



Aircraft Noise & Public Health Context

Proposed Development – 3100 Weston Road

Submission to Toronto Planning

February 2026

Executive Summary: Evidence-Based Land Use Review

Proposed Development – 3100 Weston Road

1. Purpose and Scope

This submission, prepared by the **Pearson Accountability Alliance**, provides thirteen months of continuous measured evidence of aircraft-noise exposure (January 2025 – January 2026) in immediate proximity to the proposed development at **3100 Weston Road**.

The material is submitted to Toronto Planning to ensure that the public record reflects **current measured exposure conditions** rather than reliance on historic theoretical projections. The attached monthly summaries represent a structured subset of a substantially larger evidence base documenting aircraft-noise exposure, operational patterns, and environmental-health context in communities surrounding Toronto Pearson International Airport.

A comprehensive public evidence repository is available at:
pearsonaccountabilityalliance.org

2. Limitations of Historic NEF-Based Planning Assumptions

Historic planning decisions affecting lands surrounding Toronto Pearson Airport have relied on **Noise Exposure Forecast (NEF)** modeling frameworks developed decades ago.

Several limitations are relevant to the present site:

A quarter-century gap

The NEF contours used to guide residential suitability for this location are approximately a quarter-century old and do not reflect contemporary operational concentration or routing patterns.

Legacy modeling architecture

The NEF framework originated in the 1970s and was not designed to capture cumulative overnight disturbance, clustered high-frequency aircraft movements, or current operational intensity.

Averaging vs. lived exposure

While NEF relies on 24-hour averaged values, recent monitoring shows repeated nighttime exceedances and dense clusters of aircraft events that materially affect sleep continuity and daily functioning.

For example, January 2026 recorded more than **1,100 nighttime exceedances**, with events occurring on every night of the month.

3. Measured Conditions: Acacia Park Monitoring Evidence

The evidence presented is grounded in objective data from the **GTAA's own Noise Monitoring Terminal (NMT)** at Acacia Park, located in immediate proximity to the development area.

Objective data source

All measurements referenced are derived from the airport authority's own monitoring infrastructure.

High-intensity events

Peak aircraft-noise events reached approximately **95.8 dB** (December 2025), representing sound-energy levels orders of magnitude above commonly cited nighttime guidelines near 45 dB.

Event density

Median intervals between nighttime aircraft events have been measured as low as **1.7 minutes**, conditions that may prevent sustained protected sleep windows for residents.

These measured conditions indicate persistent overnight exposure patterns that differ materially from historic planning assumptions.

4. Health and Development Considerations

Environmental-health research has identified associations between aircraft-noise exposure and:

- sleep disturbance and sleep fragmentation
- cardiovascular stress responses
- reduced overall well-being
- impaired classroom concentration and learning capacity in children

- localized air-quality impacts, including exposure to ultrafine particles associated with aircraft operations

Chronic nighttime disturbance combined with daytime exposure has implications for both adult health and pediatric development. These factors are relevant when evaluating long-term residential suitability at the proposed site.

5. Planning Context

Measured conditions documented in 2025–2026 suggest that current exposure patterns in the vicinity of 3100 Weston Road may fall outside assumptions historically associated with **NEF 25–30 residential suitability frameworks**.

The attached summaries are submitted to ensure that contemporary evidence is available for consideration in planning deliberations and within the public record.

6. Evidentiary Record

This submission places on record that measured aircraft-noise exposure data from the GTAA’s Acacia Park monitor demonstrates conditions materially different from those assumed in historic NEF-based planning frameworks.

Should residential development proceed at this location without requiring a contemporaneous, site-specific assessment of aircraft-noise and environmental-health impacts, such decisions would occur in the context of the documented exposure conditions summarized herein. This statement is provided to ensure that current measured evidence forms part of the planning record and decision-making context.

