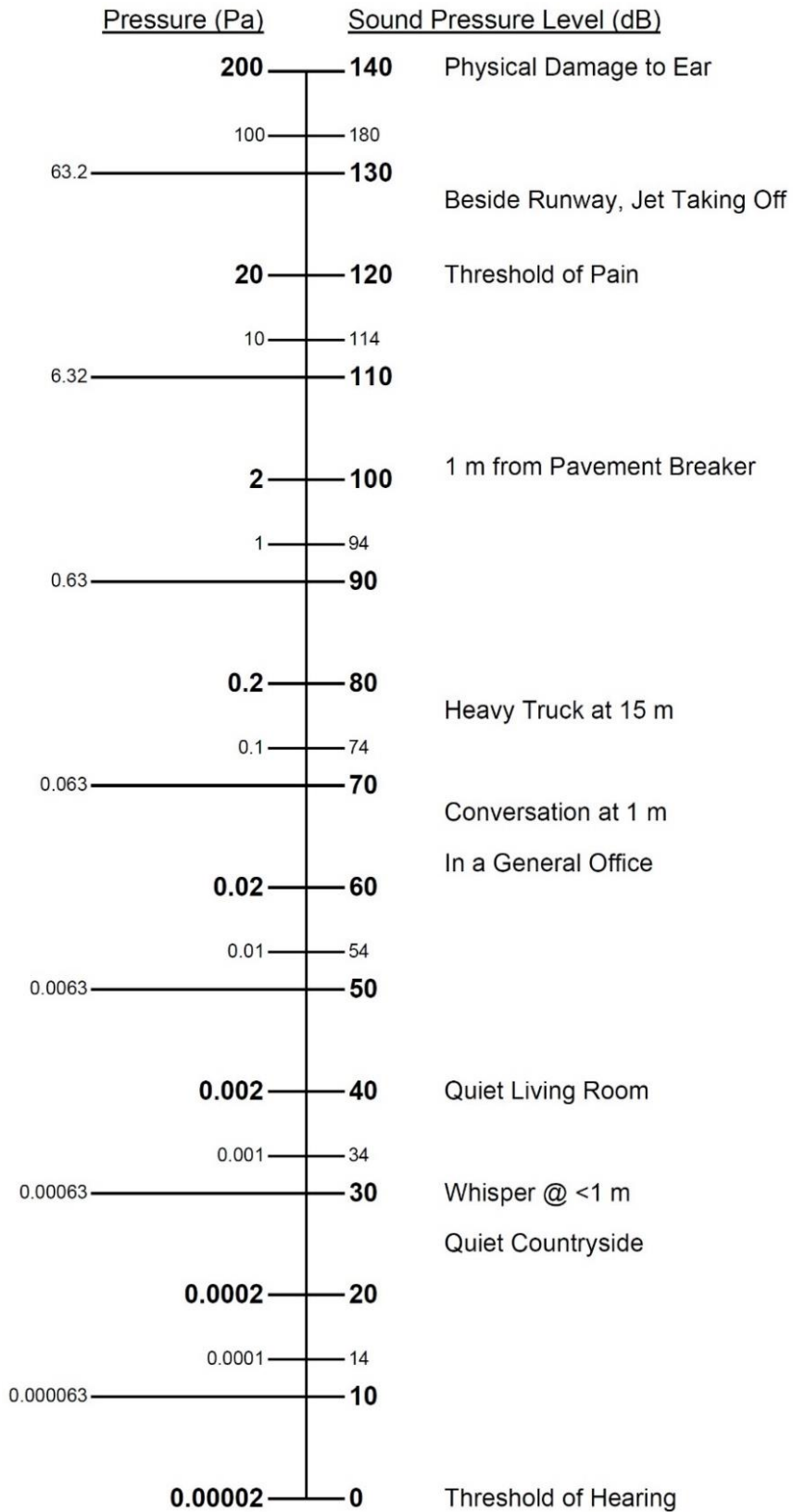
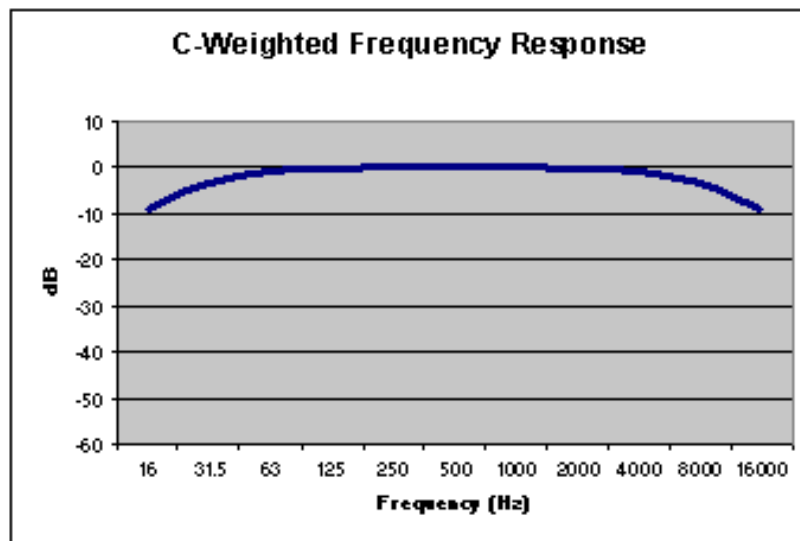
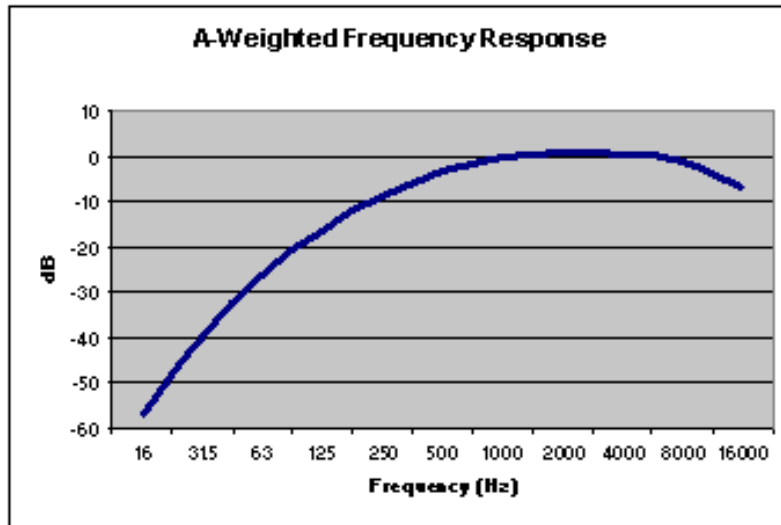


