



PORTSTORONTO

BILLY BISHOP TORONTO CITY AIRPORT

**NOISE MANAGEMENT SUB-COMMITTEE
MEETING #21**

MEETING MINUTES

October 8, 2024
6:30 PM to 8:00
Zoom
Toronto, Ontario

Minutes prepared by:





These meeting minutes were prepared by LURA Consulting. LURA provides neutral third-party consultation services for the Ports Toronto Noise Management Sub-Committee. These minutes are not intended to provide verbatim accounts of committee discussions. Rather, they summarize and document the key points made during the discussions, as well as the outcomes and actions arising from the committee meetings. If you have any questions or comments regarding the Meeting Minutes, please contact either:

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Summary of Action Items from Meeting #21

Action Item	Action Item Task	Who is Responsible for Action Item
M#21-A1	RJ Burnside will consider renaming the second column on the Mitigation Case Ranking Table from “Description” to “Noise Mitigation Recommendations”.	RJ Burnside
M#21-A2	Mr. Moore (BQNA) will send RJ Burnside and Associates some examples of sound absorptive materials to be considered for Mitigation Case #6 in the Mitigation Case Ranking Table.	Max Moore (BQNA)
M#21-A3	RJ Burnside will inquire about modeling Mr. Monette’s (BQNA) suggestion regarding relocating the run-up area.	RJ Burnside
M#21-A4	RJ Burnside will provide details regarding the assumptions built into the calculation of each mitigation case score improvement.	RJ Burnside
M#21-A5	PortsToronto will provide details confirming if some potential mitigations are regulatory or operational decisions.	PortsToronto

List of Attendees

Name	Organization (if any)	Attendance
COMMITTEE MEMBERS		
Hal Beck	York Quay Neighbourhood Association	Present
Max Moore	Bathurst Quay Neighbourhood Association	Present
Lesley Monette	Bathurst Quay Neighbourhood Association	Present
Jay Paleja	City of Toronto – Waterfront Secretariat	Present
PORTS TORONTO REPRESENTATIVES		
Angela Homewood	PortsToronto	Present
Michael MacWilliam	PortsToronto	Present
Noah Meneses	PortsToronto	Absent
FACILITATION		
Geoffrey Mosher – Lead Facilitator	LURA Consulting	Present
Marissa Uli - Notetaker	LURA Consulting	Present
Hasnaa Maher – Notetaker	LURA Consulting	Absent
Denise Soueidan-O’Leary - Notetaker	LURA Consulting	Absent
GUESTS		
Harvey Watson	RJ Burnside & Associates	Present
Brent Miller	RJ Burnside & Associates	Present

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Appendix A: Meeting Agenda

Appendix B: Mitigation Case Ranking Table

1. Agenda Review and Action Item Review

Geoffrey Mosher (LURA Consulting) welcomed attendees to the 21st Noise Management Subcommittee (NMSC) meeting, which was held virtually on Zoom. Mr. Mosher noted that this meeting was part of a series of meetings focused on the Ground Noise Study. The first meeting was held in person at the Radisson Blu Toronto Downtown to introduce the study's material and progress. It had been proposed that a follow-up meeting be held, initially scheduled for September 2024, which was later moved to October 2024, to provide an update on the report regarding mitigations. After that, Mr. Mosher announced that the final meeting of the series would be held in late November 2024 or early December 2024 to present and discuss the draft Ground Noise Study.

YQNA representative Hal Beck inquired about why the Ground Noise Study has been delayed for five (5) years and is being issued just prior to the RESA process. Mr. Beck (YQNA) expressed concern that the NMSC members are going to be in several different group liaisons, and that having 30 days to review the study would not be adequate.

Mr. Mosher responded to Mr. Beck's (YQNA) request, agreeing that the final meeting date of the series can be shifted to grant the committee more time to review and comment on the study's contents.

Mr. Mosher then directed the RJ Burnside & Associates project team, Harvey Watson and Brent Miller, to present their findings to the committee.

The meeting agenda is included in **Appendix A**.

2. Ground Noise Draft Mitigation Improvement Ranking

Mr. Watson and Mr. Miller (RJ Burnside & Associates) updated the committee on the draft mitigation improvement rankings of the Ground Noise Study.

