PORTS TORONTO

PortsToronto Billy Bishop Toronto Centre Airport

Noise Management Subcommittee 2020 & 2021 Review

Formed in 2018, the PortsToronto Billy Bishop Toronto Centre Airport (BBTCA) Noise Management Subcommittee (NMSC) is a standing subcommittee reporting to the PortsToronto BBTCA Community Liaison Committee (CLC) with representation from the Bathurst Quay Neighbourhood Association (BQNA) and York Quay Neighbourhood Association (YQNA) **(see Figure 1)**. As part of its mandate, the NMSC serves as a twoway communication platform to enable residents to communicate perspectives and concerns regarding airport related noise to airport management, and enable airport management to communicate and discuss proposals, planning issues, and other information to stakeholders and the broader community relating to airport noise. As such, NMSC representatives from the BQNA and YQNA regularly report on perspectives and concerns on technical matters pertaining to airport noise that exist in their neighbourhoods.

The NMSC also serves as a forum for learning about and dissecting existing noise management principles and their application in both the historic and current context to land development.

Airport Stakeholders	 Residents Associations (BQNA, YQNA, TICA)
PortsToronto Community Liaison Committee (CLC)	 Liaises with community and airport stakeholders
PortsToronto Noise Management Subcommittee (NMSC)	 Reports to CLC, BQNA, and YQNA

Figure 1. Reporting relationship of Billy Bishop Toronto Centre Airport stakeholders to the CLC and NMSC

In January 2022, the NMSC underwent its second review to track progress on its mandate, and report its discussions back to the CLC.

Reflecting on Two Years of Work

During the first review of the NMSC, the subcommittee determined that the next reporting milestone should be the end of 2021 due to the COVID-19 pandemic resulting in changes to the noise environment at BBTCA, most notably, the absence of commercial service from March 2020 to August 2021. Over the past two years, the NMSC met six times (three times in 2020, and three times in 2021). What follows are



highlights from the NMSC's efforts to learn about noise management principles surrounding noise mitigation:

Ground Noise Study – Commenced better understand the causes and impacts of noise stemming from airport operations. The ultimate goal is to identify key sources of noise in an attempt to design and implement mitigation efforts that will benefit the community. In order to conduct this study, subject matter experts need to measure noise directly at the source, as well as at the point of reception. The latter will we require that a series of Noise Monitoring Terminals (NMTs) be installed in the Queens Quay Neighborhood area. In an effort to engage the community, a letter was sent to the community representative who co-chairs the NMSC, as well as Building Management seeking volunteers in the neighbouring buildings.

• The Ground Noise Study has two elements, monitoring background "ambient" noise conditions on Bathurst Quay and a portion of the central waterfront, and developing the noise propagation model, whichare summarized in **Table 1**.

	Background Noise Monitoring	Noise Propagation Model Development
Data gathered	Measures background "ambient" noise created by everyday sounds associated with city life from six (6) temporary monitors located throughout Bathurst Quay and the central waterfront. Monitoring will occur 24 hours a day for two (2) weeks. Aircraft noise is scrubbed from the data.	Measures individual sources of ground noise associated with airport operation as close as possible to the source. Examples of noise sources include (but are not limited to): aircraft taxing, HVAC systems, ferry operations, and service vehicles. The complete list includes over 200 sources.
Application	Results from monitoring will assist the team in creating a better picture of the baseline noise on the waterfront independent of aircraft operations.	Noise sources will be inputted into a 3D model of the waterfront to understand enabling the team to model sound reception at various points on the waterfront given different operating and weather conditions. The model accounts of obstructions, the absorptive/reflective qualities of materials, and weather conditions. The model will allow the team to test various mitigation options to evaluate the potential impact of noise mitigation measures such as adjustments of operational procedures or physical changes to the airport

Table 1. Ground Noise Study Components - Simplified Scope

Akoustik Engineering Ltd. and R.J. Burnside have continued to progress with elements of the study. They have completed noise source measurement for the noise propagation model, while work on the background "ambient" noise monitoring is currently paused until "normal" or "normal-like" activity on the



waterfront resumes, pending COVID-19 reopening. Members of the subcommittee highlighted sources of ground noise that are very apparent and disruptive to them. They also discussed opportunities for reporting the information from this study for different audiences including tables with noise measurements, graphs, and vignettes of conditions at representative locations on the waterfront.