Attachment A: Additional Background

Typical Sound Pressures and Levels



Frequency Weightings for Noise Measurement



Additional Information on Technical Elements of the By-law

To be consistent with provincial guidelines, the By-law measures sound using an “Leq” (energy equivalent sound level) descriptor, which is a sound level average over time. Leq is very sensitive to high sound level events, even if the sound event lasts for a short period of time and is therefore reflective of potential impacts on residents.

Provincial, Federal, and International Noise Guidelines

Noise is managed and regulated through municipal, provincial and federal guidelines and regulations. There are also a number of noise guidelines from national and

international bodies that provide advice on noise control and management. The following sections provide an overview of these different guidelines and regulations.

Provincial

The Province of Ontario provides regulations for workplace exposure to noise, as well as noise from transportation and stationary sources. For example, Ontario's Occupational Health and Safety Act sets out noise protection requirements for workplaces, including construction, health care, schools, and fire/police services. While the federal government sets national emissions standards for motor vehicles, the *Highway Traffic Act* includes provisions to manage noise from the operation of motor vehicles, including the authority for emergency vehicles to have sirens.

The Ministry of Environment, Conservation and Parks (MECP), under the authority of the *Environmental Protection Act*, also regulates environmental noise emissions by establishing sound level limits for stationary sources (e.g. air conditioners), and setting requirements for noise impact studies for land use planning decisions. These recommendations are contained in MECP's Environmental Noise Guideline - Stationary and Transportation Sources - Approval and Planning (NPC-300). Examples include provincial infrastructure projects and provincial railways (for example, Metrolinx and GO Transit) and highway developments.

Note on back-up beepers: Back-up beepers were raised by some participants at consultations as a noise concern. These beepers are a safety feature that is not governed by the City. Under provincial legislation, certain construction vehicles are required to have an automatic audible alarm that signals when the truck is being operated in reverse. Both the provincial and federal governments are responsible for the regulation of vehicle standards, including the type of equipment utilized. The province has developed regulations for construction projects, with requirements that every project be planned and organized so that vehicles, machines, and equipment are not operated in reverse or are operated in reverse as little as possible.

Federal

The federal government sets out national guidelines and regulations for various types of noise, including general guidelines for exposure in the workplace, noise from aircraft, transportation, federal infrastructure projects, federal railways, and wind turbines. The Canadian Centre for Occupational Health and Safety's Noise Occupational Exposure Limits provides regulations to manage noise exposure in the workplace for occupational safety. The Canada Transportation Act includes regulations for aircraft noise management, aviation regulations for noise, as well as guidelines for the resolution of complaints over railway noise and vibration. Other noise regulations from transportation sources include the Motor Vehicle Safety Regulations, which set noise emissions standards for motor vehicles. Health Canada also provides overall advice and guidelines for protection against environmental noise and has provided advice on health impacts and management of wind turbine noise.