The Mitigation Case Ranking Table can be found in **Appendix B**.

Key points from Mr. Watson and Mr. Miller's update were:

Comments, questions, and responses are listed as sub-bullets.

- Mr. Miller presented a table of the mitigation case rankings, sorted from highest improvement to lowest improvement. This table showcased the 19 different mitigation cases, their descriptions, score improvements, rank of mitigation scenario effectiveness, and percentage of total impact reduced. The score improvement value under each mitigation case refers to the impact that each particular case has on all the operational scenarios.
- The first mitigation case, ranking the highest in effectiveness, is the ferry loading redesign. This case refers to the banging sound that cars emit when going over the ramp as they load onto the ferry. The score improvement is calculated through extensive research and conversations with mitigation design experts.
 - Mr. Beck (YQNA) noted that the peak noises emitted from the ferry occur not only during loading but also during its operation. This is especially true when the ferry was operating on diesel. Now, the diesel ferry runs 10% of the time, while the electric ferry takes over 90% of the time.

However, this still means that residents are being awoken between 5:15 a.m. and 5:45 a.m. for 36 days of the year.

- Mr. Miller responded that the mitigation cases do not align with each of the 28 operational scenarios presented at the last NMSC meeting. Rather, some mitigation cases target one sole issue, as other mitigation cases capture several (as exemplified by MC18 on Table 6).
- Mr. Beck (YQNA) also inquired whether the “percentage of total impact reduced” column is based on a decibel logarithmic type of calculation.
- Mr. Miller responded that this column helps to give a sense of the level and percent of reduced noise above background that each of the mitigation scenarios would result in. It is a ratio multiplied by 100 of the associated score improvement in the third column over the total impact score that is calculated out of all 28 operational scenarios.
- Jay Paleja (City of Toronto) inquired about the calculations conducted to determine the score improvement number.
- Mr. Miller responded that the formula involves the sound level produced by the operational scenario minus the background noise, multiplied by the number of receptors and the rough number of residential units in that area. Therefore, the score improvement is the same calculation as the mitigated results to discover how much the noise level was reduced. The score is developed on three (3) factors - how often it occurs, how many people are impacted, and how big the impact is.
- Mr. Beck (YQNA) asked for clarification on the calculation of how often an operational scenario occurs.
- Mr. Miller responded that the calculation consists of how many seconds a year the scenario occurs. This is then turned into a percentage or fraction, which is then multiplied against the score. This is done to prioritize finding mitigations for scenarios occurring all the time instead of a scenario that occurs for a few minutes a week, for instance. Therefore, a higher mitigation score is awarded to the mitigation cases that are either reducing an ongoing noise, a noise impacting many residential units, or a noise with a large sound level.
- BQNA representative Max Moore asked if the second column in the table, labeled “Description,” refers to actual noise mitigation strategies that RJ Burnside & Associates is suggesting.
- Mr. Miller responded that each of the descriptions is a mitigation concept, both physical and procedural. Some of them are physical barriers, and some are policies - such as changing the pads under the ferries twice as often.
- Mr. Moore (BQNA) suggested renaming the second column of the table to read “Noise Mitigation Recommendations” rather than “Description”.

M#21-A1 RJ Burnside will consider renaming the second column on Table #6 from “Description” to “Noise Mitigation Recommendations”.

- Mr. Moore (BQNA) inquired about if M15 “Electrify Air carts” refers to the generators that provide air conditioning to the airplanes.
- Mr. Miller responded that the air carts are the generators that provide air conditioning to the airplanes, currently running on gasoline.
- Mr. Moore (BQNA) asked for clarification on the term “Ramp up area”
- Mr. Miller responded that “ramping up” refers to the operation that airplanes go through when they’re preparing to fly. They taxi in one area of the Airport and point their engines back toward the mainland as they conduct engine checks prior to take off. In the winter, the airplanes take to the ramp-up area to warm up their engines before taking to the runway. Therefore, in Table #6, there are two (2) barrier alignments that were tested, an extended one and a regular one -depending on how much land is going to be available.
- Mr. Moore (BQNA) commented that the low ranking of M17 and M16 referring to the “Wall south of Hangar 1” is surprising. Mr. Moore (BQNA) also noted that the study is an interesting example of the science of sounding measurement.
- Mr. Miller commented that it was surprising to see that M6 “Hangar 1 Absorptive East Wall” was ranked so low as well. This could likely be because the material put on the wall is only 80% absorptive.
- Mr. Moore (BQNA) inquired about whether this was based on the assumption of a certain kind of absorptive material and if better material could be considered.
- Mr. Miller responded that the calculation is made by inputting the percentage of noise reflected back from the percentage of noise that hits the wall’s surface. Theoretically, a more absorptive product can be found. However, it is highly unlikely that M6 would have jumped up from its current ranking.

