CITY COUNCIL WORKSHOP

Sound Study & Outdoor Entertainment Licensing

February 16, 2022
5:00 PM

ZOOM INFORMATION:

This meeting will take place remotely using Zoom.

This meeting will be held remotely pursuant to the Remote Meeting Policy adopted by the Portland City Council and as authorized under 1 M.R.S. 403-B because of the existence of an emergency or urgent issue that requires the committee to meet by remote methods. Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend live, a recording will be available in the Agenda Center following the meeting.

For public comment, you will need to use the "raise your hand" feature. To raise your hand via the telephone, please hit *9. You will be unmuted by the host when it is time for public comment.

Please click the link below to join the webinar:
https://portlandmaine-gov.zoom.us/j/87662950054?pwd=b3k3Wlc0Q09VNzNWRHo3WE12NGkvZz09
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AGENDA ITEMS:

Staff Presentation

Council Q&A

ADJOURNMENT:

CITY OF PORTLAND
Permitting and Inspections Department

Memorandum

To: Mayor Snyder and Members of the Portland City Council

cc: Danielle P. West, Interim City Manager

From: Jessica B. Hanscombe, Director of Permitting and Inspections

Date: February 10, 2022

RE: Sound Study and Entertainment Licenses

Background Information

In 2017, the City of Portland originally contracted with Acentech to conduct a city-wide sound study. That study resulted in Chapter 4 (Entertainment Licenses) being amended. Highlights of the amendments that were adopted in 2019 include:

- Creating new license classifications for:
  - Indoor Entertainment
  - Outdoor Entertainment
  - Combination Entertainment;
- Requiring Sound Mitigation for:
  - Any New license
  - First Renewals for Outdoor and Combination Entertainment Licenses;
- Lowering the decibel limit from 92 dba to 85 dba;
- Adding a C weighting to the sound readings of 95 dbc; and
- Limiting Outdoor Entertainment Hours to:
  - Sunday thru Thursday 8am-12am
  - Friday thru Saturday 8am-1am.

In August 2021, the City again contracted with Acentech to measure levels of sound in the Bayside neighborhood. The sound was measured in specific locations from August, 2021 thru December, 2021. City staff worked with Acentech to choose the locations based on calls made to dispatch with sound complaints. The 5 locations were as follows:

- 60 Parris Street
- 65 Cove Street
- 179 Sheridan Street
- Fitzpatrick Stadium
- 90 Anderson Street

More specific information about these locations are located on page 5-7 of the Acentech Report.

The Report has two maps that show the average decibel levels obtained during the 2021 study. Page E-1 of the report shows the locations of the meters with the average sound level, and page E-2 combines the 2017 and 2021 average sound levels for all locations that were measured during both studies. I have attached these maps as separate documents to this memo.

Staff received a copy of the sound study and ultimately met with the company to review it in detail in January 2022. Overall, Acentech concluded that the sound levels in the Bayside neighborhood (at the locations monitored) were within the City's designated sound limits provided in the City Code. With that said, they also offered the following options to attempt to address some of the sound related concerns in the neighborhood:

- Requiring Sound Mitigation Plans (Currently required in 4-52e);
- Requiring businesses to have Sound Meters onsite; and
- Requiring businesses to have a sound limiter.

Available Options for the City Council to Address Bayside Sound Concerns

(1) First, the City Council already has the ability to place conditions on any entertainment license. Pursuant to Sec. 4-55 (a) of the City Code, the Council can grant a license "with a condition or conditions as necessary to protect the public health, safety and welfare." Consequently, conditions could be placed on an entertainment license that adjusts the decibel level, limits the hours and/or limits the entertainment to indoor only for the licensee.

(2) Next, the City Council could amend the ordinance in various ways to address the sound concerns. One potential amendment would be to lower the decibel levels (4-57a) and/or shorten the hours of entertainment for both or either indoor and outdoor entertainment (4-57c). This change would impact entertainment licenses for the entire city.

Another potential amendment to the ordinance would be to require that businesses have Sound Meters onsite and/or a Sound limiter. Section 4-52e would need to be amended to include those.

Lastly, the City Council could amend section 4-57.1., Sound Oversight Committee, in order to strengthen their authority once a sound issue is identified. Such strengthening amendments could include allowing referrals from City Staff or requiring a licensee to appear before the board if there are

a certain number of distinct complaints in a set period of time. Currently the Committee only meets with licensee when it's referred from City Council or the Nightlife Oversight Committee.

(3) Finally, the City Council could choose to amend the decibel levels by zones or create an overlay zone to limit the number of entertainment licenses in the Bayside neighborhood. Both of these options would require amendments to be drafted to go before the Planning Board. Because they are both a Land Use ordinance amendment, the Planning Board has jurisdiction. The proposed changes would then go from the Planning Board to the City Council for final review and approval.

Attachments:

Chapter 4 Amended Version 2019;
Minutes from Sound Oversight Meeting;
Sound Meter Location Memo;
Acentech Bayside Neighborhood Sound Monitoring Document;
E-1; and
E-2.

ACENTECH

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February 8, 2022

Andy Downs; Director of Public Assembly Facilities
City of Portland
212 Canco Road
Portland, ME 04103

Subject: Bayside Neighborhood Sound Monitoring
Portland, ME
Acentech Project No. 634824

Dear Andy,

Acentech measured sound levels at 15 locations throughout the greater Portland, Maine community from August 7 to December 12, 2017. These measurements were conducted in connection with an initiative in the City of Portland to document existing sound levels. This sound monitoring was documented in a report submitted to the City on April 30, 2018.

Acentech conducted a sound measurement survey at an additional five locations in Portland's Bayside neighborhood from August 13 to November 1, 2021. These measurements were conducted as a continuation of the above-described initiative to continue to quantify and understand environmental sound in this particular neighborhood. This report presents a summary of the 2021 measurement survey and corresponding analyses, along with selected data from 2017.

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EXECUTIVE SUMMARY

Acentech conducted a sound level survey at five locations throughout the Bayside neighborhood of the City of Portland, Maine from August 13 to November 1, 2021. Throughout this period, Acentech recorded 1-hour and 1-second sound level statistics at each location. This measurement data was used to supplement our previous acoustic measurement study throughout the greater Portland area, conducted in 2017.

Descriptions and details of measurement locations for this study are presented in the *Sound Measurements* section of this report. Sound measurements were conducted at two commercially-zoned locations, two residentially-zoned locations, and at one location zoned as recreation open space. Three locations were located in northeast Bayside, and one was located further to the southwest of the neighborhood. The recreational open space location, namely Fitzpatrick Stadium, is located outside of the neighborhood to the west.

Descriptions of long-term average sound level summary metrics are discussed in the *Acoustics Background and Terminology* section of this report, and analysis and results are further presented in the *Daily Summary Sound Level Metric Analysis* section of this report. Results are compared to land use compatibility and acceptability guidelines, as well as guidance relating to public health and noise as published by the Environmental Protection Agency (EPA).

An analysis of the existing municipal code sound limits are presented in the *City of Portland Noise Ordinance Analysis* section of this report. This section presents a description of the Noise Ordinance, applicable sound limits, and the technical methodology for our analysis. We evaluated that existing sound levels are in excess of specified zoning designation limits at several measurement locations, although the Noise Ordinance presented in the zoning code strictly applies only to two measurement locations part of this study.

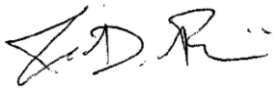
We further analyzed measured sound levels on weekdays and weekends with respect to both the City of Portland Noise Ordinance as well as to each other. Trends in sound level data between weekdays and weekends were similar at each of the measurement sites. Our survey or evaluation does not suggest a need for separate noise ordinances for these different periods of the week.

We have also presented a summary analysis of noise-related complaints received by the City of Portland Police Department in the Bayside neighborhood. Noise-related complaints were filtered and grouped based on their proximity to one or more measurement locations surveyed for this study, and sound levels measured during complaint times were compared to other sound levels based on their time of the week (weekdays or weekends) and their time of the day. This analysis does not constitute a noise ordinance compliance analysis with respect to any particular sound source or group of sound sources, but is intended to provide reference information on times of day and sound levels which may correlate to prevalence of noise-related complaints.

Finally, we have presented a summary of current Sound Mitigation Plan requirements as part of the City of Portland entertainment licensing process, and preliminary recommendations for potential technical inclusions or modifications to those requirements for City evaluation of applications.

* * * * *

Sincerely,



Jack Briskie
Senior Consultant

ACOUSTICS BACKGROUND AND TERMINOLOGY

This section describes background technical information on sound and acoustics, and describes some of the sound metrics, units, and quantities used in this analysis and report.

Fundamentals of acoustics

When pressure waves travel through air (or another medium), variations or oscillations in air pressure are perceived by the ear as sound. Sound pressure level (denoted L_p or "SPL") is quantified in units of decibels as a logarithmic ratio with a reference of 20 micro-pascals (dB re: 20µPa, often expressed in shorthand as "dB"). This sound pressure level relates to the amplitude of sound which the human ear perceives. In airborne sound, the amplitude of a sound pressure level colloquially describes how "loud" a sound is (different than the quantification of the acoustic parameter "loudness", which is not discussed in this report). "Noise" is defined subjectively and simply as sound that is unwanted or unpleasant.

Sound is described not only by the amplitude of vibration of the air, but also by the speed of the oscillation, described as the frequency of the signal. Frequency is described as the number of oscillations of the signal per second, quantified in units of Hertz (denoted Hz). The range of human hearing generally spans 20 Hz to 20,000 Hz, encompassing low-frequency sound (often described as "bass", "rumble", or "boom" sounds), to high-frequency sound (often described as "treble", "whine", or "whistle" sounds). Often, the frequency of sound is expressed in "octave bands" or "one-third octave bands", which represent groups or ranges of frequencies.

Sound in the air fluctuates rapidly, and the amplitudes of a sound wave are highly variable for each of its frequency components, representing a complex signal. For simplification, the amplitude of a sound is often expressed as an "overall" or "broadband" sound level, representing the weighted sum of a signal's frequency components. In this report, sound levels are presented in units of A-weighted decibels (denoted dBA), which was developed as a single-number metric corresponding to the response of the human ear to relatively quiet sounds. The A-weighted decibel has been correlated to human perception and response to sound and its use is widespread for the analysis of environmental sound and noise, as well as in other applications of acoustics. Because the A-weighted decibel simplifies the frequency domain of a signal into a single quantity, sounds that are perceptually very different can have identical A-weighted sound levels, and the converse of this statement is also true.

Environmental sound terminology

Analysis of environmental sound using the A-weighted decibel simplifies the frequency domain of a sound signal into a single number, but the amplitude of sound still fluctuates rapidly in time. Therefore, for environmental sound analysis, measured sound is often also analyzed statistically in the time domain into single-number metrics.

The most commonly used metric for environmental sound analysis is the equivalent sound level (denoted L_{eq}). Often expressed in units of A-weighted decibels (dBA), the equivalent sound level represents the single number sound level which, continuous over a given duration, would have a total energy equal to the fluctuating sound signal. In short, the L_{eq} represents the average energy of sound over a given time duration, such as one minute or one hour.

Over longer durations, L_{eq} is often summarized into "daily" summary sound level metrics, which are representative of sound levels over longer periods or entire days. These sound metrics, such as the Day-Night Sound Level (denoted L_{DN}), are presented and described in more detail in the *Daily summary sound level metrics* section of this report.

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"Sound level percentiles" (sometimes referred to as "sound level statistics" or "statistical sound levels") were additionally measured for this study. Metrics presented in this report include the L_1 sound level, which denotes the sound level exceeded for 1% of the time for a given duration (mathematically, the 99th percentile of sound energy). This metric excludes very short-duration transient events, which can be outliers to the data set, but is often representative of the "loudest" sounds in an environment, such as a large truck pass-by. Another metric presented in this report is the L_{90} sound level, which denotes the sound level exceeded for 90% of the time for a given duration (mathematically, the 10th percentile of sound energy), which is often representative of the steady-state "background" or "ambient" sound level in an environment.

On a short-term basis, the amplitude range of human hearing ranges from 0 dBA (the threshold of hearing) to 140 dBA (often considered the threshold of pain due to sound pressure) and greater. For contextual reference, typical indoor and outdoor sounds are presented in Figure 1 below. Sound levels in the figure refer to short-term sound levels, and do not necessarily correspond to equivalent sound levels or any other metric over a specific duration.

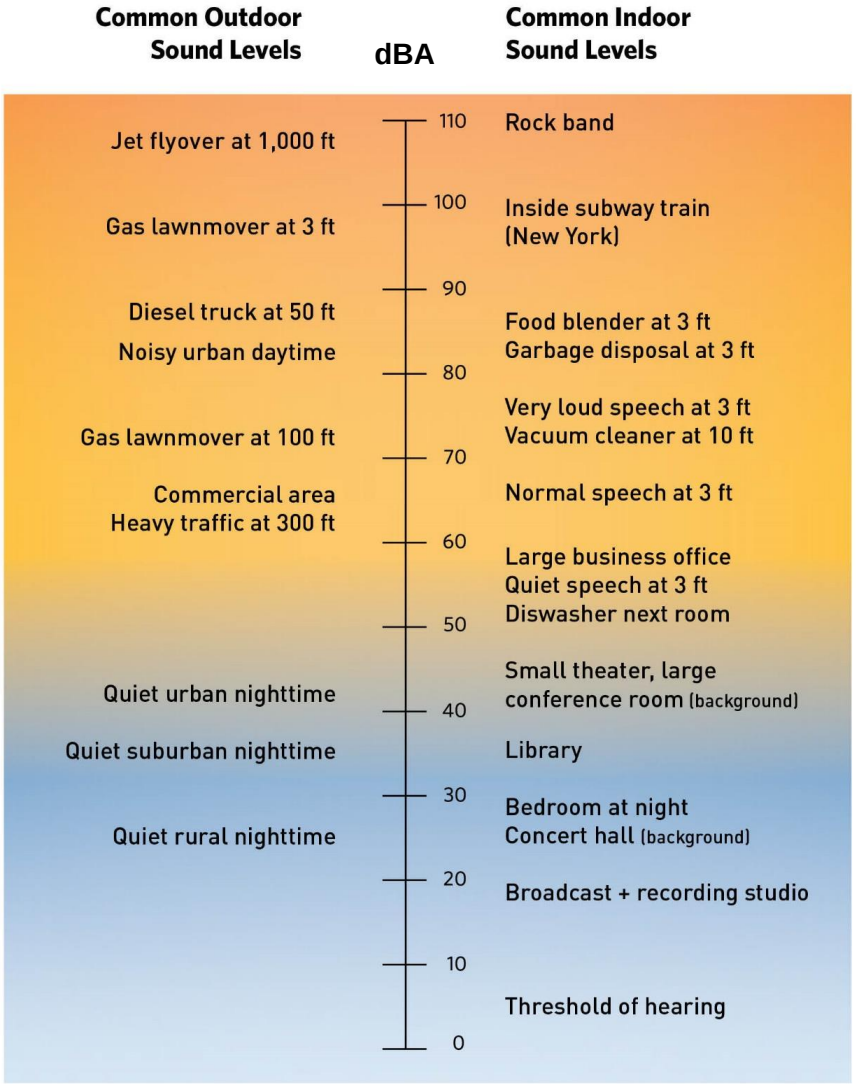

Figure 1. Typical reference sound levels

SOUND MEASUREMENTS

This section describes our acoustic measurement locations, instrumentation, and methodology. The description of measurement locations includes municipal zoning information as well as subjectively observed information with respect to environmental sound at each location.

Description of measurement locations

The measurement survey for this project began on August 13, 2021, and ended on November 1, 2021. Throughout this period, sound was measured on a relatively continuous basis at five locations, denoted Measurement Locations A through E. Measurement locations were chosen based on accessibility, location within the City, and proximity to environmental sound sources (such as traffic and mechanical equipment), and were evaluated collaboratively by Acentech, the City of Portland, and the Portland Police Department.

Measurement locations and corresponding descriptions are presented in Table 1 below and are shown in Figure 2 on the following page. Additional information including aerial photographs showing measurement locations (of the previous 2017 study and the current 2021 study) and installation photographs of measurement locations are presented as *Appendix A* to this report.

Table 1. Sound measurement locations

Measurement location	Latitude	Longitude	Elevation (ft) [a]	Description	City of Portland Zoning Designation [b]
A	43.66785º	-70.25193º	8	179 Sheridan Street, microphone affixed to top of the southwest corner of the chain link fence in the parking lot area south of the building at this address.	R6
B	43.66877º	-70.25604º	26	65 Cove Street, microphone on tripod on eastern corner of existing building structure rooftop.	I-Lb
C	43.66712º	-70.25395º	30	18 Fox Street, microphone affixed to top of railing at northwest corner of 3rd story deck.	R6
D	43.65886º	-70.26502º	8	60 Parris Street, microphone affixed to top of railing at northeast corner of 1st story deck.	B-2b
E	43.65764º	-70.27603º	11	Portland Fitzpatrick Stadium, microphone affixed to bottom of northwest-facing window frame at northeast area of the central block of announcer/scorekeeper booths. Elevation refers to approximate microphone elevation above the elevation of the parking lot to the southeast.	ROS

[a] Approximate elevation of the measurement microphone above grade elevation at that location

[b] Zoning Designation of each Measurement location property, per the City of Portland Code of Ordinances.