International

The World Health Organization (WHO) directs international health within the United Nations and provides advice and guidance on global health responses. In 2018, WHO developed the Environmental Noise Guidelines for the European Region, based on growing research of the health impacts of exposure to environmental noise. The Environmental Noise Guidelines provide recommendations on exposure levels for environmental noise from sources such as transportation (road traffic, railway and aircraft), wind turbines and leisure, based on scientific evidence of the health effects.

Staff Report on Outstanding Noise Directives ([EC31.4](#))

In July 2022, a Report on Outstanding Noise Directives was adopted by City Council that responded to various Council directives related to power device and motor vehicle noise. As a result of the report:

- MLS conducted a public education campaign on leaf blower noise and sent out education letters to public garages on vehicle noise;
- The time restriction for power device noise was reduced by one hour;
- Various requests were sent to the province related to motor vehicle noise, including to increase penalties for vehicle noise and vehicle modification, and to explore changes to Ontario's Highway Traffic Act related to noise radar; and
- Council approved a motion to exempt all waste collection noise from the By-law.

Vehicle Noise Rules under the Highway Traffic Act

Sections 75(1) [Modified or Improper Muffler] and 75(4) [Unnecessary Noise] of the Highway Traffic Act prohibit the operation of a motor vehicle that produces excessive noise from either the exhaust or other means and also prohibits exhaust modifications. These modifications are typically done by replacing exhaust components (from factory approved components) to increase the noise or "growl" of the vehicle. The set fines are \$110, including the victim fine surcharge.

Section 128 sets out requirements for rates of speed. The set fines are on a scale, rising as the number of kilometres per hour over the maximum speed limit rises.

- Higher vehicle speeds results in higher road noise; for example, it is estimated that there is an effective doubling of noise levels from 30km/h to 50km/h. Stunt driving, the act of excessive speeding, street racing, contests and engaging in dangerous driving practices in a motor vehicle, exacerbates motor vehicle noise and is also at odds with the City's Vision Zero Road Safety Plan.
- Through the Vision Zero Road Safety Plan, a Speed Management Strategy is being implemented by the City comprised of seven integrated speed reduction tools aimed at mitigating risks associated with high speeds. These include revised speed limit setting practices, road design improvements, enhanced police enforcement, proactive deployment of Watch Your Speed signs, speed limit reductions, automated speed enforcement and public education.

Section 172 prohibits racing and stunts. The minimum fine for contravening this section is \$2000 and the maximum fine is \$10,000, not including the victim fine surcharge.

TPH Noise Monitoring Study (2016)

In 2016, Toronto Public Health (TPH) completed a noise monitoring study to identify levels of noise in the City, which reported the following:

- Levels of noise in the City are similar to those of Montreal and Vancouver;
- Over 60 percent of residents experience traffic noise levels above 55 dBA during daytime hour;
- Nighttime noise levels are lower, with about 40 percent of the residential population experiencing average nighttime noise levels above 55 dBA;
- Residents in low-income areas were more likely to experience nighttime noise levels over 55 dBA; and
- There are detrimental impacts on cognitive function, sleep quality, mental health and cardiovascular health could occur at noise levels commonly experienced in urban environments.

TPH Noise Action Plan (2018)

In 2018, TPH developed a Noise Action Plan with suggestions for several City divisions and provincial and federal partners. Updates are listed below.

Request	Status/Updates
<p>1. City Council request the General Manager, Transportation Services to include environmental noise mitigation as a priority in transportation planning and operations through:</p> <p>a. incorporating noise mitigation measures in upcoming projects, including the Freight and Goods Movement Strategy, the Congestion Management Plan, and the Vision Zero 2.0 Road Safety Plan;</p> <p>b. considering noise mitigation as a factor when reviewing road projects for</p>	<p>In 2020, Transportation Services proposed the Freight and Goods Movement Strategy to City Council, making noise mitigation one of its top priorities (See page 13), including:</p> <ul style="list-style-type: none"> • A short-term strategy to promote the use of technologies that minimize noise impacts of truck operations and related activity • Actions to develop operational guidelines that target congested areas or corridors, examine program size and scale by industry sector, and look to minimize related noise impacts to promote Off-Peak Delivery (OPD) <p>Transportation Services also proposed an update to the Congestion Management Plan 2023-2026 in Oct 2023, which expanded construction hubs in the City. Construction hubs are a Vision Zero measure to improve road safety and coordinate the public right-of-</p>

