Chair: Thank you very much.

We'll move to Ms. Jovanovic.

Ms. Julia Jovanovic (Ph.D. Candidate, University of Windsor, As an Individual): Good morning. My name is Julia Jovanovic, and I am part of a research team from the University of Windsor in Ontario.

My team and I are working on a collaborative project with the GTAA, analyzing the effects of aircraft noise on airport-neighbouring communities. Our main focus is aircraft noise annoyance.

Today I am here to brief the committee on the importance of studying aircraft noise annoyance nationwide, as well as to present recent findings on the topic that may inform any such efforts.

In addition, I would like to urge competent authorities to perform location-specific epidemiological studies that monitor objective health indicators for affected individuals, in order to determine with certainty the relative health risks associated with different levels of aircraft noise exposure.

Annoyance is the most common effect of community noise and is considered an adverse health effect by the World Health Organization. In recent years, it has gained much attention, as it is no longer viewed only as the most likely health outcome of environmental noise, but also as a significant modifying factor contributing to risks of other health outcomes.

Results from annoyance surveys form the basis for noise exposure thresholds, regulations and noise mitigation efforts. Thus, any initiative seeking to lessen the effects of aircraft noise on individuals must ultimately strive to reduce noise annoyance and, by way of that, mitigate other health effects, as well.

Trends are emerging in recent studies identifying that transportation noise annoyance is on the rise. More people are expressing high levels of annoyance at lower noise exposure levels than ever before. Among transportation sources, aircraft noise is perceived as the most annoying. With forecasts for continual capacity increases across major airports worldwide and a trend of increasing aircraft noise annoyance, it has never been more critical to study the issue at length in efforts to find solutions to mitigate and manage it.

Given the critical importance of annoyance, it is essential that the issue be studied at length while keeping in mind a few very important considerations. One, noise mitigation and noise annoyance mitigation are not one and the same. This is an important distinction, as there are examples of noise mitigation efforts that have not reaped the benefits of significantly reduced noise annoyance, most notably the Frankfurt nighttime ban. Two, annoyance is a complex psychological and sociological phenomenon that cannot be simply and precisely predicted nor regulated through a dosage-response relationship.

As a brief side note, a dosage-response relationship is a tool commonly used to predict annoyance. Essentially it uses a curve derived from annoyance data correlated with modelled noise exposure levels to state that, at any given noise exposure level, a certain percentage of the population will be highly annoyed. To simply explain this, it is like trying to predict how individuals nationwide will feel about the weather when you're only provided with an outdoor temperature. While temperature is a key indicator, it is not sufficient to make the assumption that people will be comfortable. Other factors are relevant, and maybe even more telling, for example, precipitation, relative humidity, location, individual preferences and so on.

Similarly, the highly subjective response of annoyance cannot be simply predicted by overall noise exposure—how loud an environment is. Other critical acoustic and non-acoustic considerations must be explored, for example, the sound quality, background noise levels, attitudes toward the noise source and/or authorities, coping capacities, individual noise sensitivity and more. It is vital that both acoustic and non-acoustic factors be considered in the study of annoyance. A thorough understanding of non-acoustic contributors to annoyance may reveal novel approaches to its mitigation.

•(1000)

Finally, Canada is in need of a proper revision and verification of current noise exposure and noise annoyance metrics and thresholds, as these are not only severely outdated, but they have never been corroborated through Canadian annoyance survey results. This is a necessary step in order to ensure that existing noise abatement policy serves its purpose.

Thank you for your time, and I welcome any questions.

The Chair: Thank you very much.

We'll go to Ms. Block.

Mrs. Kelly Block: Thank you very much, Madam Chair, and I thank our witnesses for joining us today.

This is the very first meeting in which we are studying and assessing the impact of aircraft noise in the vicinity of major Canadian airports. Already we've begun to understand that this is a

very complex issue and that there are no easy answers. In the last panel my colleague did a great job of highlighting the tension between competing values, often between the public at large, communities, travellers and businesses.

I do welcome the testimony you have provided.

I want to ask a question of Terranova International Public Safety Canada.

Can remotely piloted aircraft systems technology offer any solutions to aviation noise concerns?

Mr. James Castle: Yes, absolutely. When the Silent Falcon aircraft flies a hundred feet above a populated area or any area that is regulated, it has virtually no sound. So, the aspect of avoidance of any type of aircraft noise is clearly not a.... It would not happen.