7. Supporting Documentation

The Pearson Accountability Alliance maintains an extensive publicly accessible evidence repository documenting:

- aircraft-noise monitoring data
- operational patterns
- regulatory correspondence
- environmental-health context

The attached monthly summaries represent a curated subset of this larger documented record.

8. Projected Intensification of Aircraft Operations

Public materials and long-range planning projections released by the Greater Toronto Airports Authority indicate that aircraft movements and passenger volumes at Toronto Pearson are expected to increase substantially over the coming decades, with planning scenarios anticipating a potential **doubling of traffic by approximately 2037**.

For communities already experiencing persistent overnight aircraft disturbance and dense clusters of aircraft events, such projections carry significant implications. Current measured conditions demonstrate repeated nighttime exceedances and limited opportunity for sustained sleep continuity. A substantial increase in aircraft operations would reasonably be expected to intensify these conditions.

Residents in affected areas have little practical ability to mitigate aircraft-noise exposure within their homes. As a result, projected growth in operations represents not only a future planning scenario but a foreseeable escalation of existing environmental burdens.

Approving new residential development in areas already experiencing documented aircraft-noise exposure may embed future occupants within a trajectory of increasing environmental and health stressors over time. The cumulative effect of intensified operations would be expected to amplify sleep disruption, physiological stress, and impacts on children's learning environments.

The evidence presented herein reflects current measured conditions; projected operational growth suggests that these impacts are likely to increase rather than diminish over the lifespan of any residential development approved at this location.

Appendix: Monthly Monitoring Summaries

This appendix contains 13 months of continuous measured aircraft-noise data (January–December 2025 and January 2026) recorded by the GTAA’s own Noise Monitoring Terminal at Acacia Park in proximity to the proposed 3100 Weston Road development site. These summaries document current exposure conditions and are provided to support evidence-based planning review.

All measurements are derived from the Greater Toronto Airports Authority’s own Noise Monitoring Terminal (NMT) located at Acacia Park, providing an objective record of current aircraft-noise exposure conditions. The summaries are presented in chronological order to support evidence-based planning review and the public record.

Noise Impact Summary: January 2025

Official report for community transparency and policy review.

Key Monthly Metrics

Metric Category	Recorded Observation
Monthly Event Count	11,276 airplane noise events detected.
Night Observation	11:00 PM to 7:00 AM analysis window.
Night Limit Violations	1,160 events above the 45 dB threshold.
Frequency of Impact	Exceedances occurred on 30 of 31 nights.
Density of Noise	Median gap between events is 1.9 minutes.
Night Intensity	Median: 70.6 dB Max: 89.7 dB.

Sustained Noise Sequences (Event Trains)

Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	3h 42m 55s (122 events)	1h 22m 04s (36 events)
Events ≤ 10 min apart	13h 26m 35s (355 events)	1h 23m 50s (37 events)
Events ≤ 15 min apart	18h 28m 07s (439 events)	3h 10m 17s (46 events)

Scientific Impact Transparency

Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.

Noise Impact Summary: February 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	8,317 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	876 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 24 of 28 nights.	
Density of Noise	Median gap between events is 2.0 minutes.	
Night Intensity	Median: 70.0 dB Max: 95.2 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	4h 18m 21s (138 events)	1h 39m 32s (45 events)
Events ≤ 10 min apart	14h 10m 54s (366 events)	3h 20m 38s (63 events)
Events ≤ 15 min apart	19h 32m 25s (432 events)	3h 20m 38s (63 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: March 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	9,491 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	1,339 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 29 of 31 nights.	
Density of Noise	Median gap between events is 1.9 minutes.	
Night Intensity	Median: 71.0 dB Max: 92.5 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	4h 16m 33s (144 events)	1h 26m 38s (50 events)
Events ≤ 10 min apart	11h 46m 45s (342 events)	3h 15m 30s (75 events)
Events ≤ 15 min apart	19h 11m 34s (472 events)	3h 15m 30s (75 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: April 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	8,949 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	1,139 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 29 of 30 nights.	
Density of Noise	Median gap between events is 1.9 minutes.	
Night Intensity	Median: 70.9 dB Max: 93.2 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	5h 21m 00s (180 events)	0h 48m 41s (28 events)
Events ≤ 10 min apart	13h 51m 42s (402 events)	1h 54m 20s (41 events)
Events ≤ 15 min apart	17h 22m 31s (473 events)	2h 29m 41s (45 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: May 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	7,374 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	776 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 28 of 31 nights.	
Density of Noise	Median gap between events is 1.9 minutes.	
Night Intensity	Median: 71.3 dB Max: 89.0 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	4h 48m 41s (164 events)	0h 27m 39s (24 events)
Events ≤ 10 min apart	13h 31m 48s (386 events)	1h 54m 08s (40 events)
Events ≤ 15 min apart	15h 38m 39s (426 events)	1h 54m 08s (40 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: June 2025