Request	Status/Updates
<p>state of good repair work; and</p> <p>c. determining the feasibility and approach for monitoring road traffic noise, associated costs, and budget considerations.</p>	<p>way around areas in the city that have a dense concentration of construction activity.</p> <p>Vision Zero 2.0 Road safety report set out the plan for speed limits on all local residential roads to be reduced to 30 km/h to improve safety and reduce road noise.</p> <p>Current permits and contracts include language to minimize construction related noise activity at night where possible.</p>
<p>3. City Council request the Deputy City Manager, Corporate Services to include noise mitigation as a goal in the forthcoming TransformTO Electric Vehicle Strategy.</p>	<p>City Council adopted Toronto’s first Electric Vehicle (EV) Strategy in 2020. Noise pollution reduction is recognized as one of the key performance indicators of the strategy.</p> <p>City of Toronto adopted a TransformTO Net Zero Strategy in 2021 outlining the rationale behind the net zero pathway and opportunities needed to successfully reach the net zero target. The strategy recognizes noise mitigation as one of the major benefits of healthy buildings. It also aligns with the EV Strategy to the net zero goals and noise pollution reduction. One of the key actions for implementation in 2022-2055 is to increase public EV charging infrastructure to accommodate growth in EV ownership while mitigating noise pollution.</p>
<p>4. City Council request the Executive Director, Municipal Licensing and Standards to consider the Noise Action Plan, as outlined in the report (October 9, 2019) from the Medical Officer of Health, to identify additional opportunities to mitigate noise.</p>	<p>This is responded to in this Item’s staff report as well as EC31.4 in 2022.</p>
<p>5. City Council request the General Manager, Economic Development and Culture to consider the</p>	<p>The Nightlife Action Plan was developed in 2019 and outlines the scope of nightlife and proposes goals for Toronto: plan the night, protect the night, and create the night. Noise mitigation is recognized as one of the</p>

Request	Status/Updates
<p>Noise Action Plan, as outlined in the report (October 9, 2019) from the Medical Officer of Health, for Economic Development and Culture programs and policies.</p>	<p>key factors to “respect for residents and the long-term sustainability of music and entertainment venues” to protect nightlife; and the plan emphasizes the importance of updating and implementing effective Noise Bylaw and Agent of Change Principle in regulating and protecting nightlife activities, such as music venues.</p> <p>City of Toronto adopted an “Agent of Change” principle to ensure that live music venues can continue to function without noise-related impact on new residential development (whichever makes changes will be the agent of change and must be responsible for managing the impact of the change):</p> <ul style="list-style-type: none"> • new live music venues located within Mixed Use Areas 1, 2, 3, 4 and Regeneration Areas will be designed and constructed to minimize noise from the premises and provide acoustic attenuation measures that would protect residential uses; • new mixed-use developments located within Mixed Use Areas 1, 2, 3, 4 and Regeneration Areas will be designed and constructed to include acoustic attenuation measures on-site, or within the building design, to mitigate noise levels from adjacent indoor live music venues and from outdoor live music venues. <p>A list of city-approved Venue Protection Measures on noise, including TOcore, “Agent of Change,” which is supported by EDC and City Planning, can be found in the following document: City Approved Venue Protection Measures Including TOCore and Agent of Change (toronto.ca).</p>
<p>6. City Council request the Chief Planner and Executive Director, City Planning to give consideration to greater transportation, and specifically aircraft, noise mitigation solutions as part</p>	<p>Noise Impact (Feasibility and/or Detailed Assessment) Studies may be required to support the following applications for developments:</p> <ul style="list-style-type: none"> • Zoning By-law Amendment • Site specific zoning by-law • Site Plan Control • Plans of Subdivision • Consent to Sever

Request	Status/Updates
<p>of the application review process.</p>	<p>Noise Impact Studies may also be a requirement of a site-specific zoning by-law and the requirement for a Noise Impact Study may be a condition of initial approval of the proposed development, per requirements set out in the Official Plan. City Planning staff work with the applicant's consultant to determine if such a report is required and, if so, the specific requirements of the Study, based on the nature of the proposed application and the context of the study area.</p> <p>Ontario's Ministry of the Environment, Conservation, and Parks (MECP), has guidelines that address noise issues as they relate to land use planning and permitted requirements (as part of an Environmental Compliance Approval) for industrial and commercial establishments, or transportation facilities located in proximity to sensitive land uses, including residential uses. Depending on the receptor area classification, different guideline sound limits apply.</p> <p>Municipal noise regulations do not regulate noise from airplanes as this is under federal jurisdiction.</p>