The only types of variances that you would have, as drones become more popular in Canada and people are flying them around disaster areas, forest fires and so on.... They also come off airports, and they can do a lot of damage to aircraft on the ground as well as aircraft taking off.

To return to the question, the sounds from these are virtually zero, from any distance, during takeoff, in the air and in the approach. So if these are being utilized under emergency management guidelines for providing search and rescue or any other efforts, you're not talking about an extended period of sound. RPAS can fly for five hours, and with a current agreement with DARPA, we're looking at developing them so they can stay up indefinitely.

The importance of the sound interruption is going to be a key model with what we're doing.

•(1005)

Mrs. Kelly Block: Thank you very much.

Ms. Jovanovic, I appreciated your testimony. You may have answered my question in your opening remarks, but I want to frame it in a different way and perhaps give you an opportunity to expand on it.

We know that Canada's major airports across the country are situated in very diverse locations. What local factors should be taken into account when developing strategies to mitigate aviation noise?

Ms. Julia Jovanovic: Thank you for asking the question.

As you mentioned at the beginning, it's a very complex topic. There are numerous factors that should be considered, and they're very location-specific, so it is critical that studies be executed in the locations where you seek to propose certain mitigation measures. Factors can vary between demographics—the types of housing, the type of area, the type of neighbourhood, the levels of ambient noise that you have present in the neighbourhood.

Mr. Isaac brought up the point in his opening remarks that in certain neighbourhoods, you have relatively low ambient noise, so any type of overflight would cause a significant disturbance, whereas a more dense urban environment, where ambient noise is in excess of 40 decibels, an overflight might not be perceived as a disturbance.

Any study should be location-specific. It should look at any personal or attitudinal or cultural factors that relate to that specific location. Data have shown that there is significant variance between surveys that are done in different regions.

I hope I've answered your question.

Mrs. Kelly Block: Absolutely. Thank you.

The Chair: We're moving to Mr. Iacono.

[*Translation*]

Mr. Angelo Iacono: Thank you, Madam Chair.

I want to thank the witnesses for being here and for giving their presentations.

Mr. Isaac, thank you for coming from Laval. You're a citizen from my constituency.

Can you tell the committee about your experience with the noise of airplanes that fly over your home? You've already explained it to me, but can you tell the committee what you did over the summer to determine the trajectory of the airplanes?

Mr. Chris Isaac: In summer at home, we go outside and use our swimming pool. However, if we're having a conversation and an airplane passes by, we're forced to stop the conversation and wait until the plane is far enough away to continue talking. We hear the airplanes for the entire time that they take to pass by, and not just when they fly over the house. We hear them coming, and when they fly over the house, we really hear a roar. Since we don't want to shout at the top of our lungs to talk to each other, we stop our conversations and wait until the airplane has flown away to continue talking. All these airplanes come to make a turn near us, then head west to Toronto, Alberta, Vancouver or another location.

The noise is unacceptable, especially in a community where people care about noise. We monitor the noise that we make. For example, people who have dogs must prevent them from barking, or we don't take our sound systems outside.

Mr. Angelo Iacono: How long have you been analyzing the aircraft noise issue? How has the issue evolved?

•(1010)

Mr. Chris Isaac: I've been analyzing the issue for at least four years. The issue must have existed in past, but since I was often on the road or travelling, I didn't notice it as much. In fact, I was using airplanes. However, I could never have imagined that they would make me suffer so much.

Mr. Angelo Iacono: Which types of aircraft fly over your home and how often do they do so? You've already told me that you can even determine the types of aircraft. Can you provide more details?

Mr. Chris Isaac: The aircraft include the entire Airbus series, Boeing 737-7CTs, Bombardier CRJ700s, Embraer ERJ175 SUs and Boeing 737-436s. The companies are Air Canada, the Air Canada Star Alliance network, Air Canada Rouge, Delta Connection, GoJet,

Sunwing, WestJet, and so on. All these airplanes pass over my house.

Mr. Angelo Iacono: This means that you can very easily see the airplanes that fly over your house.

Mr. Chris Isaac: Yes, quite easily.

Mr. Angelo Iacono: How often and at what specific times of the day does this occur? Is it only during the day? Are there airplanes at night or early in the morning?