M#21-A2 Mr. Moore (BQNA) will send RJ Burnside and Associates some examples of sound absorptive materials to be considered for Mitigation Case #6 in Table #6.

- Mr. Miller shared a list of other cases the team investigated but could not model for practical reasons. For instance, there would be no point in modeling a quieter ferry horn, as its noise cannot legally be reduced.
 - Mr. Beck (YQNA) inquired if there would be a figure in the study to showcase the locations of the mitigation solutions.
 - Mr. Miller responded that every mitigation case will have its own figure showcasing its location.
 - Mr. Beck (YQNA) inquired about the location of the air carts.
 - Mr. Miller responded that the air carts sit on the back right side of each airplane.
 - Mr. Beck (YQNA) inquired whether the report will break down all the series of calculations that make up the scores using assumptions about the four

(4) operating scenarios - referring to the different possibilities for Q400 take-offs.

- Mr. Miller responded that the original scores calculated and presented at the previous NMSC meeting were based on actual counts from the previous year. If the four (4) operating scenarios were considered in this study, it would not impact the ranking drastically as not all mitigation cases depend on the number of Q400 planes that take off. The team operated from one field of assumptions and applied it to all the models to keep the report conclusions accurate and concise. These calculations and assumptions will be well broken down in the report.
- Mr. Miller defined the three (3) RESA options. There are additional factors that the team looked into, such as if there could be barriers along taxiways with RESA 1. It was determined that there was insufficient wing clearance to put the barrier along the same sort of alignment. The safest distance would be by the water. Taxiways are realigned with RESA 2 and 3.
 - BQNA representative Lesley Monette (BQNA) inquired whether her suggestion regarding noise barriers was considered. She explained that the planes could do their run-ups in a different location than where they are pushed out.
 - Mr. Miller explained that the wording “ramp ups” was changed to “run ups”. This has been changed from the previous presentation. Mr. Miller clarified that they mean the same thing. Mr. Miller also noted that he had inquired with the Airport about moving the current run-up location or turning it around. They concluded that the current location is the only area with enough run-up space. The only other area would be on the other side of the active runway, which would introduce a range of additional logistical issues. As such, this case had not been modeled for. However, there are four (4) cases modeling different kinds of barriers in that area depending on how much land will be available as an outcome of RESA.
 - Ms. Monette (BQNA) explained that the airplanes revved their engines to ensure their function before takeoff, which causes them to thrust. A barrier is, therefore, not a feasible solution. Instead, when the planes start to taxi facing east-to-west, preparing to turn and cross the runway, they should ramp up while they're waiting on the accessory lane. Ms. Monette (BQNA) also noted that since the planes are exhausting and ruffle the water, the pollution from the plane's engine is also being sent toward nearby residents.

M#21-A3 RJ Burnside will inquire about modeling Ms. Monette's (BQNA) suggestion regarding relocating the run-up area.

- Mr. Miller also explained that the barriers modeled for that area, if there is additional land created because of RESA, this would allow the Airport enough space to build large barriers (as high as 8 meters/25 feet). However, there is not enough space. Mr. Miller spoke to mitigation cases M17 and M16 regarding the Wall south of hangar one. He explained that if additional land was created, there would be space to do what Ms. Monette

requested. The east taxiway model could be considered near the runway if lands were pushed out to give additional space for utilities and extra land to cover the front phase to take care partially of the aircraft that sits to take off. Mr. Miller explained that everything needs to be looked at together and questioned if they are effective mitigation plans with how many issues, they solved rather than lumping them all in one go. Mr. Miller wants to show how each major area would be protected against a different group of sources that are effective.