Official report for community transparency and policy review.

Key Monthly Metrics

Metric Category	Recorded Observation
Monthly Event Count	9,872 airplane noise events detected.
Night Observation	11:00 PM to 7:00 AM analysis window.
Night Limit Violations	1,287 events above the 45 dB threshold.
Frequency of Impact	Exceedances occurred on 27 of 30 nights.
Density of Noise	Median gap between events is 1.9 minutes.
Night Intensity	Median: 70.4 dB Max: 88.1 dB.

Sustained Noise Sequences (Event Trains)

Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	5h 28m 33s (185 events)	1h 04m 36s (29 events)
Events ≤ 10 min apart	15h 29m 03s (379 events)	1h 49m 46s (43 events)
Events ≤ 15 min apart	19h 25m 13s (491 events)	2h 16m 43s (49 events)

Scientific Impact Transparency

Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.

Noise Impact Summary: July 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	10,581 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	1,074 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 30 of 31 nights.	
Density of Noise	Median gap between events is 1.7 minutes.	
Night Intensity	Median: 70.4 dB Max: 93.7 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	5h 14m 55s (182 events)	1h 04m 58s (26 events)
Events ≤ 10 min apart	13h 18m 36s (396 events)	2h 17m 50s (44 events)
Events ≤ 15 min apart	17h 56m 59s (524 events)	2h 36m 46s (48 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: August 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	9,012 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	944 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 27 of 31 nights.	
Density of Noise	Median gap between events is 1.8 minutes.	
Night Intensity	Median: 70.4 dB Max: 83.5 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	5h 51m 00s (193 events)	1h 14m 53s (39 events)
Events ≤ 10 min apart	15h 39m 14s (429 events)	1h 32m 03s (45 events)
Events ≤ 15 min apart	19h 07m 36s (511 events)	1h 32m 03s (45 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: September 2025

Official report for community transparency and policy review.

Key Monthly Metrics

Metric Category	Recorded Observation
Monthly Event Count	8,242 airplane noise events detected.
Night Observation	11:00 PM to 7:00 AM analysis window.
Night Limit Violations	889 events above the 45 dB threshold.
Frequency of Impact	Exceedances occurred on 27 of 30 nights.
Density of Noise	Median gap between events is 1.8 minutes.
Night Intensity	Median: 70.3 dB Max: 87.7 dB.

Sustained Noise Sequences (Event Trains)

Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	7h 15m 04s (235 events)	1h 55m 26s (59 events)
Events ≤ 10 min apart	13h 16m 04s (389 events)	1h 55m 26s (59 events)
Events ≤ 15 min apart	17h 15m 16s (451 events)	1h 55m 26s (59 events)

Scientific Impact Transparency

Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.