Mr. Chris Isaac: It's at any time of day. The frequency varies. I haven't noted down all the days, but I've taken samples. This could easily occur 60 times a day, until 11:30 p.m.

There are also propeller aircraft, such as the Citation Sovereigns and Dash 8 Q300s and Q400s, which fly to Kuujjuaq, Chibougamau, Sept-Îles and the city of Quebec. They all pass very close to the houses.

Mr. Angelo Iacono: You said that you've taken samples. What exactly do you mean?

Mr. Chris Isaac: I've provided appendices, but they aren't on your table yet. When you're able to check the appendices, you'll see that they show a great deal of information on the airplanes that fly over my house. This includes the series of airplanes, the times that the airplanes pass by and the flight numbers. We can really determine the types of aircraft.

Mr. Angelo Iacono: Have you already analyzed the noise? In other words, do you have a device to measure the noise levels?

Mr. Chris Isaac: Yes. I've taken measurements using a decibel meter. As you'll recall, the people from the Aéroports de Montréal questioned the validity of my device. However, I've used the device for events where sound must be limited to a certain number of decibels, such as during Osheaga, in Montreal. The results provided by my device were comparable to the results provided by the city's devices. If the city's devices aren't good, then I wonder which devices are good. The level reaches 65 decibels and sometimes exceeds 80 decibels.

Mr. Angelo Iacono: Have you conducted a daily analysis using this device?

Mr. Chris Isaac: I've done so a number of times.

Mr. Angelo Iacono: Did you also provide this data?

Mr. Chris Isaac: I don't know whether it's among the photos that I provided, but I have one that shows a result of almost 72 decibels.

Mr. Angelo Iacono: You—

[*English*]

The Chair: Thank you very much, Mr. Iacono. We're out of time.

Monsieur Aubin.

[*Translation*]

Mr. Robert Aubin: Thank you, Madam Chair.

I want to thank the witnesses for being here.

Mr. Isaac, I'll continue the discussion with you.

You spoke earlier about your relationship with ADM. Are you in regular contact, or was there only one meeting, which ended in the way that you described?

Mr. Chris Isaac: First, I sent my requests to Mr. Iacono, who is the member of Parliament for my constituency, Alfred-Pellan. We sent a letter to ADM, and we then met with representatives of ADM. People from NAV CANADA were also at the meeting. We were told that something would be done.

Mr. Robert Aubin: However, there was no follow-up

Mr. Chris Isaac: There were contradictory letters, as you can see in the appendices that I provided. Certain things are proposed, but further on we're told that there's no solution.

Mr. Robert Aubin: Okay.

I think that you referred to your career change, which enables you to work from home now.

Mr. Chris Isaac: Yes.

Mr. Robert Aubin: Are you back in Laval, or were you there before?

Mr. Chris Isaac: I was there already. I've always lived in Laval.

Mr. Robert Aubin: You're now in a better position to actually measure the noise pollution.

•(1015)

Mr. Chris Isaac: Yes, since I spend more time at home.

Mr. Robert Aubin: Is there a difference in the neighbourhood? For example, are people selling their homes because they can't stand the noise anymore?

Mr. Chris Isaac: It's quite ironic. Many people had already moved from Montreal to Laval as a result of the intolerable noise level in Montreal, and these people are currently considering moving away from Laval. I informed a technician friend about a house for sale near me, and he's already spoken to me about the issue. He told me that it makes no sense, especially since he has a baby. He could even give us his comments.

The situation is very annoying. As I was saying earlier, we citizens are careful to not make too much noise. So why can airlines barge in anywhere and impose all this noise on us?

Mr. Robert Aubin: We're starting to have a good idea of the situation when we see that, for the past decade or so, Transport Canada has systematically abdicated its responsibilities in favour of the industry.

Ms. Jovanovic, I want to continue the discussion with you.

You said earlier that Canada should review the noise exposure thresholds, since its models are outdated and wouldn't be corroborated through a number of studies.

Could the first issue with the topic that we're currently studying be the lack of evidence to help us understand the situation and find solutions?

[English]

Ms. Julia Jovanovic: I strongly believe there is a lack of Canadian evidence. I've been reviewing this issue for quite some time. I find myself with a significant lack of data that can support any type of assessment of possible mitigation measures.

I was referring to our NEF contours, particularly with outdated metrics that are currently used as guidelines by Transport Canada.