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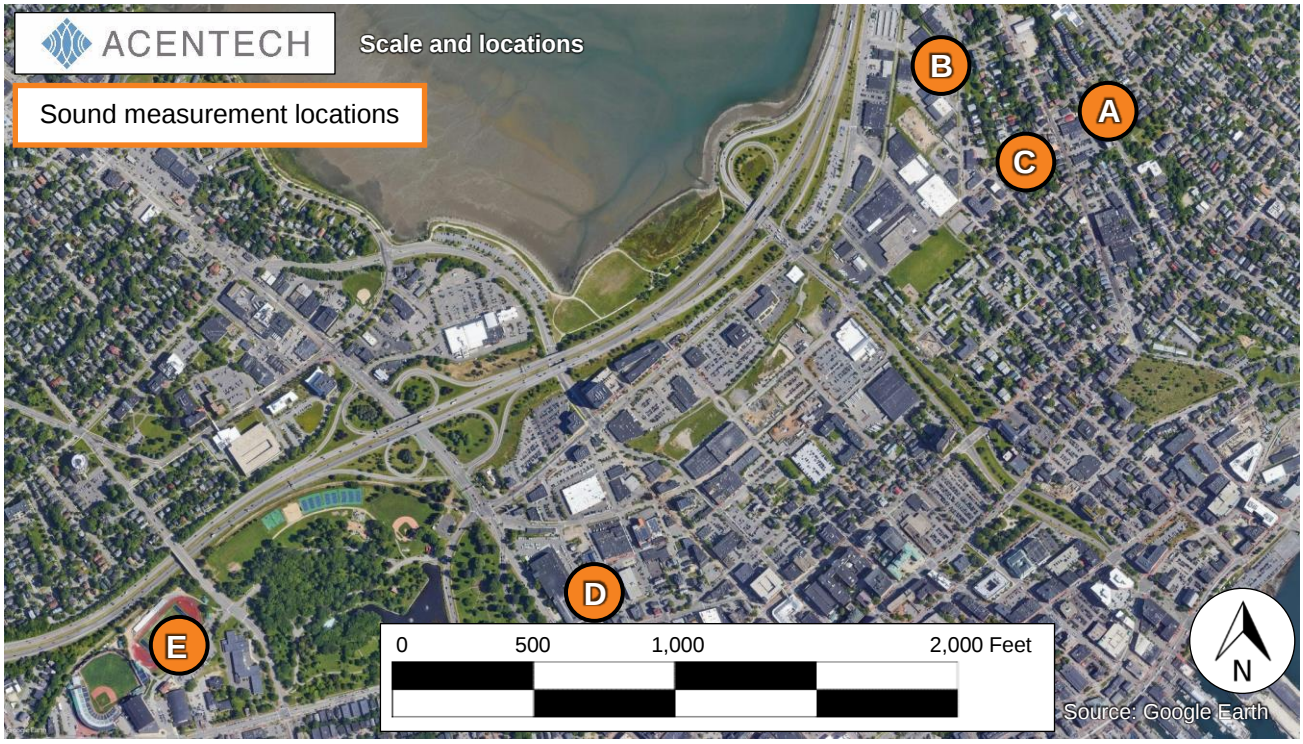

Figure 2. Sound measurement locations

Measurement location A is located on the property of 179 Sheridan Street atop an existing chain link fence at an elevation of approximately 8 feet above grade elevation. This measurement location overlooks the lower elevation area to the southwest. Observed sources of sound (in no particular order) include traffic on Washington Street, local Heating, Ventilation, and Air Conditioning (HVAC) equipment, and intermittent local traffic on Sheridan Street and Walnut Street. 179 Sheridan Street has the zoning designation R6 (Residential) in the City of Portland, and is on the border of a B-2b (Community Business) zone to the southwest. Measurement Location A was installed on August 13, 2021 and measured until October 22, 2021. Sound was not measured during the period of September 26 to September 30, 2021, due to equipment battery limitations.

Measurement location B is located on the property of 65 Cove Street on the easternmost corner of the existing building rooftop, at a height of approximately 26 feet above grade elevation. Observed sources of sound (in no particular order) include traffic on Route 1, intermittent local traffic on Anderson Street and Washington Street, and local HVAC equipment. 65 Cove Street has the zoning designation I-Lb (Industrial – Low Impact) in the City of Portland. Measurement location B was installed on August 13, 2021 and measured until October 28, 2021. Sound was not measured during the period of September 28 to October 5, 2021, due to equipment battery limitations.

Measurement location C is located on the property of 18 Fox Street at the northwest corner of a residential deck at a height of approximately 30 feet above grade elevation. Observed sources of sound (in no particular order) include construction on Winthrop Street and on Fox Street, as well as in neighboring parcels or lots, and automobile traffic on Washington Street. 18 Fox Street has the zoning designation R6 (Residential) in the City of Portland, and is nearby a B-2b (Community Business) zone to the northeast. Measurement location C was installed on September 1, 2021 and measured until October 29, 2021. Sound was not measured during the period of September 28 to October 5, 2021, due to equipment battery limitations.

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Measurement location D is located on the property of 60 Parris Street on the northeast corner of a residential deck at a height of approximately 8 feet above grade elevation. Observed sources of sound (in no particular order) include traffic on Kennebec Street and Route 1, intermittent local traffic on Parris Street, and local HVAC equipment. 60 Parris Street has the zoning designation B-2b (Community Business) in the City of Portland. Measurement location D was installed on August 13, 2021, and measured until October 30, 2021. Sound was not measured during the period of September 4 to September 30, 2021, due to equipment battery limitations.

Measurement location E is located on the property of the Portland Fitzpatrick Stadium at the exterior of a northwestern-facing window of the existing box office structure with an elevation of approximately 11 feet above the grade elevation of the parking lot to the south. Observed sources of sound (in no particular order) include traffic on I-295/Route 1 and local community sound from within the stadium. Fitzpatrick Stadium has the zoning designation ROS (Recreation Open Space) in the City of Portland, and is nearby a B-2 (Community Business) zone to the southwest. Measurement location E was installed on August 13, 2021, and measured until November 1, 2021. It was possible to measure continuous sound levels at this location for the entirety of the survey period, due to provided AC power in the stadium box office.

Acentech installed measurement equipment at an additional sixth measurement location on the rooftop of 90 Anderson Street on August 13, 2021. However, this equipment was disabled due to vandalism prior to August 16, 2021, was removed, and was not reinstalled as part of this study.

Instrumentation and measurement parameters

Sound measurements were conducted at Locations A through D with Rion NL-52 sound level meters which conform to International Electrotechnical Commission (IEC) 61672:2013 for Class 1 precision sound level meters. Each measurement microphone was fitted with a windscreen for all measurements. All equipment was field-calibrated before, during (at selected maintenance periods), and after measurements using a Brüel & Kjær Type 4231 acoustic calibrator.

Each NL-52 was configured to measure a number of overall A-weighted sound level and 1/3-octave band sound level statistics (including L_{eq}, L_1, and L_{90}) on a one-hour basis. Additionally, each NL-52 was configured to measure overall A-weighted and 1/3-octave band equivalent sound levels (L_{eq}) on a 1-second basis.

Sound measurements were conducted at Location E with a proprietary Acentech Remote Monitoring System and associated measurement microphone and preamplifier. These systems use measurement microphones which are laboratory-calibrated on an annual basis. The measurement microphone was fitted with a windscreen for all measurements. The equipment was field-calibrated before, during (at selected maintenance periods), and after measurements using a Brüel & Kjær Type 4231 acoustic calibrator.

The measurement system at Location E was configured to measure a number of overall A-weighted sound level and 1/3-octave band sound level statistics (including L_{eq}, L_1, and L_{90}) on a 1-hour basis. Additionally, it was configured to measure overall A-weighted equivalent sound levels (L_{eq}) on a 1-second basis.

The data were analyzed in several ways for this study as described in the following sections of this report. One-hour measured time series data at each measurement site, as well as box plots[1] showing the sample distribution of one-hour A-weighted L_{eq} sound levels by time of day, are presented in *Appendix B* of this report.

[1] Reference information on the interpretation of box plots (link)

DAILY SUMMARY SOUND LEVEL METRIC ANALYSIS

This section describes our analysis of long-term summary sound level metrics, comparison to our previous 2017 study, and land-use compatibility guidelines with respect to sound. The following sections provide descriptions and background information of metrics used, the calculation methodology of these metrics, and a summary of measurement results.

Description of metrics and calculation methodology

The first sound level summary metric analyzed for this study is the Daytime Equivalent Sound Level, denoted L_{Day}. This metric is calculated as the energy-average of each of the 1-hour A-weighted equivalent sound levels between the hours of 7:00am and 10:00pm. This metric is used to express, for each day, the single number equivalent of all of the sound energy measured throughout the day at a measurement location. Like the underlying data, L_{Day} has units of A-weighted decibels (dBA).

The second sound level summary metric analyzed for this study is the complementary Nighttime Equivalent Sound Level, denoted L_{Night}. This metric is calculated as the energy-average of each of the 1-hour A-weighted equivalent sound levels between the hours of 10:00pm and 7:00am. This metric is used to express, for each night, the single number equivalent of all of the sound energy measured throughout the night at a measurement location. For this study, we have interpreted L_{Night} as the continuous period from 10:00pm to 7:00am across the date boundary at midnight, as opposed to considering L_{Night} for a given day as inclusive of the hours from 12:00am to 7:00am and 10:00pm to 12:00am on the same date. Like the underlying data, L_{Night} also has units of A-weighted decibels (dBA).

The third sound level summary metric analyzed for this study is the Day-Night Sound Level, denoted L_{DN} (often alternately denoted “DNL”). This metric encapsulates sound measured throughout a 24-hour period, where sound measured at night receives a +10 decibel “penalty” related to increased potential annoyance from sound during night hours. This metric is used throughout the environmental acoustics industry as a summary descriptor, and is used for planning and permitting purposes by agencies related to the Federal Aviation Administration (FAA), the Federal Transit Administration (FTA), and the United States Department of Housing and Urban Development (HUD).

To calculate L_{DN}, both L_{Day} and L_{Night} sound metrics were calculated for each day of the measurement survey at each location. Both of these summary metrics are used in Equation 1 (presented below) for the calculation of L_{DN}, wherein each daytime 1-hour A-weighted equivalent sound level and each nighttime 1-hour A-weighted equivalent sound level (with a 10 decibel penalty) are energy-averaged over a 24-hour period. For consistency with the calculation method of L_{Night} described in the previous paragraph, each L_{DN} in this report was calculated for a continuous period between 7:00am and 7:00am on the following day.

$$L_{DN} = 10 \times \log_{10}\left[\left(\left(15 \times 10^{\left[\frac{\sum_{i=1}^{15} L_{Day,i}/15}{10}\right]}\right) + \left(9 \times 10^{\left[\frac{\left(\sum_{i=1}^{9} (L_{Night,i}+10)/9\right)}{10}\right]}\right)\right)\Big/ 24\right]$$

Equation 1. Day-Night Sound Level calculation

Daily summary sound level metric results

Each of the three long-term sound level summary metrics described in the previous section of this report were calculated from measured 1-hour A-weighted equivalent sound levels for each day of the measurement survey at each location. However, some 24-hour periods had lapses in collected data due to instrumentation maintenance, field calibration checks, or equipment battery limitations. Therefore, only L_{Day} samples calculated from 15 continuous hours of data (7:00am to 10:00pm) were considered for this analysis. Similarly, only L_{Night} samples calculated from 9 continuous hours of data (10:00pm to 7:00am) and L_{DN} samples calculated from 24 continuous hours (7:00am to 7:00am on the following day) were considered for this analysis.

A summary of the sample mean (average) of each long-term sound level summary metric at each measurement location across the entire measurement period is shown in Table 2 below. Further summary statistics of results, as well as histograms showing the sample distribution of each summary metric at each location, are presented in *Appendix C* attached to this report.

Table 2. Summary of daily summary sound level metrics

	Sample mean of measured sound level metric [a]		
Measurement location	L_{Day} [b]	L_{Night} [c]	L_{DN} [d]
A	56	50	58
B	60	54	62
C	62	54	63
D	58	58	62
E	68	60	70

[a] Presented sample means were computed arithmetically from calculated sound metric values in decibels for the set of samples at each measurement location.

[b] Daytime Equivalent Sound Level, denoted L_{Day}, is calculated as the logarithmic sum of measured 1-hour A-weighted equivalent sound levels measured between 07:00 (inclusive) and 22:00 (exclusive). L_{Day} is expressed in units of dBA.

[c] Nighttime Equivalent Sound Level, denoted L_{Night}, is calculated as the logarithmic sum of measured 1-hour A-weighted equivalent sound levels measured between 22:00 (inclusive) and 07:00 (exclusive). Due to the date change at midnight, L_{Night} was calculated for each continuous night, not for sound levels measured in the early morning and at night on the same calendar day. L_{Night} is expressed in units of dBA.

[d] Day-Night Sound Level, denoted L_{DN}, is calculated as the logarithmic average of daytime and nighttime 1-hour A-weighted equivalent sound levels, where nighttime values are increased by 10. In this report, L_{DN} values were calculated for continuous samples from 07:00 (inclusive) to 07:00 on the following day (exclusive) over a continuous nighttime period. L_{DN} is expressed in units of dBA.

The sample mean (average) of Day-Night Sound Levels at Measurement locations A through D were largely similar, ranging from L_{DN} 58 to 63. This value is fairly typical of residential or commercial property in an urban environment.

Both the range and sample mean of Day-Night Sound Levels at Measurement location E were greater than those at Measurement locations A through D, largely due to the proximity and line-of-sight to the highway at location E. Measurement location E is not a residentially-developed property or area, and sound levels are likely acceptable for recreational use in this area. Furthermore, sound levels in the stadium itself (at a lower elevation) are likely lower in amplitude than those measured at Measurement location E.

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At the majority of measurement locations, the histograms of L_{Day}, L_{Night}, and L_{DN} (shown in *Appendix C* attached to this report) are largely grouped around their sample means. An interpretation of this data analysis is that if one were to measure the sound level on any given day, they would be relatively likely to measure the value presented as the sample mean. Other values, further from the mean, are less likely to be observed.

However, this sample distribution was not exhibited at Measurement location D (shown in Figure C-4 in *Appendix C*). This distribution is more "spread" (visualized as a "flatter" shape), for which an interpretation is that the summary sound level statistic on any particular day is more randomized, and less centralized around the average. Measurement of summary sound level statistics are likely to be less "repeatable" from day-to-day. The cause of this difference in sample distribution is unknown, but may be due to variances in traffic patterns, localized meteorology, or other local activity.

Comparison to land use compatibility guidelines

The United States Department of Housing and Urban Development (HUD) publishes noise standards which can be found in 24 CFR Part 51, Subpart B. Although these standards only strictly apply to development projects funded through HUD, these regulations provide reference guidance for interpretation of acceptable L_{DN} in urban areas[2].

HUD's recommended Site Accessibility Standards list zones as "acceptable" with L_{DN} under 65, "normally unacceptable" with L_{DN} between 65 and 75, and "unacceptable" with L_{DN} over 75. Based on this guideline, Measurement locations A through D would be designated "acceptable" and Measurement location E (which has a clear view of the highway and is not a residential area) would be designated "normally unacceptable".

This analysis does not strictly apply to all residential areas, and is presented for reference information only and comparison to our 2017 study. A map showing the 2021 Bayside study area and a combined map showing the 2017 and 2021 study areas, both shown with the sample mean of L_{DN} values and corresponding HUD site acceptability designation, are presented in Figures E-1 and E-2 in *Appendix E* attached to this report.

[2] HUD Exchange site on Noise Abatement and Control (link)

CITY OF PORTLAND NOISE ORDINANCE ANALYSIS

This section describes our analysis of sound levels with respect to the City of Portland Noise Ordinance. This report section is intended to provide reference material for evaluation of the Noise Ordinance itself with respect to existing sound in the City of Portland. This section does not constitute a Noise Ordinance compliance evaluation for any particular sound source or group of sound sources.

City of Portland Entertainment Noise Ordinance

The City of Portland, Maine Code of Ordinances, Chapter 4, *Amusements*, revised June 7, 2012[3], specifies numeric sound level limits for "entertainment" areas or licenses under Article 3, *Entertainment*. Division 3, Section 4.57, *Conditions; sound and noise limitation,* specifies sound level limits of 85 dBA and 95 dBC (both limits apply to all sites), as measured at eight feet from the means of egress or any outer wall of an indoor entertainment venue or from the nearest property line of any outdoor venue.

Any particular source or group of sources were not assessed for compliance with this noise ordinance for this study. This noise ordinance specifies sound level limits at areas nearby to entertainment venues, with the intention of limiting sound emissions at the source. However, as this study was conducted at sound measurement locations on receptor properties, rather than near egresses or on property lines of specific sound sources, this ordinance was not assessed in particular for this study.

City of Portland Zoning and Land Use Noise Ordinance

The City of Portland, Maine Code of Ordinances, Chapter 14, *Land Use Code*, revised July 19, 2021[4], further specifies numeric sound level limits in various zoning designations of the City. Zoning designations for all parcels within Portland can be viewed via the City of Portland Zoning Map Viewer[5] Geographic Information System (GIS) website.

Chapter 14, Section 6.8.9, *Noise*, of the Code of Ordinances presents sound limits by time of day for various zoning designations in the City of Portland. Differences between sound limits in different zones include both the allowable sound level and the time ranges to which those limits apply. Noise ordinance sound limits are presented in Table 6-G, *Noise Standards*, of the Code of Ordinances, and sound limits for selected representative zoning designations are presented in Table 3 below.