- Mr. Miller reiterated that if, for example, air carts are turned off, that benefit is not generated by other barriers, which changes the calculus of justification. In breaking it down into different sections, Mr. Miller was able to make distinctions and look at which part is going to be effective no matter what is happening anywhere else, and which is going only to benefit specific areas.
- Mr. Paleja (City of Toronto) suggested that the team add a column on the table to explain the anticipated costs and operational or capital feasibility. This could be high-level (such as high, medium, or low) so that the community understands their chosen options, their feasibility, and the trade-offs.
- Mr. Miller explained that anticipated costs and operations were considered as the mitigation cases were being developed.
- Ms. Monette (BQNA) agreed with Mr. Paleja (City of Toronto) that this is a cost-balance decision. For instance, if an eight-meter wall were being built that would only impact the noise by 5%, its necessity would need to be discussed further.
- Mr. Miller responded that the 5% difference measured between mitigation cases M4 and M3 differentiates between whether the barrier is to be 8 meters or 6.2 meters high. The 8-meter barrier only offers a 5-point solution, which is only as effective as the least effective solution. Therefore, it would not be worth building the barrier up to 8 meters, considering the limited improvement it provides.
- Ms. Monette (BQNA) inquired whether the percentage of noise these mitigation cases would reduce is being measured.
- Mr. Miller reiterated that the formula involves the sound level produced by the operational scenario minus the background noise, multiplied by the number of receptors and the rough number of residential units in that area. Therefore, the score improvement is the same calculation as the mitigated results to discover how much the noise level was reduced. The score is developed on how often it occurs, how many people are impacted, and how big the impact is.
- Ms. Monette (BQNA) explained that most people better understand cost-benefits when considering noise reduction and cost barriers. She noted that many residents will likely ask how much noise a mitigation case would reduce and how much the barriers would cost.
- Mr. Beck (YQNA) inquired about the height of the western gap noise wall.

- Mr. Miller responded that the wall is 6.2 meters and was used as a precedent.
- Mr. Beck (YQNA) then explained that residents regarded the barrier as ineffective.
- Mr. Moore (BQNA) speculated that the ineffectiveness might have been due to the wall's material, which was very smooth.
- Mr. Miller responded that no investigation was conducted after the barrier was installed, and as such, he cannot confirm nor deny the merits of the barrier.
- Mr. Beck (YQNA) urged the team to investigate further the effectiveness of the proposed mitigation solution to study the level of noise that would be reduced accurately. He requested that Mr. Miller investigate not only the score improvement but also the decibel improvement of the proposed mitigation barriers. He also noted that there must be some assumptions built into the scores with respect to the total noise with the barrier up.
- Mr. Miller confirmed that the model was predicated on assumptions about the quality of the barrier. These details can be provided.

M#21-A4 RJ Burnside will provide details regarding the assumptions built into calculating each mitigation case score improvement.

- Mr. Beck requested further clarification regarding why some potential mitigations are not operationally approved and if this could be documented. Mr. Beck would also like clarification regarding if combining mitigations was part of the analysis scope.

M#21-A5 PortsToronto will provide details confirming if some potential mitigations are regulatory or operational decisions.

- Mr. Miller explained that they have not considered the culmination of multiple barriers at the same time. Mr. Miller explained that the calculation would not be the culmination of two cases added together, and rather it would be an entirely new case altogether.
- Mr. Beck (YQNA) explained the barrier further north, which Ms. Monette talked about on the planes angling. The two barriers together could help Ms. Monette, but one might not.
- Mr. Watson explained that the model draws a line from the source of the top of the barrier to either end of the barrier and then draws lines from the receptors. The first line is straight from the source to the receptors, and then the second set of lines is around the barrier. There is overall one on each side. Adding a second barrier will not change the overall impact when there is a long barrier, and the receptor is roughly in the center. However, when closer to the receptors at the edges of the barrier, those can change more significantly. As there is a long stretch of receptors, the multiple barriers are more likely to protect different receptors, which may be cumulative. Further tests would need to be conducted to determine this.

3. Business Arising

Geoffrey Mosher (LURA) began the discussion of Business Arising topics.