Our NEF contours are primarily meant as a land planning tool. Essentially, they predict the noise into the future and how it's going to impact the ground level.

The thresholds currently set forth by Transport Canada are NEF 30, as being inappropriate for noise sensitive development, and NEF 25, which needs to be treated with some acoustic insulation.

In any case, these guidelines have not been reviewed or corroborated by Canadian annoyance surveys, which are the tools used to predict how many people will be annoyed at those exposure levels. These guidelines were set in the 1970s, based on an analysis done in the U.S. for multiple transportation sources, not aircraft noise alone. Many countries across the world have undertaken efforts to review these thresholds and the metrics they use to be better equipped to predict the effects of aircraft noise on communities around air paths or airports.

If we don't have an updated version of a metric like this or guidelines like these, even the measures currently taken in land use and planning are not effective.

There's been a shift. There's an increasing trend in aircraft noise annoyance at lower levels. This is not taken into account currently.

The Chair: Thank you very much, Mr. Aubin.

Mr. Hardie.

Mr. Ken Hardie: Thank you, Madam Chair.

Ms. Jovanovic, first I would make an audio point. You don't have to lean into your microphone. The "p-popping" hurts the ears of our translators.

Ms. Julia Jovanovic: My apologies.

Mr. Ken Hardie: Microphone technique: That was my life for a while.

An hon. member: Noise-making.

Voices: Oh, oh!

Mr. Ken Hardie: You mentioned that annoyance can contribute to other health problems. Now, I may ask some questions that will just illuminate the fact that we don't know enough right now, but is the opposite the case? Are there certain health attributes a person would have that would make them more susceptible to being annoyed by noise? What do we know about that?

Ms. Julia Jovanovic: Thank you for asking that question. That's where my recommendation comes from for a more thorough examination of the issue of annoyance. From as far back as the 1960s, scientists and experts have been aware of contributions of personal noise sensitivity to the assessment of annoyance. There are factors, personal factors, that may impact that assessment of annoyance, whether amplified or reduced.

I'm sure within this room there is a variation in terms of how people react to, for example, the noise that keeps on interrupting us in the background. This is a very subjective metric. The co-founding factors need to be looked at in order to determine what best to do to mitigate it. Noise sensitivity has been found to be one significant co-founding factor contributing to annoyance.

• (1020)

Mr. Ken Hardie: In a past life, relating to my opening comments, I programmed radio stations. I found that men and women reacted quite differently to annoyance factors. That was something we looked at when we programmed music—the tempo, the kind of instrumentation, etc.

Again, do we have data which shows that kind of difference between men and women when it comes to reacting to noise?

Ms. Julia Jovanovic: Most certainly, and there are variations of that data. Some surveys that were done in the 1970s indicated that there were not significant differences between men and women. However, more recent surveys, and performed in different regions, of course, show the contrary to be true: Females are more annoyed at lower levels of noise than males are. There are variations in conclusions when it comes to that as well.

Mr. Ken Hardie: Our ability to hear various sounds, especially various frequencies, changes as we age. Are there frequency outputs from aircraft engines that tend to penetrate? Are there certain frequencies emitted by aircraft that might be the source of most of the aggravation it causes?

Ms. Julia Jovanovic: You bring up a very important point, and I thank you for that. Sound quality is critical when we're looking at aircraft noise. The dependence up until this point in terms of regulation has always been sound level—how loud the noise is—but that does not explain the variance between one individual being highly annoyed from automobile traffic at a certain level and being the same amount of annoyed for aircraft noise levels that are lower than those from automobile traffic. It's not all about loudness. It is about loudness to some extent and sound quality to another. The frequency composition of the sound is very relevant.

Typically, when you have the presence of pure tones, which is one dominant frequency, that tends to elicit a very strong reaction from a receiver, from a person. High frequencies also tend to do the same. Low frequencies penetrate the home, for example, more easily, and may be a cause of vibration.

It is something that has been suggested as an alternative route for research going forward. A European study actually took the sound profile of different jet types and asked community members to adjust certain sound quality aspects in order to get a more pleasing overall sound. It was not reduced in loudness, mind you. The composition of the sound was just different, and it had a reduction of annoyance associated with it.

The Chair: Thank you very much.

Mr. Sikand.

Mr. Gagan Sikand: Thank you.