Table 3. City of Portland Noise Ordinance limits for representative zoning designations

Zoning designation	Zone description	Start time, inclusive (hh:mm)	Stop time, exclusive (hh:mm)	1-minute A-weighted equivalent sound level limit, L_{eq} (dBA)
B-2	Community Business	07:00	21:00	60
		21:00	07:00	55
B-2b	Community Business	07:00	21:00	60
		21:00	07:00	55
I-Lb	Industrial – Low Impact	07:00	22:00	60
		22:00	07:00	50

(this section continued on the following page)

[3] City of Portland Municipal Code, Chapter 9, *Amusements* (link)
[4] City of Portland Municipal Code, Chapter 14, *Land Use Code* (link)
[5] City of Portland Zoning Map Viewer (link)

Section 6.8.9, *Noise*, subsection D, specifies:

> "Measurements shall be made… at a height of at least four feet above the ground surface. In measuring sound levels under this subsection, sounds with a continuous duration of 60 seconds or more shall be measured on the basis of the energy average sound level over a period of 60 seconds (LEQ1)".

This analysis was not conducted with respect to any particular source of sound, and specific sources of sound (other than those observed while installing and servicing sound level meters) at each measurement location are unknown. We have assumed that all present sources in the environment can be designated as having continuous duration of 60 seconds or more as defined in the Noise Ordinance. Therefore, we have conducted this analysis with respect to 1-minute A-weighted equivalent sound levels (denoted L_{eq}).

Section 6.8.9, *Noise*, subsection B, specifies:

> "For any noise generated by use in the B-5/B-5b, B-6, B-7, I-L/I-Lb, I-M/I-Mb, and I-H zones, sound shall be measured at or within the boundaries of any residential zone. For any noise generated by a use in the B-1/B-1b, B-2/B-2b/B-2c, I-B, R-P, O-P, A-B, and IS-FBC zones, sound shall be measured at lot boundaries."

This analysis was not conducted with respect to any particular source of sound. Therefore, we have conducted an analysis of sound levels at each Measurement location with sound limits of the nearest zoning designation with a numeric sound limit. Measurement locations B and D are located within zoning designations with limits, but may not be located on property line boundaries. Measurement locations A, C, and E are not located within zoning designations with limits, and we have assumed those measurement locations as corresponding to the nearest zoning designation with a numeric sound level limit (B-2b, B-2b, and B-2, respectively).

Regardless of whether a measurement location as part of this study is located within a zoning designation with a numeric sound level limit, this analysis does not constitute a Noise Ordinance compliance evaluation of any particular source or group of sources.

Calculation methodology

Sound levels were measured directly by the sound level meter for this study in 1-hour and 1-second time domains. 1-minute sound level statistics were calculated from 1-second equivalent sound level data at each location for each minute of this study. 1-minute sound levels were calculated as the energy average of each 1-second sample within that minute using Equation 2. This process is similar in concept to the calculation of L_{Day} or L_{Night} for corresponding daytime and nighttime periods, discussed in the *Daily Summary Sound Level Metric Analysis* section of this report.

$$\mathrm{L_{eq,1-min}} = 10 \times \log_{10}\left[\left(\sum_{i=1}^{60} 10^{\left[\frac{L_{eq,1-sec,i}}{10}\right]}\right)\Big/ 60\right]$$

Equation 2. 1-Minute equivalent sound level calculation

Every 1-minute A-weighted equivalent sound level at each measurement location was compared to the corresponding noise ordinance limit at the time that it was measured, in the zoning designation in which the measurement location is located. Additionally, sound levels were aggregated into weekday (Monday at 7:00am to Friday at 5:00pm) and weekend (Friday at 5:00pm to Monday at 7:00am) periods for comparison and reference.

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A summary of measured 1-minute A-weighted equivalent sound level ranges by time of day, and visual comparisons to Noise Ordinance limits are shown in *Appendix D* attached to this report. Rather than visualizing overall maximum and minimum sound levels, the 99th and 1st percentiles of 1-minute A-weighted equivalent sound levels (calculated arithmetically) are presented. Due to the relatively large sample size of these measurements and the relatively short-duration of 1-minute sound level statistics, maximum and minimum levels can be less informative to analyze due to outlier ("uncommonly loud" or "uncommonly quiet") data.

Portland Zoning and Land Use Noise Ordinance comparison results

As a reference analysis with respect to sound level limits in the City of Portland Noise Ordinance, each 1-minute A-weighted equivalent sound level was compared to its corresponding sound limit by zoning designation and time of day. Analyzed sound levels were additionally aggregated by weekday and weekend for comparison.

At each measurement site, for each weekday or weekend period and by time of day, the total number of measured sound levels in excess of the Noise Ordinance limit was divided by the total number of measured sound level samples in that period. This calculation yielded the proportion of measured samples in excess of sound level limits for each period, not relating to any particular sound source or group of sources. The results of this calculation are presented in Table 4.

Table 4. Summary of 1-second equivalent sound levels with respect to Portland Noise Ordinance limits

		Percentage of measured samples in excess of Portland Noise Ordinance limit [b]			
		Weekday [c]		Weekend [c]	
Measurement location	Representative Portland zoning designation [a]	Day [d]	Night [d]	Day [d]	Night [d]
A	B-2b	4 %	9 %	5 %	4 %
B	I-Lb	38 %	78 %	28 %	60 %
C	B-2b	48 %	29 %	27 %	23 %
D	B-2b	14 %	27 %	11 %	19 %
E	B-2	99 %	81 %	97 %	74 %

[a] Representative zoning designations may not refer to the actual zoning of the measurement location or property, if located near a zoning designation boundary. In the case that the measurement location is within a residential zone, representative zoning designation refers to the zoning designation of the nearest property line.

[b] Each measured 1-minute equivalent sound level was compared to the decibel limit specified in the City of Portland Noise Ordinance for the corresponding time period. The value presented in this table is the number of samples exceeding the corresponding limit for that time period divided by the total number of samples in that time period. 1-minute equivalent sound levels were only considered for this calculation if their sampling contained at least 59 seconds of sampling time.

[c] Calculations of percentages of measured samples during the weekday are presented in this table as those measured during all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Calculations of measured samples during the weekend are presented as those measured during the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[d] Day is defined for this analysis as corresponding to the City of Portland Noise Ordinance. For zoning designations B-2 and B-2b, day is the hours between 07:00 (inclusive) and 21:00 (exclusive), and night is the complementary period from 21:00 to 07:00. For zoning designation I-Lb, day is the hours between 07:00 (inclusive) and 22:00 (exclusive), and night is the complementary period from 22:00 to 07:00. For calculation of proportion in this analysis, the data set was filtered according to weekday/weekend first, prior to applying this filter for day/night designation.

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There was no measurement site at which all existing 1-minute A-weighted equivalent sound levels were either below or above the daytime or nighttime Noise Ordinance limits for either weekday or weekend periods.

At Measurement location B (65 Cove Street), which is located within an I-Lb zone designation, sound levels exceeded the nighttime Noise Ordinance limit for 78% of measured weeknight samples and 60% of measured weekend samples. This relatively high rate of exceedance in the existing environment may make it difficult to regulate new sources with respect to the existing Noise Ordinance limit at night. Weekday and weekend exceedance rates of 38% and 28% during the daytime hours are also relatively high for Code compliance evaluation and may present similar difficulty.

At Measurement location E (Fitzpatrick Stadium, located in ROS zone designation), sound levels during both daytime and nighttime on weekdays and weekends exceeded the Noise Ordinance limits for zoning designation B-2 in at least 74% of measured samples for any period analyzed. This is very likely due to the clear line-of-sight to the I-295/Route 1 highway, as well as due to local activity within the stadium. Although the ROS zoning designation is not regulated strictly in the municipal code, this evaluation confirms that this Noise Ordinance will not apply well to receptor locations near highways, which are likely to have existing sound levels in excess of zoning designation limits.

Although Measurement location B presented the greatest rates of exceedance (excluding Measurement location E), existing sound at Measurement locations C and D also exceeded Noise Ordinance limits at least 10% of the time during each measurement period. These values do not relate to the ineffectiveness of the Noise Ordinance or to any issues in the way it is designed or written, but do present useful benchmarks for compliance evaluation in different sound environments within the City.

Furthermore, we did not evaluate any strong differences in trends between 1-minute A-weighted equivalent sound levels measured during weekday or weekend periods as defined in this report. At each of the measurement sites, the range from the 1st to 99th percentile of data overlapped for the majority of samples between weekdays and weekends.

In general, weekdays had slightly louder daytime sound levels (likely due to commuting and other typical work day traffic and community movement), and weekends exhibited slightly louder sound levels between 6:00pm and 11:00pm. This trend is exhibited effectively in Figure 3 on the following page of this report (data also presented as Figure D-4 in *Appendix D* attached to this report).

The greatest differences between the sample mean (average) of 1-minute A-weighted equivalent sound levels at Measurement location D between weekdays and weekends were in the early morning hours (6:00am to 8:00am), and represented a maximum difference of 5 dBA. In many cases and at other locations, differences between the average weekday and weekend sound level were similar or lesser.

Larger differences between weekday and weekend maximum sound levels during the daytime hours (represented by shaded regions), may be due to loud short-term events that only occur during the week, such as municipal services or road work, for example.

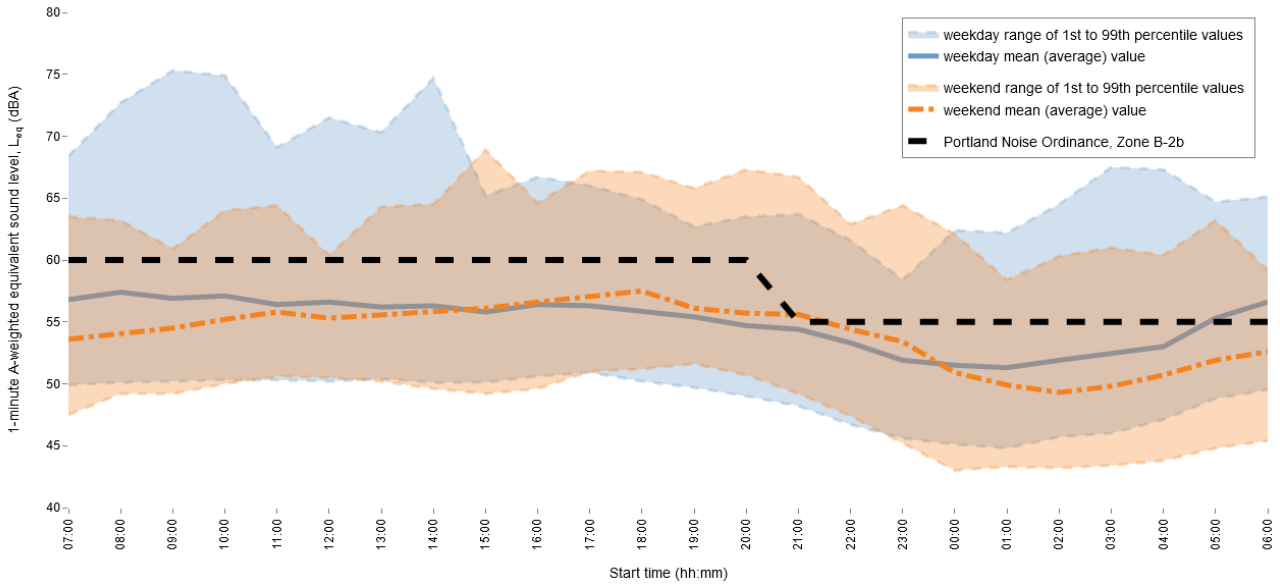

Figure 3. Measurement location D ranges of 1-minute A-weighted equivalent sound levels

Noise-related complaints and comparison to measured data

As a further reference analysis of this data, an analysis was conducted of noise-related complaint data provided to Acentech by the City of Portland Police Department on February 1, 2022. This complaint data included the date and time of complaints, the address of complaints, and was filtered to include only reports related to noise. Any specific sound sources, qualitative reports of sound or noise-related disturbances, or complaint resolutions are all unknown to Acentech.

The provided complaint data was further filtered by Acentech with respect to the address (only reported data within the Bayside neighborhood study area was included) and proximity to one of the five Measurement locations presented in this study. Selected complaints were matched with a representative sound measurement location based on their proximity to the Measurement location. In some cases (noise-related complaints reported at addresses between Measurement locations A and C), individual complaints were matched to two measurement locations.

For each complaint, the measured sound level at the date and time it was received was analyzed. The measured 1-minute A-weighted equivalent sound level at the time the complaint was received was compared to the sample of measurements made at that corresponding period of the week (weekday or weekend, as previously defined in this study) and at that corresponding time of day (the hour of the day during which the 1-minute sound level sample was measured). A summary of this analysis is presented in Table 5 (two parts split across two pages) on the following pages of this report.

Sound levels measured at times when noise-related complaints were received were compared to their respective total sample of measured sound levels. This comparison is presented in terms of the percentile of sound level at that corresponding period. Using this analysis, sound levels measured at noise-related complaint times can be compared numerically to what sound levels might be expected during a typical representation of that period.

The percentile value is calculated as the number of total 1-minute A-weighted equivalent sound level samples less than the subject sound level. Therefore, a percentile value of 100 (the 100th percentile) corresponds to the maximum 1-minute A-weighted equivalent sound level measured during that period, where a value of 0 (the 0th percentile) corresponds to the minimum sound level measured during that period. A percentile value of 50 (the 50th percentile), corresponds to the median sound level sample in the corresponding period.
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Table 5-1. Selected noise-related complaints and summary of sound level analysis

Representative measurement location [a]	Complaint date and time (yyyy-mm-dd hh:mm) [b]	Approximate distance to measurement location (ft) [c]	Measured 1-minute A-weighted equivalent sound level, L_{eq} (dBA) [d]	Week period [e]	Percentile of sound level at corresponding period [f]
A	2021-08-15 18:44	250	63	Weekend	93
	2021-08-15 20:14	250	60	Weekend	97
	2021-08-16 22:29	250	51	Weekday	61
	2021-08-20 21:18	250	56	Weekend	92
	2021-08-29 20:15	250	57	Weekend	92
	2021-09-02 20:45	250	54	Weekday	69
	2021-09-14 21:46	250	50	Weekday	29
	2021-09-16 19:27	250	55	Weekday	73
	2021-09-16 20:31	250	53	Weekday	54
	2021-09-17 20:20	250	54	Weekend	69
	2021-09-20 19:06	200	72	Weekday	100
	2021-09-23 20:18	250	49	Weekday	11
	2021-10-03 18:07	250	64	Weekend	95
	2021-10-10 12:58	250	53	Weekend	60
	2021-10-10 16:21	250	65	Weekend	96
	2021-10-10 17:37	250	58	Weekend	92
	2021-10-10 19:05	250	64	Weekend	95
	2021-10-10 20:01	250	54	Weekend	68
	2021-10-14 21:07	250	54	Weekday	79
B	2021-08-14 00:44	800	54	Weekend	79
	2021-09-04 23:50	200	52	Weekend	38
	2021-09-25 20:07	200	68	Weekend	100
	2021-10-23 23:35	200	62	Weekend	99

[a] Selected complaints were grouped by Acentech to measurement sites based on their proximity to measurement locations relative to other measurement locations.

[b] Complaint days and times that complaints were received by the City of Portland Police Department.

[c] Distances were approximated to the nearest 25-foot interval, and are measured as the horizontal distance from the address at which the complaint was received to the representative measurement location.

[d] Measured 1-minute A-weighted equivalent sound level at the representative measurement location at the date and time at which the complaint was received by the City of Portland Police Department.

[e] The weekday period is defined for this study as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. The weekend period is defined as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[f] The percentile, from 0 to 100, of the measured sound level when the complaint was received by the City of Portland Police Department, compared to the sample of all measured sound levels during the corresponding week period (weekday or weekend) and hour of the day during which it was measured (between 7:00am and 8:00am, for example). A percentile value of 100 is interpreted the maximum sound level measured during that week period and day period, where a percentile value of 0 corresponds to the minimum sound level measured during that period. A percentile value of 50 corresponds to the median measured sound level during the corresponding period.

(this table continued on the following page)

Table 5-2. Selected noise-related complaints and summary of sound level analysis

Representative measurement location [a]	Complaint date and time (yyyy-mm-dd hh:mm) [b]	Approximate distance to measurement location (ft) [c]	Measured 1-minute A-weighted equivalent sound level, L_{eq} (dBA) [d]	Week period [e]	Percentile of sound level at corresponding period [f]
C	2021-09-02 20:45	350	58	Weekday	69
	2021-09-07 20:21	925	53	Weekday	8
	2021-09-14 21:46	350	57	Weekday	71
	2021-09-16 19:27	350	60	Weekday	80
	2021-09-16 20:31	350	53	Weekday	8
	2021-09-17 20:20	350	78	Weekend	100
	2021-09-23 20:18	350	63	Weekday	98
	2021-09-26 16:00	350	61	Weekend	84
	2021-09-26 18:32	350	60	Weekend	72
	2021-09-26 18:50	550	59	Weekend	52
	2021-09-26 18:53	350	60	Weekend	72
	2021-10-10 12:58	350	57	Weekend	14
	2021-10-10 16:21	350	58	Weekend	24
	2021-10-10 17:37	350	58	Weekend	29
	2021-10-10 19:05	350	60	Weekend	81
	2021-10-10 20:01	350	51	Weekend	3
	2021-10-14 21:07	350	55	Weekday	45
	2021-10-18 21:43	300	54	Weekday	31
	2021-10-22 21:27	350	56	Weekend	54
	2021-10-25 04:32	150	46	Weekend	28
	2021-10-25 20:45	300	59	Weekday	80
D	2021-10-22 23:29	500	54	Weekend	61
E	2021-08-29 01:10	900	57	Weekend	71
	2021-09-18 09:55	400	84	Weekend	98
	2021-09-25 08:09	400	81	Weekend	91
	2021-10-10 08:15	400	86	Weekend	96

[a] Selected complaints were grouped by Acentech to measurement sites based on their proximity to measurement locations relative to other measurement locations.