• **Permanent Noise Management Monitor Installation** – A new monitor was installed at Kings Landing Condominium (460 Queens Quay W) in early 2020.

• **Annual Noise Management Report (ANMR)** – The subcommittee reviewed the ANMR, indicating that there were positive improvements to the presentation of information. They offered feedback that additional effort should be taken to provide a glossary of terms to ensure clarity of communication, and to include a 10-year record of the number of noise complaints to better understand trends.

• Researching Information on Noise and Improving Noise Literacy –

Through conversations about the Ground Noise Study, Permanent Noise Management Monitors, and independent learning that has been reported back to the subcommittee, the subcommittee now has a more extensive grasp of the following:

- 1-hour LEQ (equivalent continuous sound level) reporting is not intended to capture short, sudden, disruptive sounds. Reporting in the Ground Noise Study will use additional tools beyond the 1-hour LEQ when measuring background noise to provide a complete picture of noise disturbance.
- Additional information about decibel weightings (A,B,C, and Z) were discussed, including their ideal application and utility. The Ground Noise Study and the Permanent Noise Monitors report in two weightings, A and Z.
- Low frequencies can cause structural excitation, meaning that while we cannot hear the noise that is causing a material such as glass to resonate, we hear the noise of the glass resonating at a higher, perceptible frequency.

Term Renewal

The NMSC intends to renew its mandate for another year with respect to further clarifying and deepening its knowledge about environmental noise matters as they relate to land uses surrounding the Billy Bishop Toronto Centre Airport. The TOR and renewal of term will be revisited by the NMSC in January 2023.



Looking Forward

In the upcoming year, members of the NMSC anticipate continuing to contribute to PortsToronto's noise management work and overall understanding of the noise conditions on the waterfront by all parties involved on the subcommittee through the following tasks:

- Ground Noise Study (Implementation and Analysis) -
 - Discussing and following up on the installation of temporary (2 weeks in duration) noise monitors to assess the background noise. A map of the most desirable locations is included in Meeting #8. The subcommittee reviewed and provided input into these locations.
 - Continuing to discuss additional opportunities for future identified noise study scope – eg. fly by noise at various elevations representing high rise apartments
- Permanent Noise Management Monitor Installation BBTCA airport management will continue to facilitate the expansion of the Permanent Noise Management Monitors including a new permanent noise monitor on Windward Co-Op building. A second new permanent monitor will be installed at Ontario Place, as will the relocation of an existing permanent monitor from the mainland ferry terminal to the Windward Co-Op building. The NMSC continues to express interest in discussing how the collected data is filtered, presented and assessed with respect to community impacts.
- Annual Noise Management Report (ANMR) The subcommittee will continue to review the ANMR at its next publication to assist the broader community in improving noise literacy.
- Researching Information on Noise and Improving Noise Literacy
 - The City of Toronto's Waterfront Secretariat has expressed their willingness to present on the City's Noise Study Requirements for new buildings and discuss how the City accounts for noise in the development process.
 - PortsToronto has arranged for Transport Canada and their subject matter experts to make a presentation about the Noise Exposure Forecasts (NEFs) as a regulatory tool and the unique conditions that exist at BBTCA.
 - At the request of the community members on the NMSC, PortsToronto is preparing to reach out to the International Civil Aviation Organization (ICAO).

Angela Homewood

Project Manager & Environmental Specialist – Infrastructure, Planning & Environment **PortsToronto** Phone: 519-521-8438 <u>AHomewood@portstoronto.com</u> Alexander Furneaux Meeting Facilitator LURA Consulting Phone: 289-768-5561 afurneaux@lura.ca



Appendix A

PortsToronto Noise Management Subcommittee Terms of Reference February 2022