Mr. Isaac, I'd like to thank you for your testimony. You make it very apparent that this is a national issue because everything you

were saying is also reiterated in my riding as well, so thank you for that.

I will start with Mr. Castle and Ms. Tang.

When I first was introduced to drones, I thought it was great because I read an article that a drone had dropped a defibrillator to somebody in a remote area. The person was actually saved and given enough time to get to a hospital.

Since then, it seems we're pretty much just limited by our imagination regarding their capabilities and how we could use them. However, as you mentioned there's also a lot of concern about how dangerous they are. I know that at Pearson, right beside the riding I represent, there were a lot of near misses due to recreational drones. Some were found on the tarmac. You can only imagine what could have happened if one had actually collided with one of the planes.

You mentioned that you're mapping airspace for individuals. I wonder how that would interact with geofencing. For example, would airports have the right to geofence a space so that nobody could use that space?

• (1025)

Ms. Priscilla Tang: Yes, that's exactly the capability that we would build into this. Part of the purpose is to demark areas that are off limits for people who are recreational pilots of drones—areas such as airports and even ocean war graves. It would enable that knowledge to be available to the common user, just as when we use Google Maps or Waze we receive important traffic information about an upcoming construction zone that is to be avoided.

Mr. Gagan Sikand: Would this platform be available in app form?

Ms. Priscilla Tang: Yes. It would be easily integrated into existing technology that we all use. It would be available in the cloud, on your smart phones, on your iPad, and on your computer. It would be accessible remotely as well.

For example, as we regulate drones, if we were simply to install a router or GPS device, like a blockchain router, on every single drone in Canada, then Transport Canada and other governments, as well as airports and pilots, would be able to monitor at all times where all drones are in the air.

Mr. Gagan Sikand: I always have to ask, from a security aspect, are these things going to be fairly secure, or do you think somebody could hack into them? What are the built-in fail-safes if something does happen if it is hacked?

Ms. Priscilla Tang: If something does happen to the data being hacked?

Mr. Gagan Sikand: Yes.

Ms. Priscilla Tang: Well, the idea is actually that we make this data publicly available, in the same way that we can access data when we go on Google Maps or Waze. Everyone is able to see the traffic information. Everyone is able to see what new roads are created and where other cars are located. The idea is that in order to promote public safety, we make the data available to as many people as possible.

Mr. Gagan Sikand: Thank you very much.

Ms. Jovanovic, you mentioned that the WHO recognizes noise as an annoyance. Is that specifically airplane noise or noise generally?

Ms. Julia Jovanovic: It's noise from a variety of traffic types, including rail, automobile, and aircraft. There's also consideration for industrial noise, entertainment noise, leisure noise and so on—annoyances associated with all of those different types of noise.

Mr. Gagan Sikand: Does the measure change for airplane noise or is it all in decibels?

Ms. Julia Jovanovic: It's usually in a cumulative metric. In Canada, aircraft noise does use a particular cumulative metric, the NEF. However, other places in the world have opted out of that and have determined that Lden or Ldn is better.

Mr. Gagan Sikand: I have limited time.

You said that we're more susceptible to lower levels of noise or that we're becoming more sensitive. Would the sound from the humming of a drone fall within that?

Ms. Julia Jovanovic: I can't speculate on that. I assume it might for any individual. It becomes a question of particular preferences.

Mr. Gagan Sikand: Is low-level sound—

The Chair: I'm sorry, but your time is up.

Mr. Jeneroux.

Mr. Matt Jeneroux (Edmonton Riverbend, CPC): Welcome to the committee, and thank you for being here today.

I think I know the contradiction that we're essentially facing.

I'm from Edmonton, and there's an airport that's a fair distance from the downtown and a number of residential homes. Even though it's expanding, it's still a fair distance from residential properties. The complaint that we often hear in Edmonton is why we don't have an airport that's closer to the city. There are certain flight paths that go over my riding. However, I wouldn't say the noise is something that I hear to the extent that, perhaps, some of my colleagues are hearing. That's certainly something the analysts will have identified already in terms of the contradiction of the study.

I do hope there's some data out there, and I'm hoping you, as witnesses, are able to point us to where we can find that data. Currently, airports have regulations that try to address the noise, for example, airplanes flying at a certain angle, they have to be at certain altitudes; their descent and so on and so forth. Are there consequences if those aren't followed? Are pilots penalized? From your experience, what happens if those things aren't followed?