[b] Complaint days and times that complaints were received by the City of Portland Police Department.

[c] Distances were approximated to the nearest 25-foot interval, and are measured as the horizontal distance from the address at which the complaint was received to the representative measurement location.

[d] Measured 1-minute A-weighted equivalent sound level at the representative measurement location at the date and time at which the complaint was received by the City of Portland Police Department.

[e] The weekday period is defined for this study as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. The weekend period is defined as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[f] The percentile, from 0 to 100, of the measured sound level when the complaint was received by the City of Portland Police Department, compared to the sample of all measured sound levels during the corresponding week period (weekday or weekend) and hour of the day during which it was measured (between 7:00am and 8:00am, for example). A percentile value of 100 is interpreted the maximum sound level measured during that week period and day period, where a percentile value of 0 corresponds to the minimum sound level measured during that period. A percentile value of 50 corresponds to the median measured sound level during the corresponding period.

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This analysis is intended to provide reference material for the comparison of noise-related complaints with measured sound levels, and does not constitute a Noise Ordinance compliance evaluation for any particular sound source or group of sound sources. However, several observations can be made from this reference analysis with respect to these selected noise-related complaints received in the Bayside neighborhood.

In several cases across several measurement locations, measured 1-minute A-weighted equivalent sound levels during which noise-related complaints were received by the City of Portland Police Department were in the 90th percentile of sound levels during that period or above, meaning that those sound levels were among the greatest measured during that period. Conversely, a smaller proportion of noise-related complaints were received during measured sound levels in lower percentiles (which pertain to lesser sound levels). Therefore, it is our observation that anomalously louder equivalent sound levels appear to correlate positively with the number of received noise-related complaints.

It can also be observed that at Measurement locations A through D, selected noise-related complaints were most grouped between the approximate hours of 5:00pm and 10:00pm, regardless of period of the week. This is somewhat expected for residential areas, as these times can be considered more likely for residents to use their properties and homes for passive recreation, and these times can be considered more likely for businesses to operate with larger gatherings and with amplified music. The exception to this analysis is Measurement location E (Fitzpatrick Stadium), where selected complaints were largely received between 8:00am and 10:00am, likely corresponding to the usage of that facility.

Selected noise-related complaints and their corresponding 1-minute A-weighted equivalent sound levels, compared to the range of measured sound levels at that measurement location and the corresponding Portland Noise Ordinance zoning sound level limits, are presented in the figures in *Appendix D* attached to this report. The grouping of noise-related complaints discussed in the previous paragraph at Measurement location A is shown in Figure 4 below (data also presented as Figure D-1 in *Appendix D*).

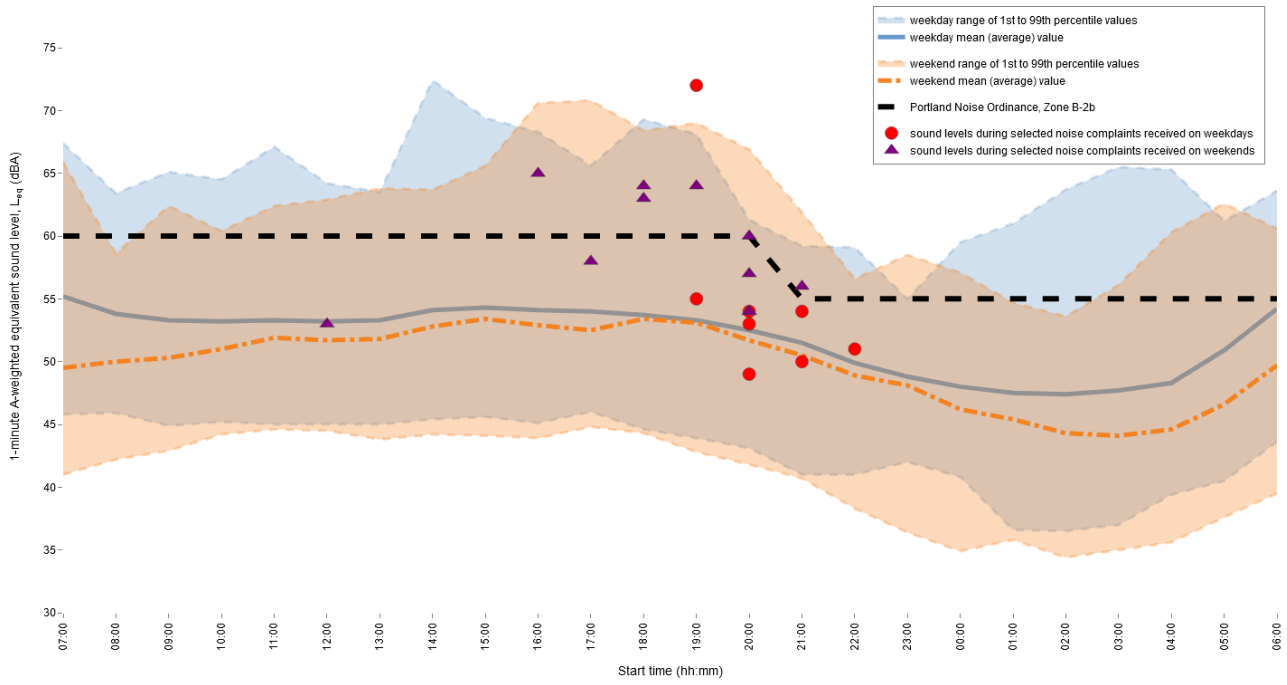

Figure 4. Measurement location A ranges of 1-minute A-weighted equivalent sound levels and noise-related complaints

This section presents an analysis only of selected noise-related complaints received by the City of Portland Police Department. Locations, weekday periods, or times of day where no complaints have been received do not necessarily define periods where there are no noise-related disturbances.

SOUND MITIGATION PLANS FOR ENTERTAINMENT LICENSING

The City of Portland, Maine Code of Ordinances, Chapter 4, *Amusements* (revised June 7, 2021)[6], Article 3, *Entertainment*, Division 2, *License*, Section 4-52, *Application*, subsection (e) defines a required sound mitigation plan for Entertainment License applications and renewals in the City of Portland. The sound mitigation plan, among other requirements, requires a presentation of:

> "anticipated sound readings at the proposed source of the sound, at a location eight feet (8') from the means of egress located nearest to the noise source and/or eight feet (8') from any outer wall of the premises (for indoor entertainment), at each property line of the premises (for outdoor entertainment), and at the closest residence."

While many acoustic models can predict sound from sources such as loudspeaker configurations at set volumes, sound emitted from loudspeakers can be modified quickly by operators, which can render assumptions used to create acoustic models inaccurate. Potential additional requirements or modifications to the requirements of a sound mitigation plan could include:

1. Sound mitigation plans include a statement of a maximum A-weighted and C-weighted sound level from loudspeakers that each business is not to exceed at a representative location in their "entertainment area". This sound level limitation would be determined by the acoustic model already required.
2. Sound mitigation plans include a requirement of the business to include a "sound limiter" as part of their electronic loudspeaker system, which would prevent loudspeakers from exceeding set thresholds. This limiter would require a measurement and calibration in-situ when speakers are installed or modified.

Furthermore, although acoustic models can predict the propagation of sound, it is very difficult to accurately model emitted sound from loudspeakers, live music, and congregations of people, although it is an area of frequent study in acoustics. These sources all can have rapidly-changing emitted sound levels, locations, and directivity, which can reduce the predictive accuracy of acoustic models. Therefore, it is recommended that sound emissions be additionally regulated with an acoustic measurement or monitoring program, as is currently required by the application sound mitigation plan. The sound mitigation plan currently includes a requirement to provide an on-site sound level meter when the number of attendees at an event is expected to exceed 250.

For application renewals for businesses that have been the expected source of noise-related complaints, a potential addition to the requirements of a sound mitigation plan could include the installation of a long-term noise monitoring system with internet connectivity. Several options for such systems are commercially-available, and can include functionality such as long term monitoring of sound levels, viewing of live or recent data on a dedicated website, or live remote alerting when thresholds or exceedances are reached at measurement positions.

This section presents only preliminary potential additions or modifications for improvement of sound mitigation plans, which are related only to the technical evaluation of sound codes at the permit application stage. These potential additions or modifications have not been presented to the City of Portland prior to this report, and have not been evaluated for feasibility, implementation, or enforceability.

[6] City of Portland Municipal Code, Chapter 9, *Amusements* (link)

APPENDIX A: SOUND MEASUREMENT LOCATION MAPS AND PHOTOGRAPHS

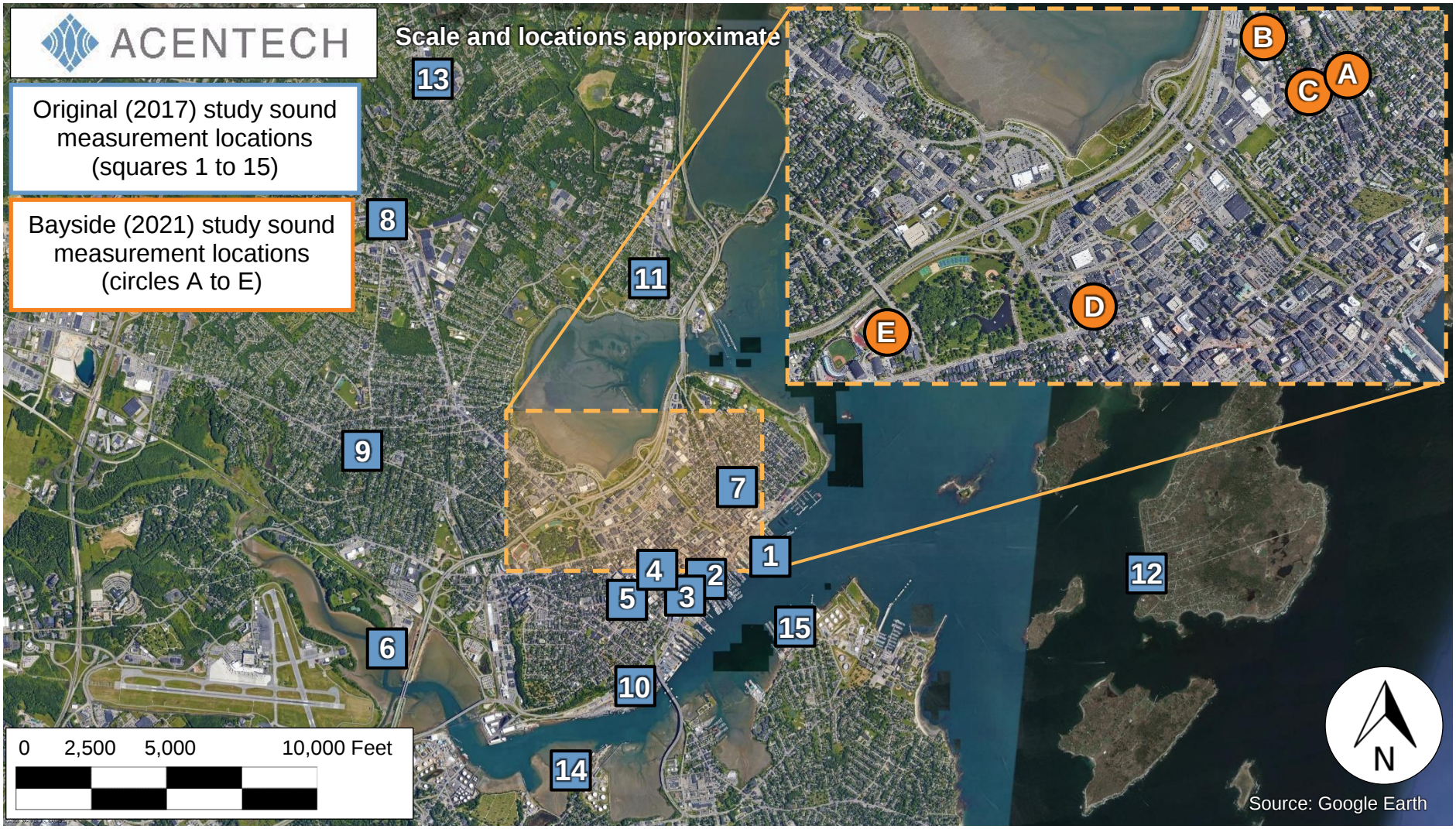

Figure A-1. Original (2017) study and current Bayside study sound measurement locations