- Mr. Mosher thanked the committee members for joining the discussion. LURA will follow up with the next steps in early November, as the draft report can be expected in late November 2024.
- Ms. Homewood asked if the committee members wanted to meet after or before reviewing the report.
 - Mr. Beck (YQNA) responded that he would like to meet both before and after, to allow the consultants to point out the structure, key findings and interesting sections to frame the report.
 - Mr. Moore (BQNA) suggested holding a meeting in January.
 - Mr. Mosher pointed out that the upcoming CLC will be held on the 27th of November.
 - Mr. Beck (YQNA) inquired about the RESA dates.
 - Ms. Homewood responded that the public meeting will be held on October 15th, 2024, at 2 p.m. and 6 p.m. There will be a comment period until November 2024. After that, a draft EA will be posted in December 2024.
 - Mr. Beck (YQNA) inquired if the EA comment period will span the Christmas holiday.
 - Ms. Homewood noted that she had alerted the team and that an extension of the comment period would likely be granted.
 - The committee concluded that a half-hour introductory meeting will be held to allow RJ Burnside to break down the report's structure. A follow-up meeting will be held in January 2025, after the 60 days of review, to discuss the report's contents.

The meeting adjourned at 8:00 PM.

Appendix A
Meeting Agenda
Billy Bishop Toronto City Airport
Noise Sub Committee Meeting 21

Tuesday October 8, 2024

6:30 pm to 7:00 pm

Zoom

<https://lura-ca.zoom.us/j/67252916065?pwd=AfkNRaaTjyl1A9KVvtE1apha0zpM3I.1>

AGENDA ITEMS

6:30 Welcome

6:32 Agenda and Action Item Review

6:33 Ground Noise Draft Mitigation Improvement Ranking (Harvey & Brent – RJ Burnside & Associates)

7:00 Business Arising

- Next meeting TBD, 6:30-8:00 PM (Virtual - Zoom)

8:00 Adjourn

Appendix B

Mitigation Scenario Results

Note that the total score reduction is a value which combines the change in impact at each receptor, the number of residents at that receptor, and the frequency of the event. As described in Section 4.0, there are 20 addresses with six elevations at each address and varying numbers of residents at each elevation. The impact is calculated for each OS. The rank compares the impact (dBA) at each location and the background at that location for each time of day and multiplies it by the number of residents at that location.

For instance, in M1, the barrier on the east end of the runway reduces the total impact score by 285.24 points. That reduction ranks 11th for the 19 Mitigation Scenarios investigated therefore 10 of the scenarios were more effective.

Table 6. Mitigation Scenario Results

Mitigation Case	Description	Score Improvement	Rank	% of total impact reduced
M1	RESA Option #6 with 6.2 m barrier on east side	285.24	11	1.7
M2	RESA Option #6 with 8 m barrier on east side	352.07	10	2.1
M3	RESA Option #6 with 6.2 m barrier on west side	244.11	15	1.5
M4	RESA Option #6 with 8 m barrier on west side	278.38	12	1.7
M5	RESA Option #6 or #5 with no barriers	39.03	17	0.2
M6	Hangar 1 Absorptive East Wall	6.24	19	0.04
M7	Ramp up area Barrier 6.2 m	446.05	9	2.7
M8	Ramp up area Barrier 8.0 m	474.58	8	2.9
M9	Expanded Ramp up area Barrier 6.2 m	474.83	7	2.9
M10	Expanded Ramp up area Barrier 8.0 m	558.75	5	3.4
M11	Ferry Ramp Pads - double rate of pad change	244.40	14	1.5
M12	Ferry Ramp Pads - higher quality pad	488.80	6	3.0
M13	Ferry Loading redesign	2,296.77	4	14.0
M14	GRE Testing No Nighttime	152.08	16	0.9
M15	Electrify Aircarts	8,871.14	1	54.0
M16	Wall south of Hangar 1 - 6.2 m	2,330.46	3	14.2
M17	Wall south of Hangar 1 - 8 m	2,770.99	2	16.9
M18	Ferry Slip noise barrier	256.62	13	1.6
M19	Absorptive East Walls of Main Terminal	31.20	18	0.2

The sub-sections below describe the effectiveness of each Mitigation Scenario in Table 6 above. The topics discussed include:

- the rank from Table 6
- the total score reduction
- relative score reduction
- Table showing which O.S. showed a benefit from the Mitigation Scenario