• (1030)

Ms. Julia Jovanovic: When there are operational infringements that go against best practices that might be established by the airport specifically, or Nav Canada, these infringements, when reported, are investigated by the proper authorities and a fine may be determined to be appropriate.

Mr. Matt Jeneroux: Do we have data on how many people are being fined, how many of these consequences are...?

Ms. Julia Jovanovic: I can't speak for all Canadian airports, but I know the GTAA publishes an annual report on how many complaints were received, how many complaints were investigated

for infringement, how many of those investigations resulted in a fine, etc.

Mr. Matt Jeneroux: Those would be specific airports reporting on that.

I anticipate our report is going to provide a recommendation to Transport Canada. If the recommendation is that we track this at the Transport Canada national level for each airport, is that the information we should be advising Transport Canada to track?

Ms. Julia Jovanovic: You bring up a very interesting dilemma, because currently, accountability is kind of broad and diluted, and is somewhat unclear and not easily followed. I've studied other countries around the world with respect to this issue, and I find it easier to summarize their practices than Canada's. Canada, as it stands currently, does not have a coherent methodology in one, collecting data across all major airports, and two, communicating it in a clear and effective manner to all stakeholders, so that they could facilitate for a collaborative process to manage or address the issue. If you don't have the information, there's very little you can do to manage the issue, right?

Mr. Matt Jeneroux: So, airports would have the information, or are we talking about airlines?

Ms. Julia Jovanovic: Airports collect a certain extent of the information through noise-monitoring terminals. They know what their expectations are in terms of volumes and types of aircraft. But, in countries like Australia, for example, the federal government takes a very active role at consolidating this information, making sure that all airports report it on a regular basis, and that it's reported in a way that is clear.

Mr. Matt Jeneroux: Mr. Isaac, have you received a response to your petition? Unfortunately, it didn't meet the 500 threshold, but did you receive a response from the minister on your petition?

Mr. Chris Isaac: No, not really. We didn't get anything there.

On the subject of Nav Canada, which you just addressed, I don't think Nav Canada is doing a proper job there in consideration of the citizens. They just avoid the problem.

The Chair: Thank you, Mr. Isaac.

We have a few minutes for Mr. Graham.

It's Mr. Badawey's time that you have. He's in a generous mood today.

Mr. David de Burgh Graham (Laurentides—Labelle, Lib.): I appreciate that. Thank you.

As just a quick note, Mr. Jeneroux, the answer to your question is that most of these airports operate in what we call class C airspace. If you violate something in a significant way, the tower will give you a phone number to call and that means you're in really deep trouble.

We're talking about airplane noise and I'm trying to tie that into the drones. Where are we on passenger-carrying drones?

Ms. Priscilla Tang: Very soon...it's already happening in a number of Middle Eastern countries, Arab countries, including Dubai. Also, Uber Air is really about passenger drones, which is why drone safety is as important to us as the same safety regulations that we have for passenger-carrying aircraft, because they will soon be one and the same.

• (1035)

Mr. David de Burgh Graham: Should drone operators be required to learn air law?

Ms. Priscilla Tang: I would say that if we all require licences to operate aircraft, drive cars and drive boats, why shouldn't we have licensing to operate a drone?

To go back to the previous point about compliance issues, the challenge with having regulations is then, of course, the enforcement challenge. We've seen that with Transport Canada. There's significant opportunity for ensuring enforcement across all sectors, including law enforcement.

Currently, some drone fines can be up to \$50,000. I live next to Billy Bishop airport along the lake in Toronto. I also live next to a

park. I see drones flying all the time recreationally. I also hear a lot of noise that could be better managed.

Mr. David de Burgh Graham: You mentioned blockchain as a method of distributing. We already have mode S transponders. Is there any intent to put mode S transponders in every drone in the sky? The noise of a plane and a drone colliding is quite high, which does tie into this study.

Ms. Priscilla Tang: Exactly, and on the same frequency, which is part of the safety issue, so yes, absolutely.

Mr. David de Burgh Graham: Okay. Thank you.

The Chair: Thank you, witnesses. We appreciate your contribution today.

I would ask that you to exit the room, as we need to go in camera for committee business for a few minutes.

Thank you very much.

[Proceedings continue in camera]

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