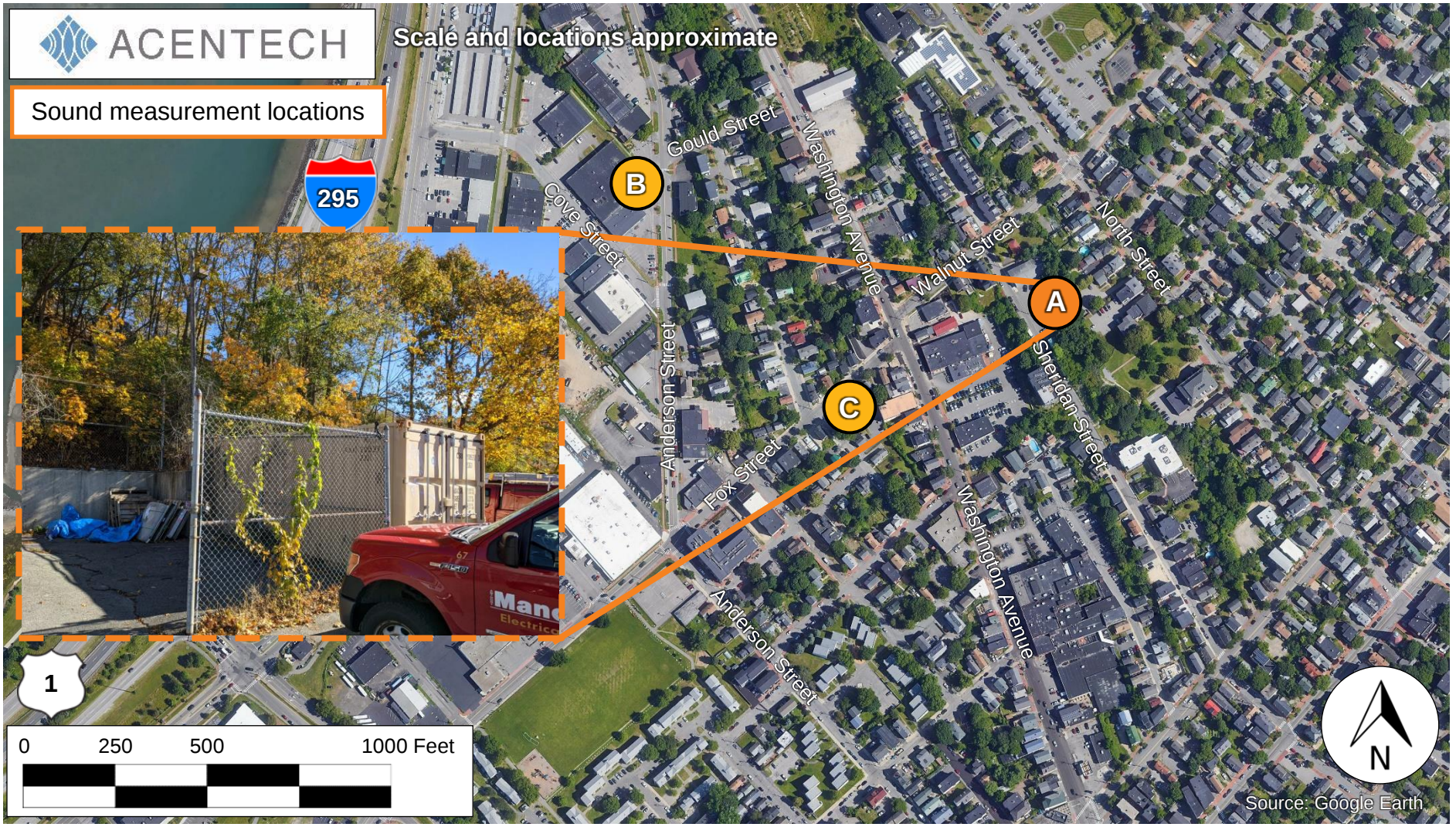

Figure A-2. Sound measurement location A aerial and site photographs

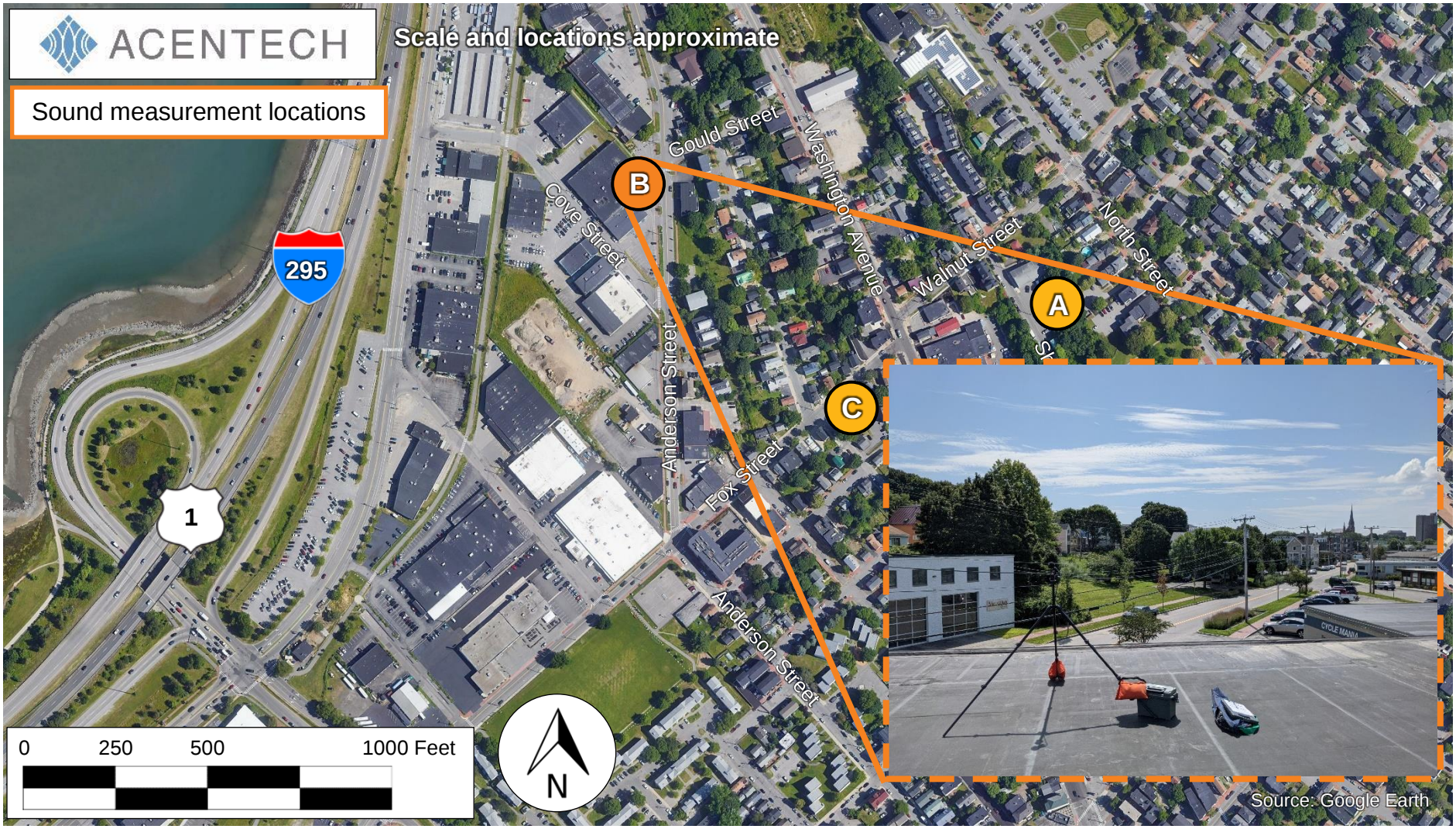

Figure A-3. Sound measurement location B aerial and site photographs

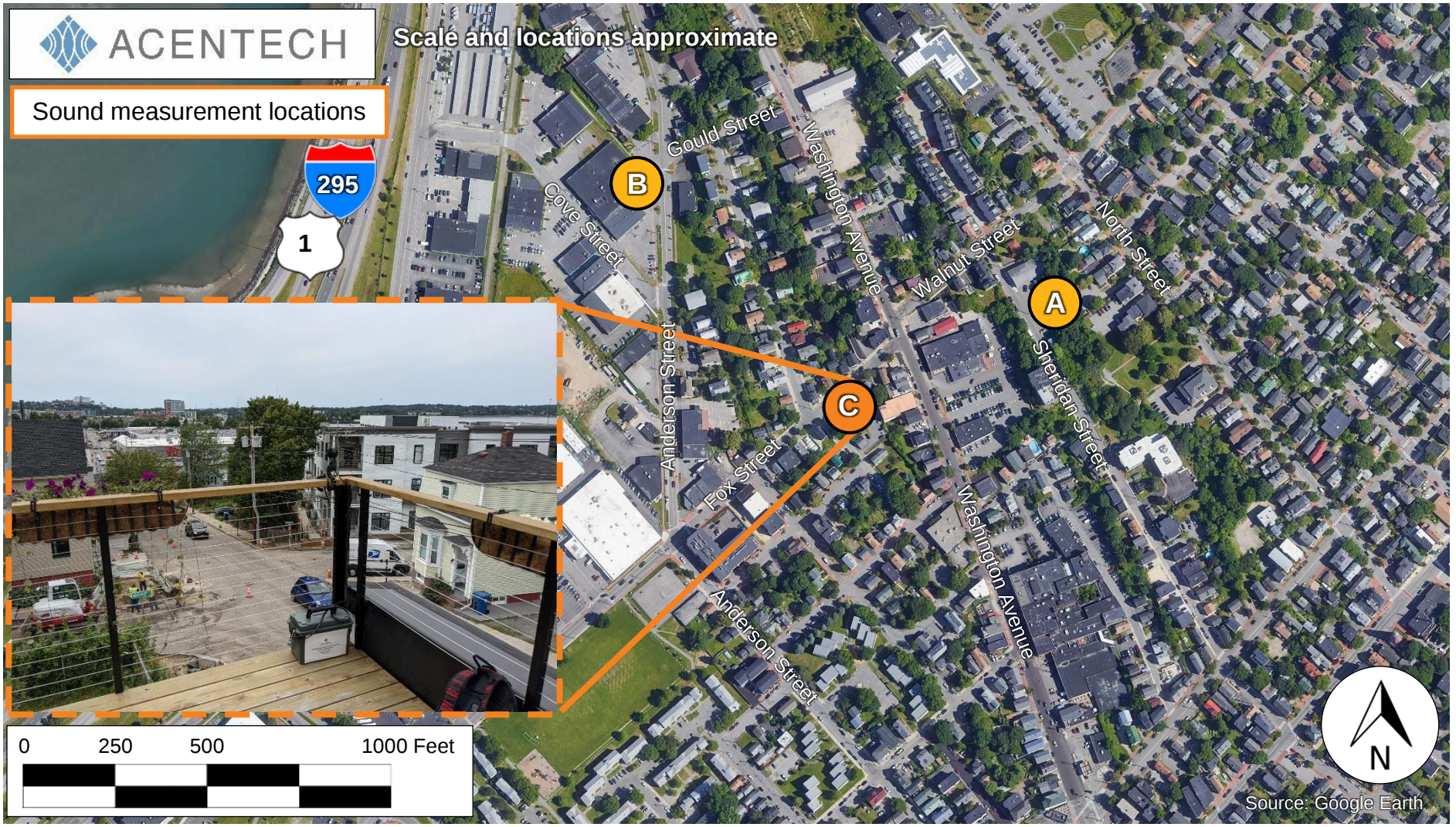

Figure A-4. Sound measurement location C aerial and site photographs

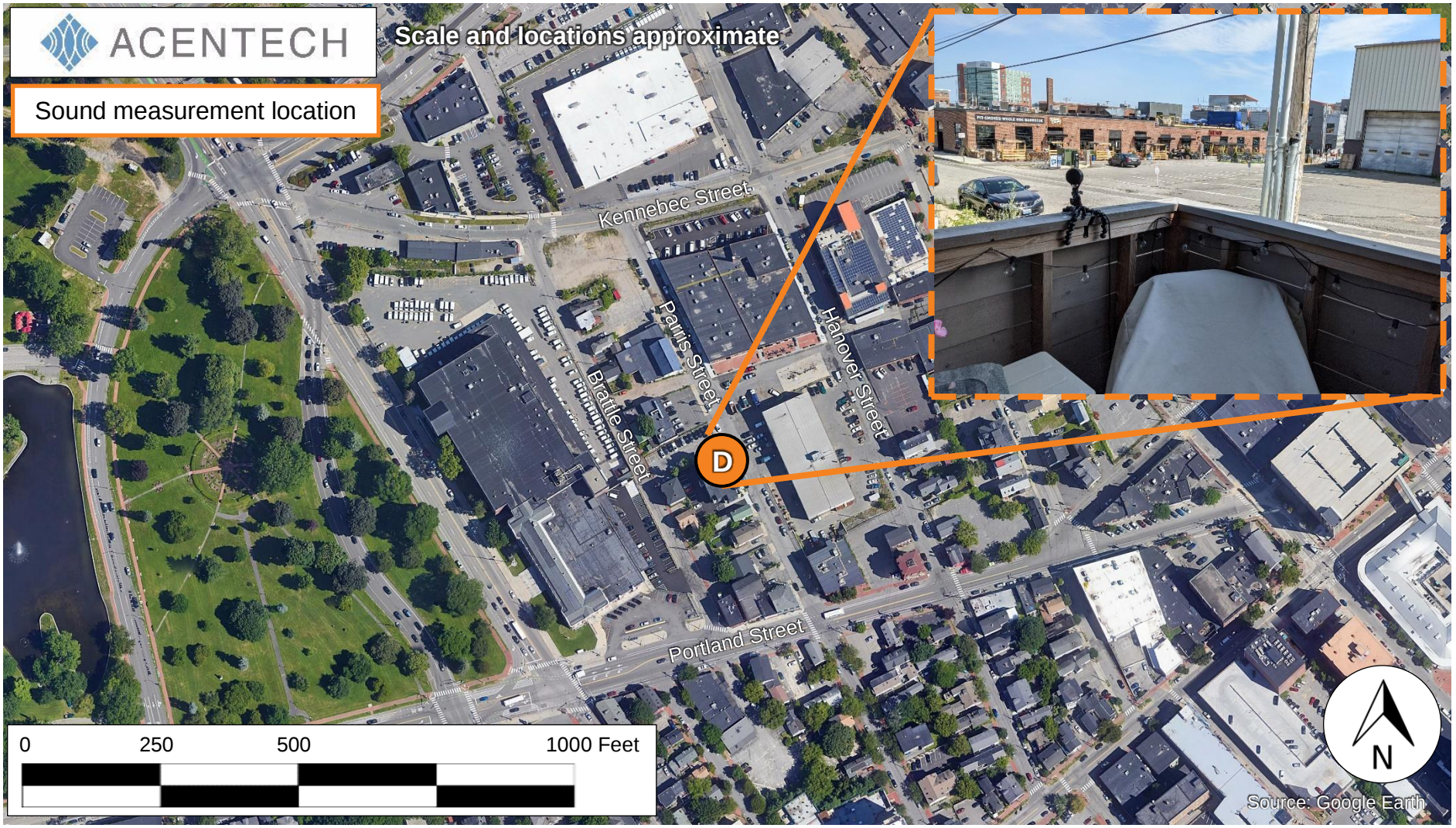

Figure A-5. Sound measurement location D aerial and site photographs

Figure A-6. Sound measurement location E aerial and site photographs

APPENDIX B: SUMMARY OF MEASURED 1-HOUR SOUND LEVEL STATISTICS DATA

Table B-1. Measurement location A summary of measured 1-hour A-weighted equivalent sound levels

		1-Hour A-weighted equivalent sound level, L_{eq} (dBA) [c]		
Start time (hh:mm) [a]	Number of samples [b]	Minimum	Average	Maximum
07:00	64	46	56	62
08:00	64	46	54	64
09:00	64	47	54	63
10:00	64	48	55	65
11:00	63	48	55	68
12:00	66	49	54	62
13:00	65	49	54	68
14:00	65	49	56	70
15:00	64	50	57	69
16:00	64	49	56	68
17:00	64	49	55	68
18:00	64	50	56	66
19:00	64	46	55	68
20:00	64	46	53	65
21:00	64	45	52	59
22:00	64	43	50	57
23:00	64	42	49	57
00:00	64	42	48	58
01:00	64	39	47	60
02:00	64	39	47	63
03:00	64	40	47	65
04:00	64	39	48	65
05:00	64	40	50	65
06:00	64	44	54	60

[a] Denotes the start time of each 1-hour period. For example, the row with “07:00” in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-hour samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 3,599 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-hour A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

Table B-2. Measurement location B summary of measured 1-hour A-weighted equivalent sound levels

		1-Hour A-weighted equivalent sound level, L_{eq} (dBA) [c]		
Start time (hh:mm) [a]	Number of samples [b]	Minimum	Average	Maximum
07:00	67	50	60	66
08:00	67	52	60	66
09:00	67	53	60	65
10:00	67	54	60	67
11:00	67	54	59	66
12:00	69	53	59	67
13:00	69	54	59	66
14:00	69	54	60	66
15:00	69	54	60	65
16:00	69	55	60	68
17:00	69	55	60	67
18:00	69	54	59	65
19:00	69	54	58	66
20:00	68	52	57	65
21:00	67	51	56	61
22:00	67	49	54	61
23:00	67	48	53	61
00:00	67	47	53	63
01:00	67	45	51	62
02:00	67	45	51	63
03:00	67	44	51	62
04:00	67	44	53	63
05:00	67	47	55	65
06:00	67	50	57	64

[a] Denotes the start time of each 1-hour period. For example, the row with “07:00” in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-hour samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 3,599 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-hour A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

Table B-3. Measurement location C summary of measured 1-hour A-weighted equivalent sound levels

		1-Hour A-weighted equivalent sound level, L_{eq} (dBA) [c]		
Start time (hh:mm) [a]	Number of samples [b]	Minimum	Average	Maximum
07:00	49	53	61	72
08:00	47	56	62	74
09:00	47	57	62	73
10:00	47	58	62	73
11:00	47	58	63	71
12:00	48	56	62	74
13:00	49	56	62	70
14:00	49	55	62	71
15:00	49	56	61	72
16:00	49	58	61	68
17:00	49	56	61	68
18:00	49	56	60	65
19:00	49	54	59	62
20:00	49	54	58	64
21:00	49	52	57	66
22:00	49	51	55	61
23:00	49	49	53	58
00:00	49	46	52	58
01:00	49	44	51	58
02:00	49	44	50	60
03:00	49	45	50	62
04:00	49	46	52	62
05:00	49	49	55	62
06:00	49	51	58	66

[a] Denotes the start time of each 1-hour period. For example, the row with “07:00” in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-hour samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 3,599 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-hour A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

Table B-4. Measurement location D summary of measured 1-hour A-weighted equivalent sound levels

		1-Hour A-weighted equivalent sound level, L_{eq} (dBA) [c]		
Start time (hh:mm) [a]	Number of samples [b]	Minimum	Average	Maximum
07:00	50	50	57	65
08:00	50	51	58	70
09:00	50	51	57	74
10:00	50	53	58	71
11:00	52	53	57	68
12:00	52	53	57	69
13:00	52	53	57	70
14:00	52	53	57	74
15:00	52	53	57	66
16:00	52	53	57	64
17:00	52	53	57	65
18:00	52	53	57	65
19:00	52	52	56	64
20:00	52	51	56	66
21:00	51	50	55	63
22:00	51	49	54	60
23:00	50	47	53	61
00:00	50	45	52	59
01:00	50	47	51	61
02:00	50	46	52	63
03:00	50	45	53	66
04:00	50	46	53	67
05:00	50	47	55	65
06:00	50	49	56	63

[a] Denotes the start time of each 1-hour period. For example, the row with “07:00” in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-hour samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 3,599 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-hour A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

Table B-5. Measurement location E summary of measured 1-hour A-weighted equivalent sound levels

		1-Hour A-weighted equivalent sound level, L_{eq} (dBA) [c]		
Start time (hh:mm) [a]	Number of samples [b]	Minimum	Average	Maximum
07:00	79	58	65	77
08:00	79	60	66	87
09:00	79	62	67	82
10:00	79	62	66	79
11:00	79	63	66	75
12:00	78	62	65	78
13:00	79	62	66	80
14:00	80	62	66	84
15:00	80	61	67	82
16:00	80	63	68	83
17:00	80	62	68	83
18:00	80	62	68	84
19:00	80	61	66	85
20:00	80	60	65	81
21:00	80	58	63	86
22:00	80	57	60	67
23:00	75	56	58	62
00:00	79	54	57	64
01:00	79	53	57	64
02:00	79	52	56	65
03:00	79	51	57	66
04:00	79	53	58	68
05:00	79	56	61	67
06:00	79	58	63	69

[a] Denotes the start time of each 1-hour period. For example, the row with “07:00” in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-hour samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 3,599 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-hour A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