Noise Impact Summary: October 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	7,772 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	905 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 28 of 31 nights.	
Density of Noise	Median gap between events is 1.9 minutes.	
Night Intensity	Median: 70.9 dB Max: 85.6 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	7h 38m 50s (260 events)	0h 24m 28s (24 events)
Events ≤ 10 min apart	14h 42m 21s (380 events)	1h 36m 29s (33 events)
Events ≤ 15 min apart	17h 54m 41s (481 events)	2h 11m 02s (39 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: November 2025

Official report for community transparency and policy review.

Key Monthly Metrics

Metric Category	Recorded Observation
Monthly Event Count	10,213 airplane noise events detected.
Night Observation	11:00 PM to 7:00 AM analysis window.
Night Limit Violations	1,068 events above the 45 dB threshold.
Frequency of Impact	Exceedances occurred on 28 of 30 nights.
Density of Noise	Median gap between events is 2.0 minutes.
Night Intensity	Median: 70.6 dB Max: 88.4 dB.

Sustained Noise Sequences (Event Trains)

Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	7h 24m 05s (241 events)	1h 27m 34s (44 events)
Events ≤ 10 min apart	13h 18m 40s (362 events)	1h 59m 06s (54 events)
Events ≤ 15 min apart	17h 56m 29s (446 events)	1h 59m 06s (54 events)

Scientific Impact Transparency

Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.

Noise Impact Summary: December 2025

Official report for community transparency and policy review.

Key Monthly Metrics		
Metric Category	Recorded Observation	
Monthly Event Count	10,283 airplane noise events detected.	
Night Observation	11:00 PM to 7:00 AM analysis window.	
Night Limit Violations	1,144 events above the 45 dB threshold.	
Frequency of Impact	Exceedances occurred on 30 of 31 nights.	
Density of Noise	Median gap between events is 1.9 minutes.	
Night Intensity	Median: 70.2 dB Max: 95.8 dB.	
Sustained Noise Sequences (Event Trains)		
Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	7h 55m 05s (246 events)	1h 01m 13s (33 events)
Events ≤ 10 min apart	16h 31m 38s (428 events)	3h 01m 03s (63 events)
Events ≤ 15 min apart	17h 49m 45s (511 events)	3h 01m 03s (63 events)
Scientific Impact Transparency		
Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).	
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.	
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.	

Noise Impact Summary: January 2026

--- Acacia Park

Official report for community transparency and policy review.

Key Monthly Metrics

Metric Category	Recorded Observation
Monthly Event Count	10,080 airplane noise events detected (day + night).
Day Event Count	8,585 day events detected.
Night Event Count	1,495 night-window events detected (11:00 PM–7:00 AM).
Missing dB Values	3,548 events in this export have no dB value reported.
Night Observation	11:00 PM to 7:00 AM analysis window.
Day Limit Violations	5,430 day events above the 55 dB threshold (where dB reported).
Night Limit Violations	1,102 night-window events above the 45 dB threshold (where dB reported).
Frequency of Impact	Exceedances occurred on 31 of 31 nights (where dB reported).
Nighttime Median Gap	2.2 minutes (median gap between night-window events).
Daytime Median Gap	1.9 minutes (median gap between daytime events).
Night Intensity	Median: 71.0 dB Max: 86.7 dB (where dB reported).

Sustained Noise Sequences (Event Trains)

Max Gap Allowed	Full Day Max Duration	Night Hours Only
Events ≤ 5 min apart	7h 2m 12s (231 events)	2h 4m 33s (57 events)
Events ≤ 10 min apart	15h 27m 32s (412 events)	2h 39m 58s (61 events)
Events ≤ 15 min apart	19h 12m 55s (476 events)	2h 48m 50s (48 events)

Scientific Impact Transparency

Loudness Perception	A 75 dB event is perceived as 300% LOUDER than daytime limits (55dB) and 700% LOUDER than nighttime limits (45dB).
Physical Sound Energy	Each 75 dB event contains 1,000 TIMES more physical sound energy than the nighttime safety limit.
Sleep Protection	The consistency of nightly exceedances indicates that there is currently no protected sleep window for residents.