Plano
City of Excellence

Memorandum

Date: April 21, 2020

To: City Council

From: Rachel C. Patterson, Director of Environmental Health & Sustainability (EHS) RCP

Subject: Noise Ordinance Background; Measurement

Purpose

On April 27, 2020, I will give a presentation on the noise ordinance, specifically focused on measurement of noise. Recent inquires have been submitted by council regarding methods of noise measurement and whether measurement procedures should change for complaints between two commercial properties. Specifically, the question is whether measurement procedures could be taken from indoors at the site of the complainant. This memo provides background on the noise ordinance and discussion regarding measurement.

Background

In early 2016, a revision of the noise ordinance was initiated due to several issues. The ordinance had not been amended since 1999, the city was experiencing increasing and more complicated noise complaints, noise regulations were found in three areas of code, and enforcement authority and mechanisms were not clear.

The process began with the convening of internal (department) stakeholders. A noise consultant provided a high-level training and overview of noise concepts, and a literature/ordinance review was conducted of regulations from across the nation. A draft was then developed and reviewed by the internal stakeholder group. Following this, public outreach began which included two public meetings, availability of a draft online with opportunity for comments, and a department meeting with commercial sector stakeholders.

Council tabled the ordinance for six months in June 2017 following comments from several members of the public. The concern was decibel thresholds set higher than they thought was appropriate. Specific direction from council was: Revisit the ordinance, consider comments received, gather further public comments, and consider districts for noise thresholds to meet both resident and business needs and interests.

Subsequently, the Department engaged an environmental noise consultant with many years of experience working both nationally and internationally in environmental and community noise. Working with him, we revised the ordinance based on public comments, council direction, and consultant recommendations. We presented the draft to the Neighborhood Leadership Council and at two public meetings in October 2017. Notifications of these meetings were sent through Plano City News, Facebook, and Nextdoor. A newsflash was added to the Department website along with a draft of the ordinance and summary of changes.

Major comment and discussion themes included:

- Decibel thresholds throughout the City Of Plano (wanted lower) and daytime versus nighttime hours
- Motor vehicle concerns (mufflers, horns, etc.)
- Commercial property noise adjacent to residential properties
- Threshold for A/C units
- Enforcement of the ordinance

The revised ordinance took into consideration the council and public's concern with keeping the noise levels low, especially in the residential areas, while considering the needs of the business and industrial areas within the city. Council approved the ordinance in December 2017 with a unanimous vote.

Major Changes

- Added definitions for further clarity throughout the ordinance.
- Lowered thresholds in residential areas to 55 dB at night and added a provision that could require lower thresholds based on background noise levels.
- Addition of decibel thresholds for commercial/mixed use and industrial areas. Also increased commercial/mixed use nighttime levels from 58 dB to 60 dB and daytime from 65 dB to 70 dB.
- Included language stating the most restrictive threshold applies where districts abut.
- Included language to address impulsive noise.
- Incorporated evidence-based recommendations for A/C units based on a study by the consultant.
- Provided enforcement provisions, including for repeat/habitual offenders and additional enforcement tools.

Measurement Procedures

For all complaint types (residential, commercial, industrial), noise measurements are taken outdoors at the complainant property line. The method of measurement used by the city is standard across the region and nation. To avoid inconsistencies in measurement and/or unequal enforcement, readings are performed in accordance with Standard Operating Procedures and applicable ASTM (American Society of Testing and Materials) standards. The sound level meters used comply with ANSI (American National Standards Institute) specifications. Methods of measurement are not included in the ordinance as they are procedural in nature, rather than regulatory.

When taking a measurement, city staff first obtains a background noise reading by running the calibrated noise meter for 10 minutes. An average of the reading over this time period is used in order to account for any dips or spikes in the noise level. Then a reading is taken of the specific noise (e.g. music, a/c unit, pool equipment, etc.) over a 5 or 10 minute period, depending on whether the readings fluctuate by more than 5 dB during that time. The average reading over this period of time is used. Most often, multiple readings are taken in order to assure consistency in the final output, especially when dealing with variable noise like music (as opposed to a consistent noise source such as an A/C unit).

Set thresholds are based on outdoor environmental factors and standards and are consistent with the recommendation of the consultant and desires of the community. Maximum thresholds are controlled by background noise. The ordinance was written this way to address the many concerns of residents in the city. Residents were worried that setting a maximum alone would encourage more noise in quieter areas of the city. The way it is written allows the quiet areas to stay reasonably quiet and uses the background noise level to control the maximum. This ordinance was very much resident driven and reflects their desires.

Related to the inquiry of whether current measurement procedures could be taken indoors in certain circumstances, we believe the following issues should be carefully considered:

- Different measurement methods for commercial entities based on who complained (residential vs. commercial)
- Variables difficult to take into account such as the type and quality of construction of the building where measurements were conducted which is beyond the control of all parties involved
- Determining where in the building the measurement should take place as it would be nearly impossible to standardize this process
- Whether it might present a legal/consistency issue, as methods would vary based on property type and complainant and would be inconsistent with established procedures and standards used nationwide.

Taking outdoor measurements removes these variables and provides even footing for all parties. Therefore, our recommendation is to retain the current procedural method of measurement and instead, consider other policy changes that may allow for more flexibility within certain districts/areas of the city.