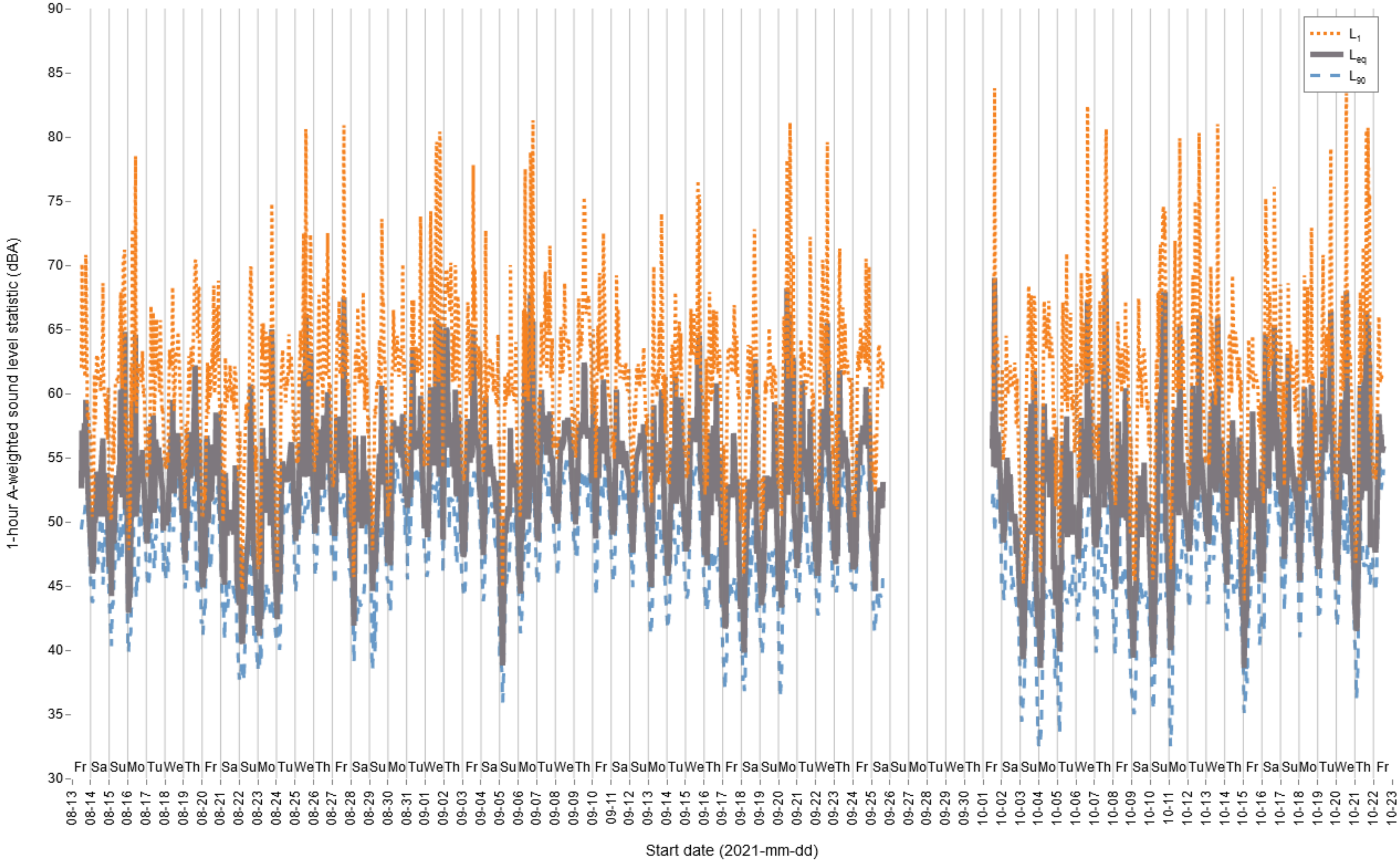

Figure B-1. Measurement location A measured 1-hour A-weighted sound level statistics

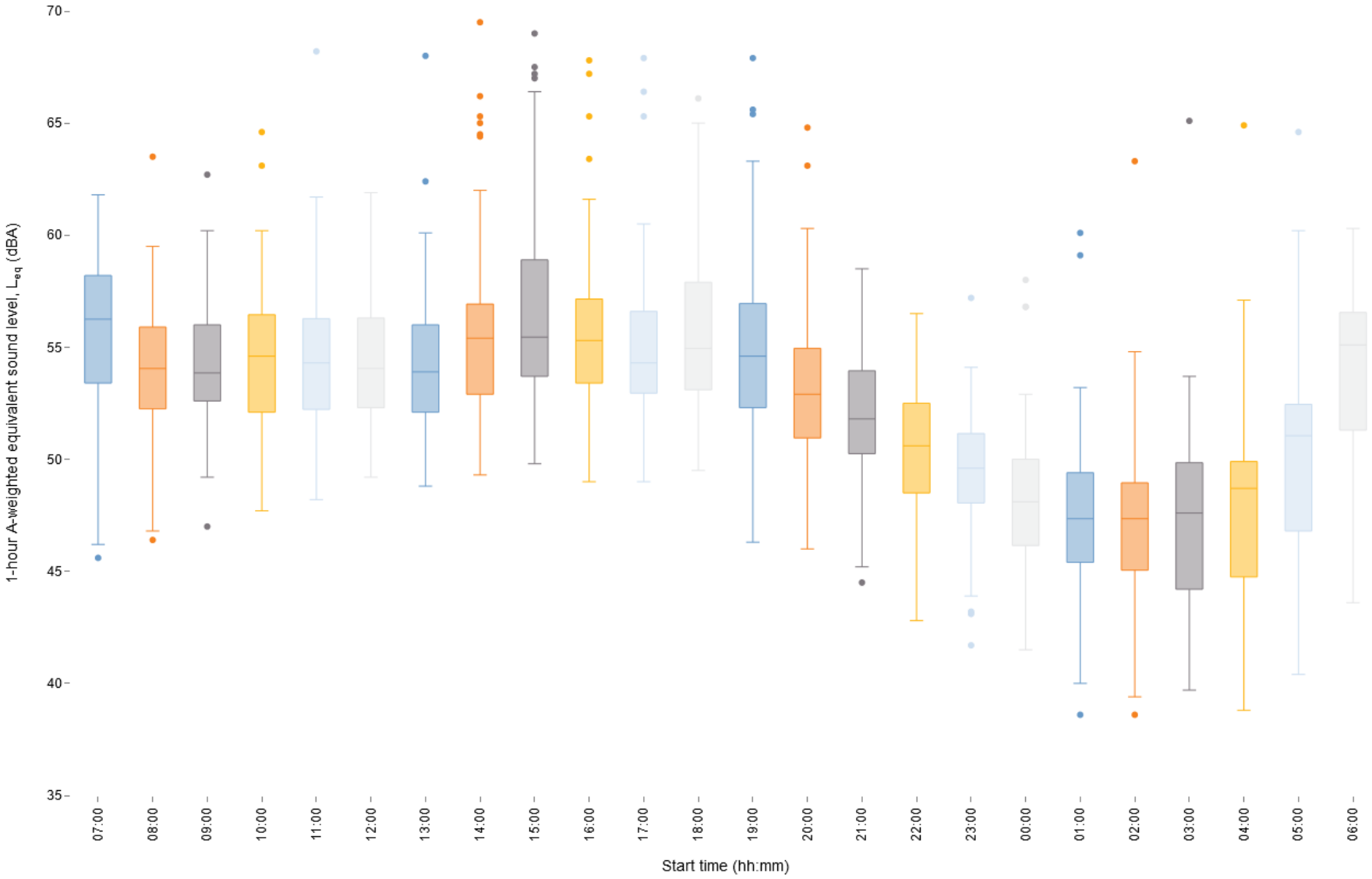

Figure B-2. Measurement location A summary of 1-hour A-weighted equivalent sound levels by time of day

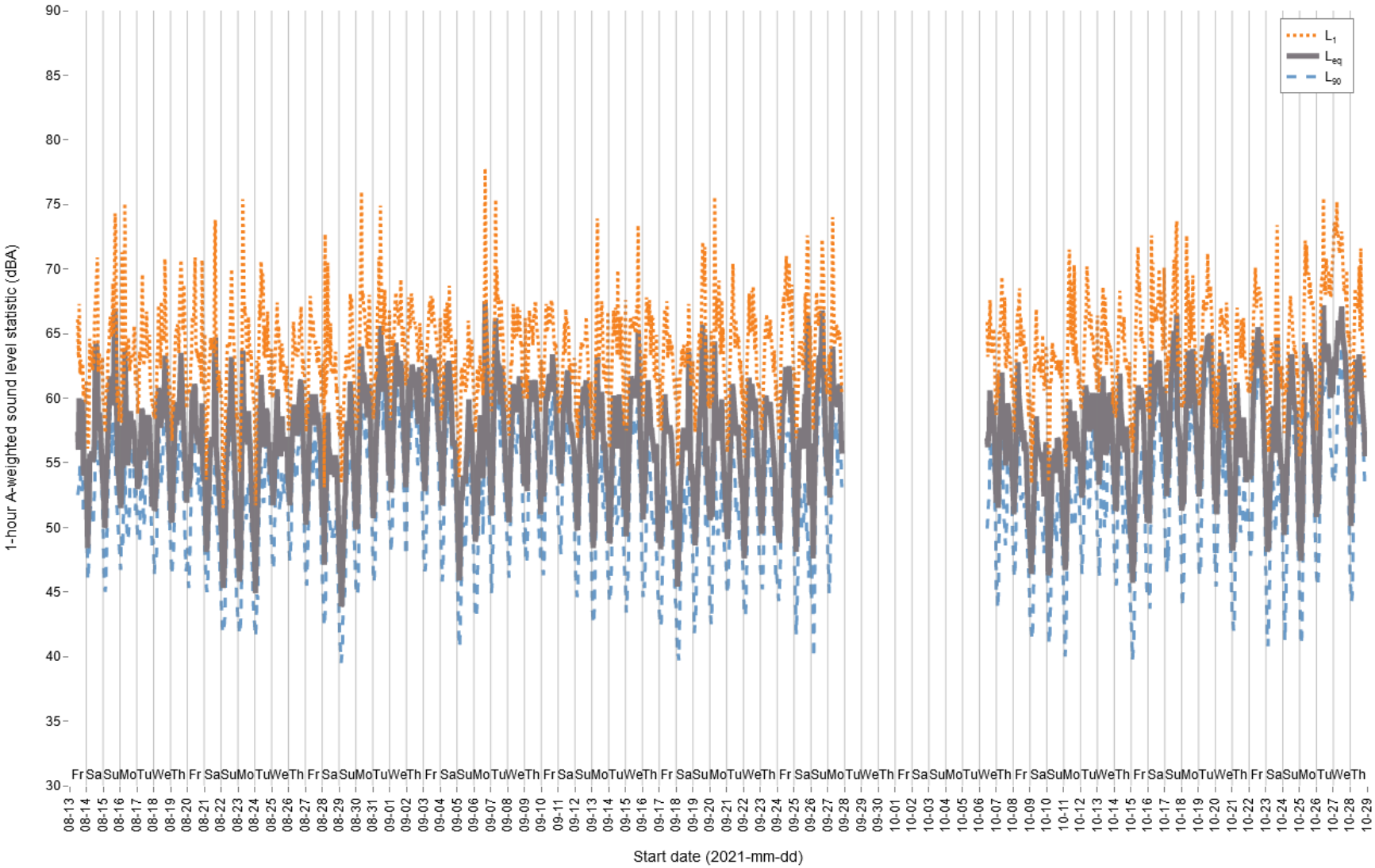

Figure B-3. Measurement location B measured 1-hour A-weighted sound level statistics

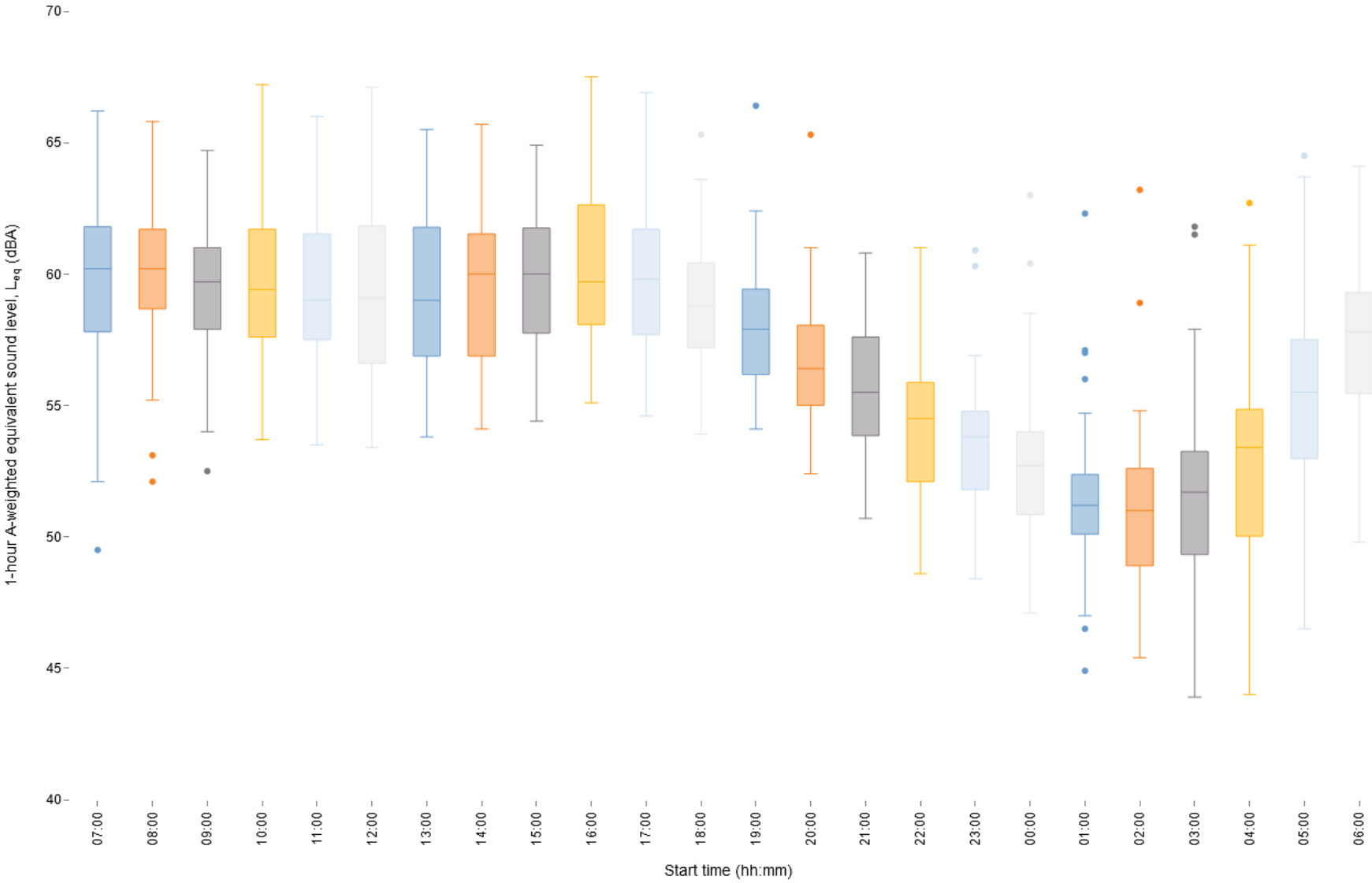

Figure B-4. Measurement location B summary of 1-hour A-weighted equivalent sound levels by time of day

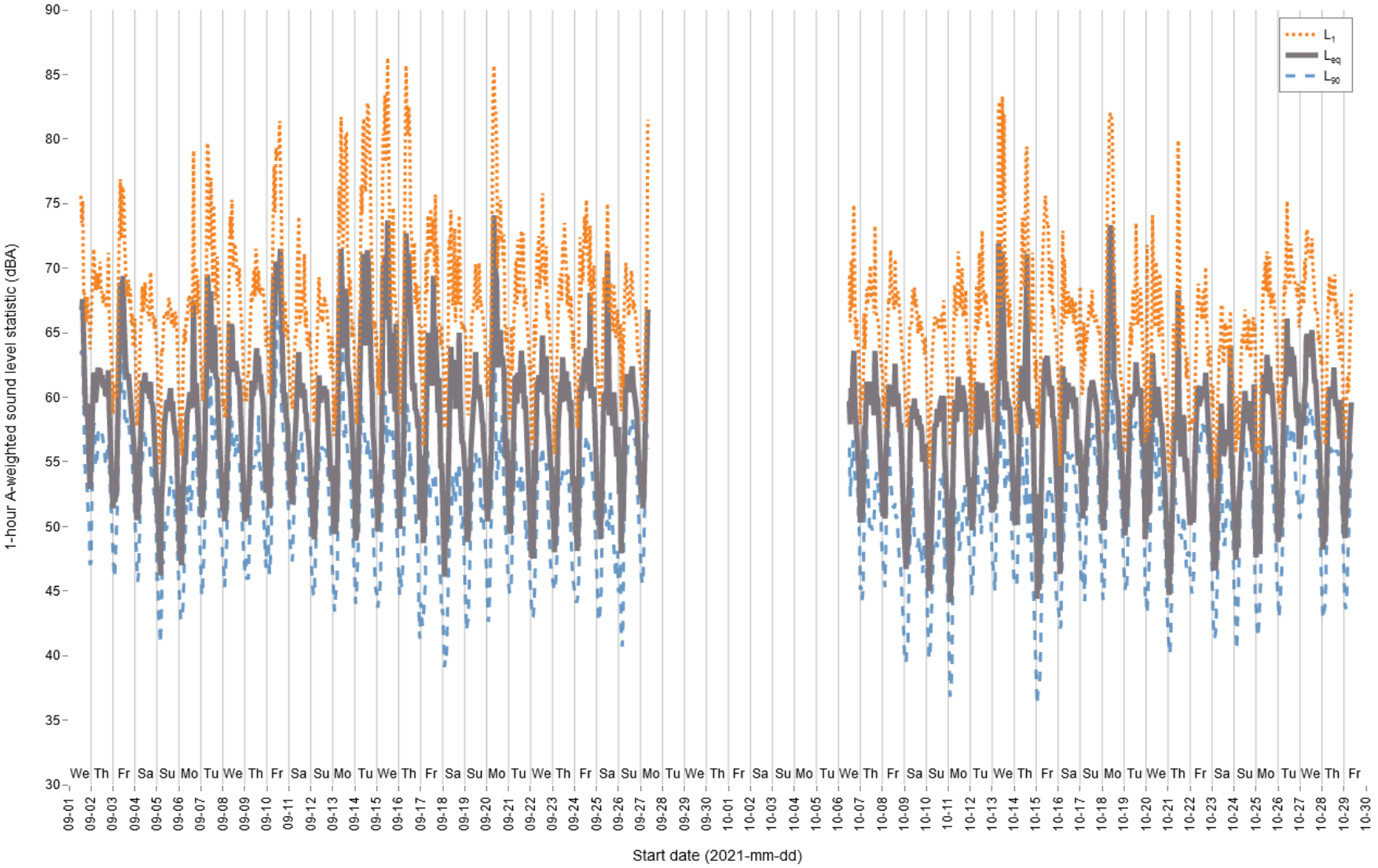

Figure B-5. Measurement location C measured 1-hour A-weighted sound level statistics

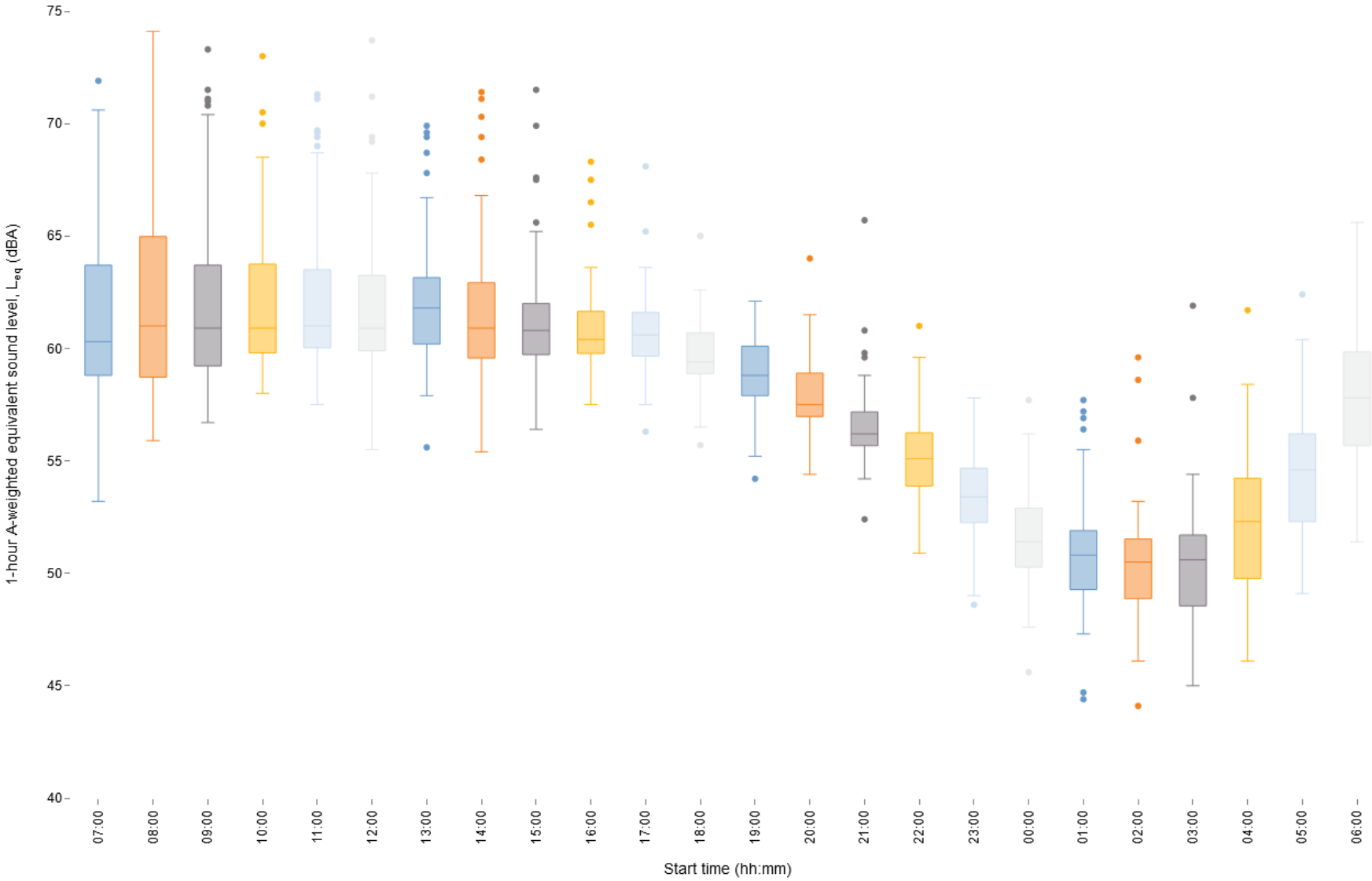

Figure B-6. Measurement location C summary of 1-hour A-weighted equivalent sound levels by time of day

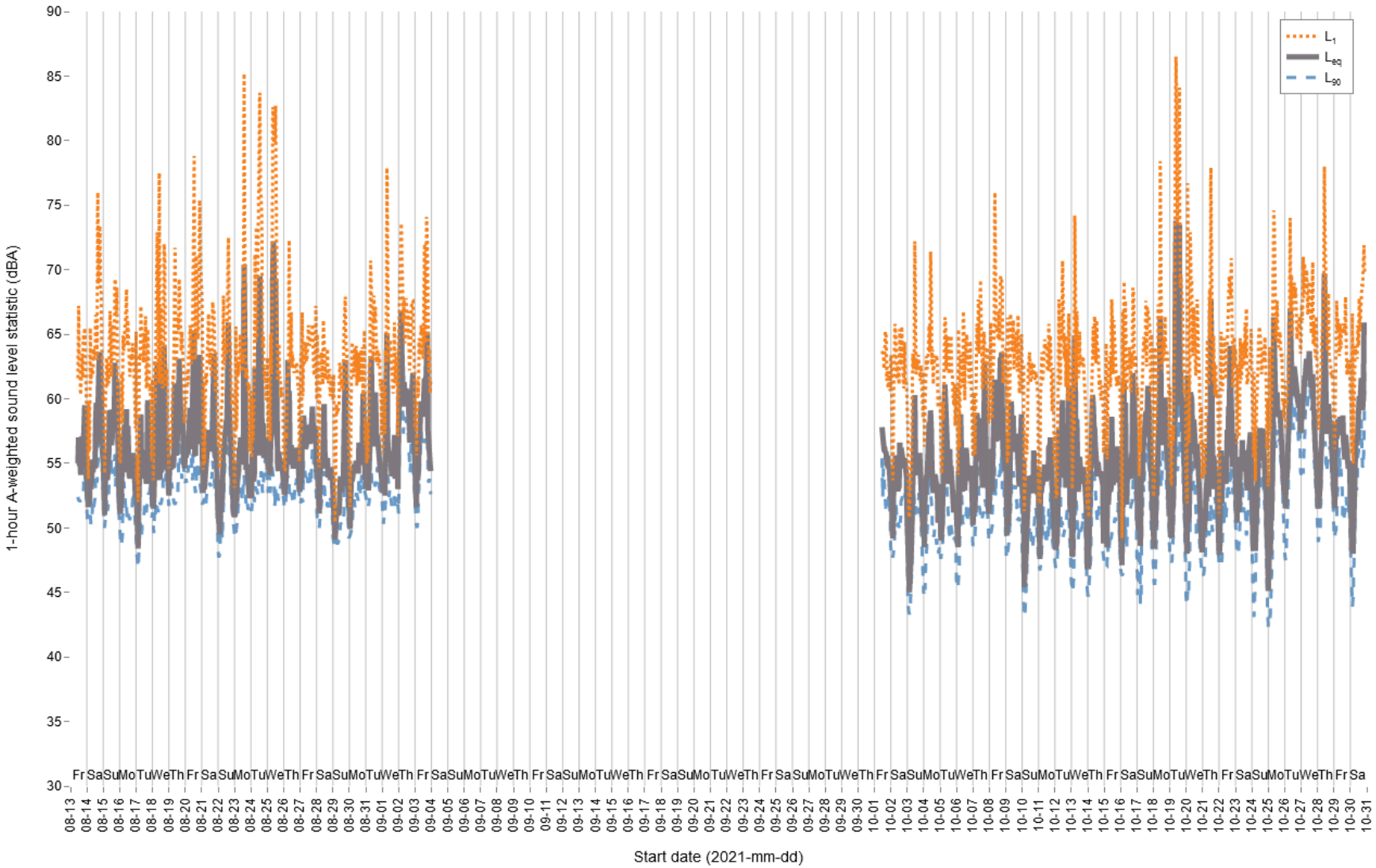

Figure B-7. Measurement location D measured 1-hour A-weighted sound level statistics

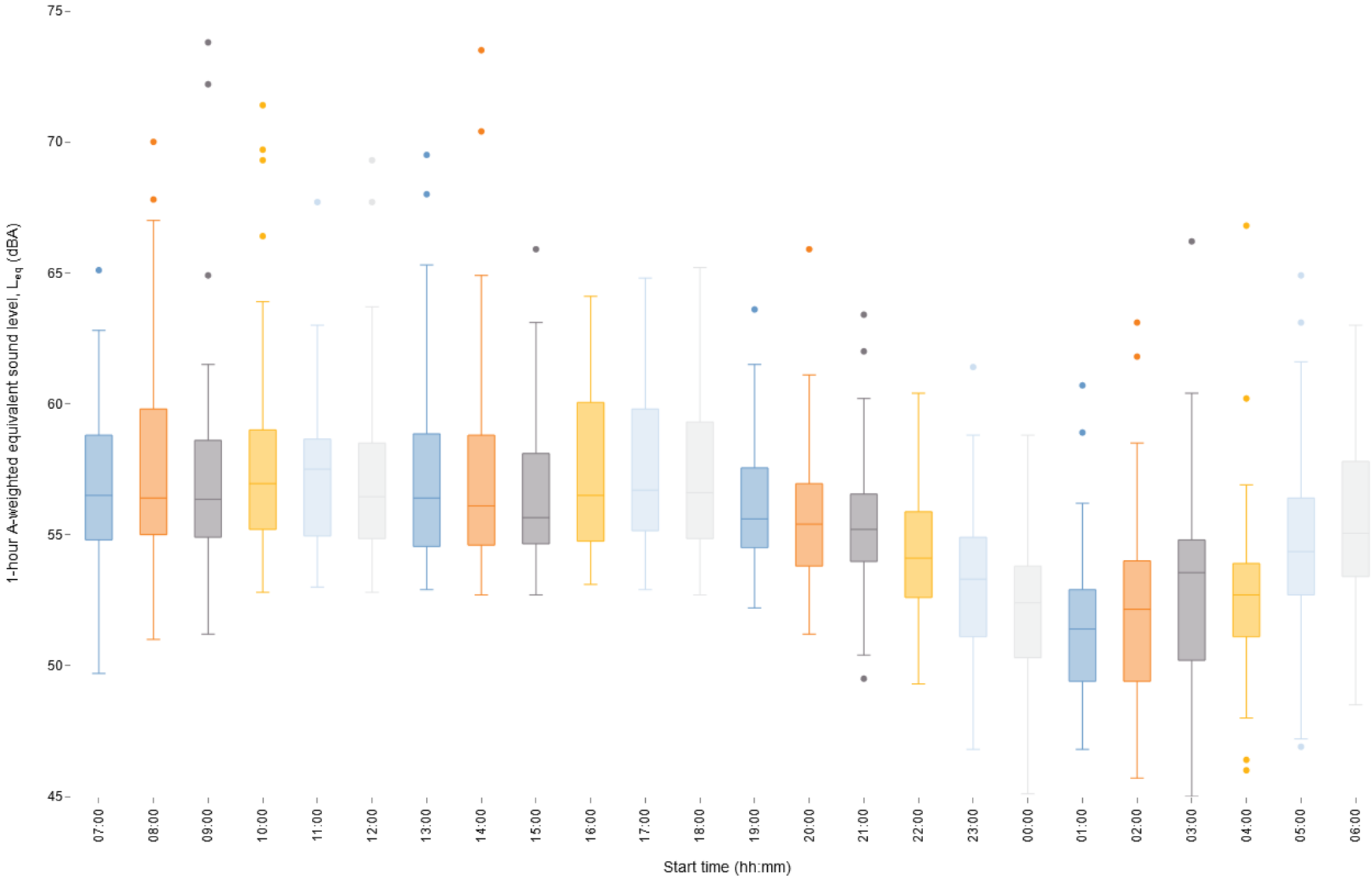

Figure B-8. Measurement location D summary of 1-hour A-weighted equivalent sound levels by time of day

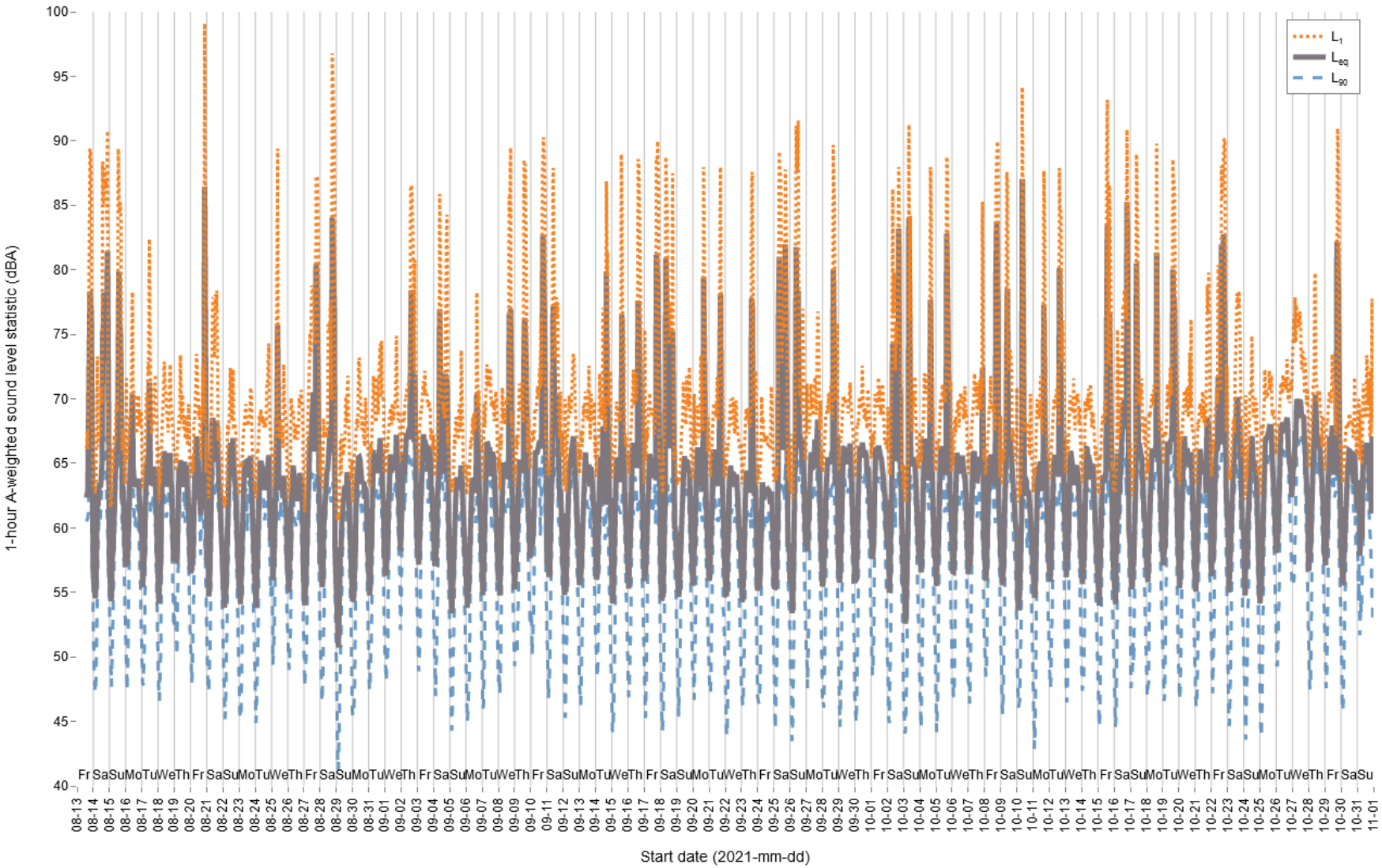

Figure B-9. Measurement location E measured 1-hour A-weighted sound level statistics

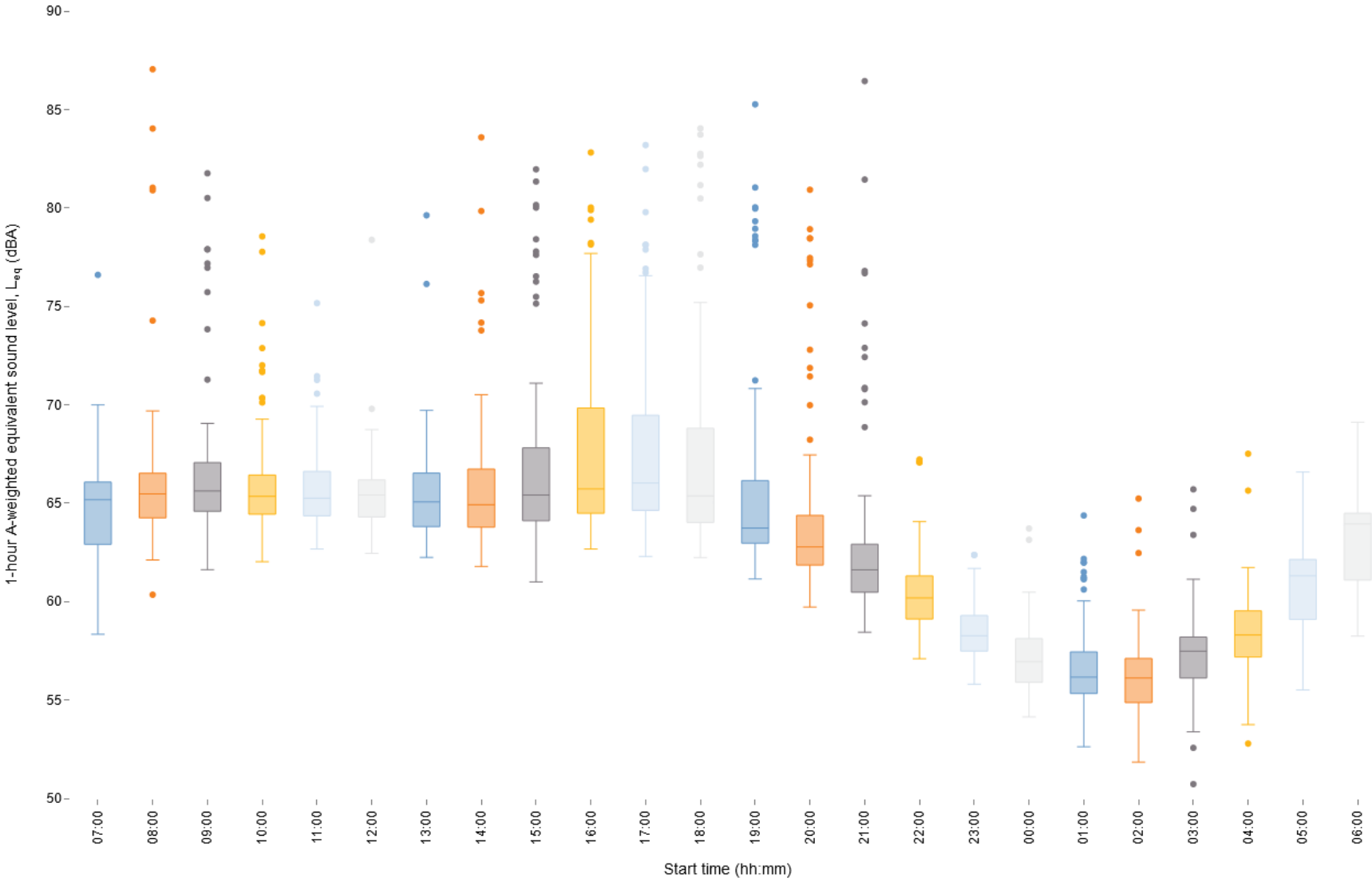

Figure B-10. Measurement location E summary of 1-hour A-weighted equivalent sound levels by time of day

APPENDIX C: DAILY SUMMARY SOUND LEVEL DATA

Table C-1. Summary of measured Daytime Equivalent Sound Levels, L_{Day}

		Daytime Equivalent Sound Level, L_{Day} [b, c]		
Measurement location	Number of samples [a]	Minimum	Mean	Maximum
A	62	51	56	63
B	66	55	60	64
C	47	58	62	68
D	50	54	58	67
E	78	62	68	76

[a] Number of samples included at each measurement location throughout the measurement survey. Only samples containing 15 consecutive daytime hours (period from 07:00 to 22:00) were considered for calculation of these statistics.

[b] Daytime Equivalent Sound Level, denoted L_{Day}, is calculated as the logarithmic sum of measured 1-hour A-weighted equivalent sound levels measured between 07:00 (inclusive) and 22:00 (exclusive). L_{Day} is expressed in units of dBA.

[c] Presented statistics were computed arithmetically from calculated L_{Day} values in decibels for the set of samples at each measurement location.

Table C-2. Summary of measured Nighttime Equivalent Sound Levels, L_{Night}

		Nighttime Equivalent Sound Level, L_{Night} [b, c]		
Measurement location	Number of samples [a]	Minimum	Mean	Maximum
A	64	43	50	61
B	67	48	54	63
C	49	51	54	59
D	50	54	58	67
E	79	56	60	66

[a] Number of samples included at each measurement location throughout the measurement survey. Only samples containing 9 consecutive nighttime hours (period from 22:00 to 07:00) were considered for calculation of these statistics.

[b] Nighttime Equivalent Sound Level, denoted L_{Night}, is calculated as the logarithmic sum of measured 1-hour A-weighted equivalent sound levels measured between 22:00 (inclusive) and 07:00 (exclusive). Due to the date change at midnight, L_{Night} was calculated for each continuous night, not for sound levels measured in the early morning and at night on the same calendar day. L_{Night} is expressed in units of dBA.

[c] Presented statistics were computed arithmetically from calculated L_{Night} values in decibels for the set of samples at each measurement location.

Table C-3. Summary of measured Day-Night Sound Levels, L_{DN}

Measurement location	Number of samples [a]	Day-Night Sound Level, L_{DN} [b, c]		
		Minimum	Mean	Maximum
A	62	52	58	67
B	65	56	62	69
C	47	59	63	67
D	48	58	62	69
E	77	65	70	74

[a] Number of samples included at each measurement location throughout the measurement survey. Only samples containing 24 consecutive hours (period from 07:00 to 07:00 on the following day) were considered for calculation of these statistics.

[b] Day-Night Sound Level, denoted L_{DN}, is calculated as the logarithmic average of daytime (07:00 (inclusive) to 22:00 (exclusive)) and nighttime (22:00 (inclusive) to 07:00 (exclusive)) 1-hour A-weighted equivalent sound levels, where nighttime values are increased by 10. In this report, L_{DN} values were calculated for continuous samples from 07:00 (inclusive) to 07:00 on the following day (exclusive) over a continuous nighttime period. L_{DN} is expressed in units of dBA.

[c] Presented statistics were computed arithmetically from calculated L_{DN} values in decibels for the set of samples at each measurement location.

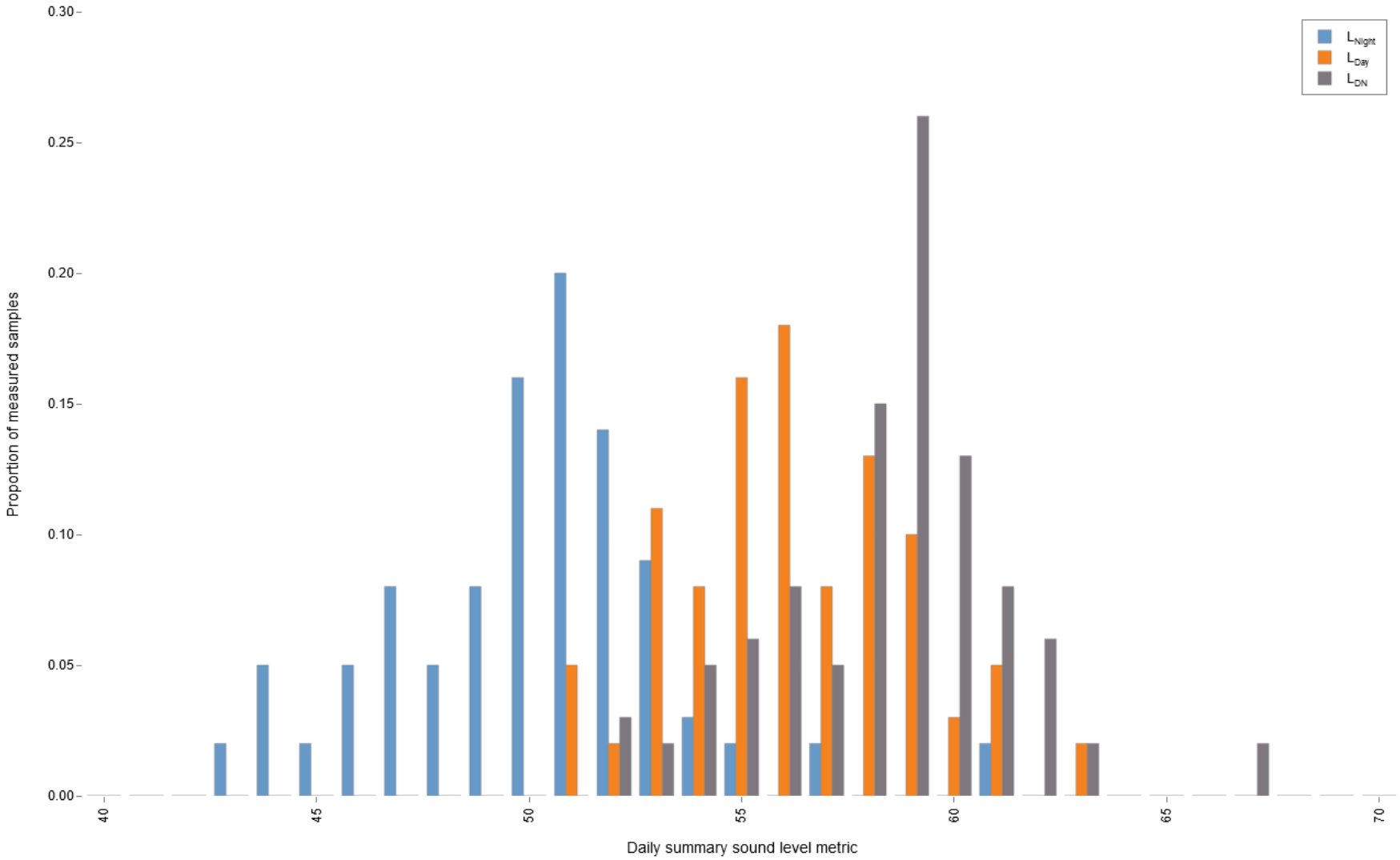

Figure C-1. Measurement location A sample distribution of daily summary sound level metrics

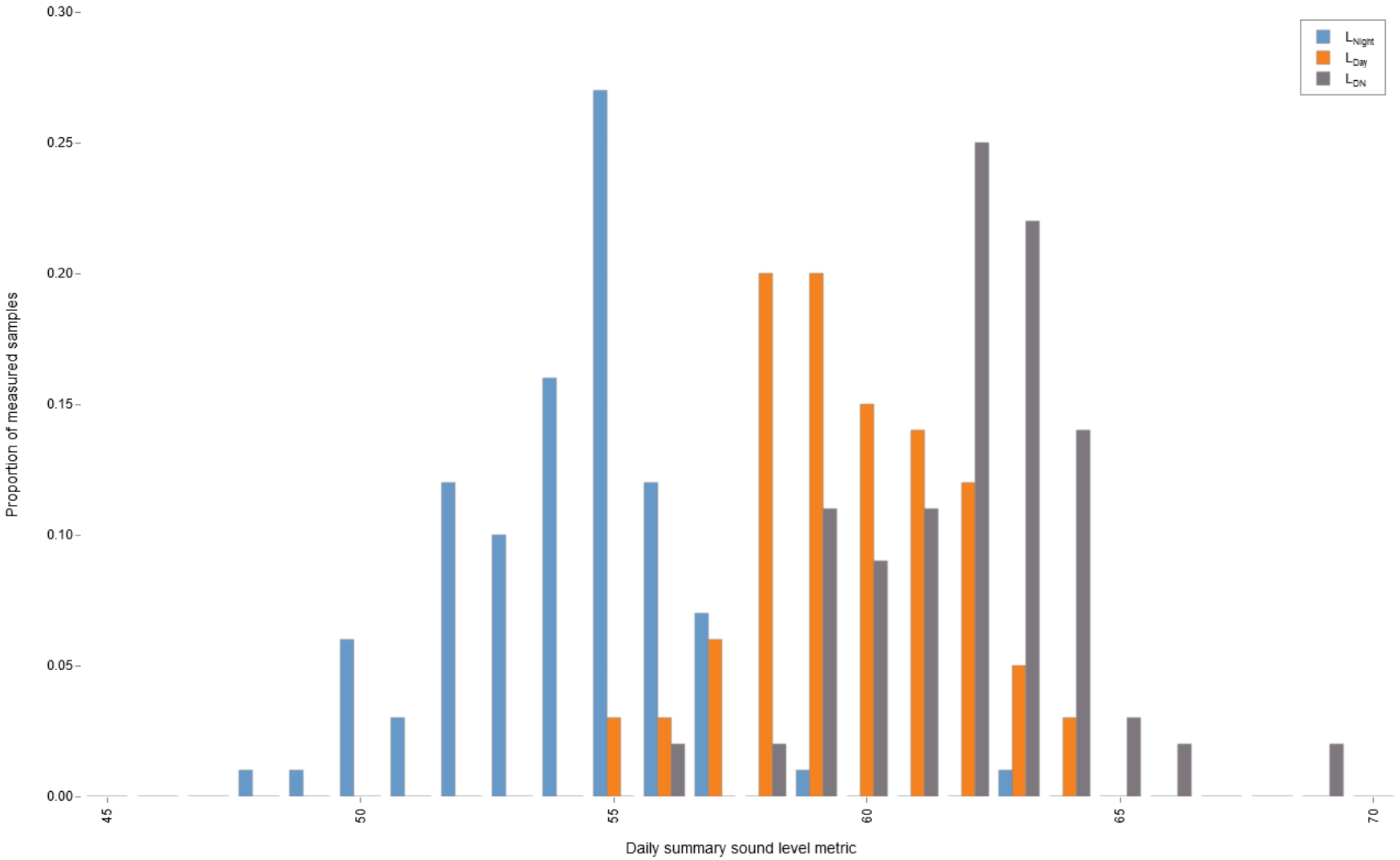

Figure C-2. Measurement location B sample distribution of daily summary sound level metrics

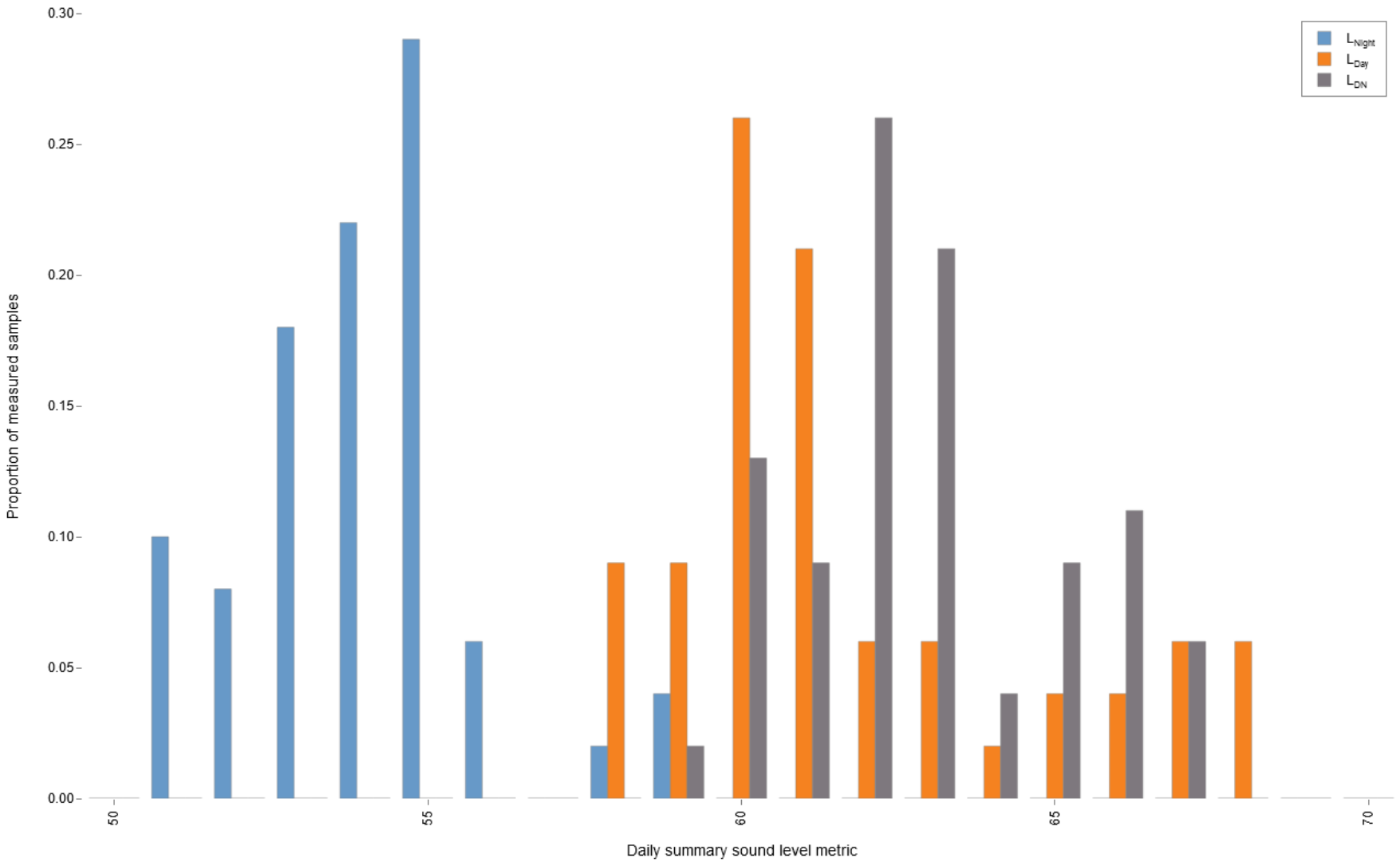

Figure C-3. Measurement location C sample distribution of daily summary sound level metrics

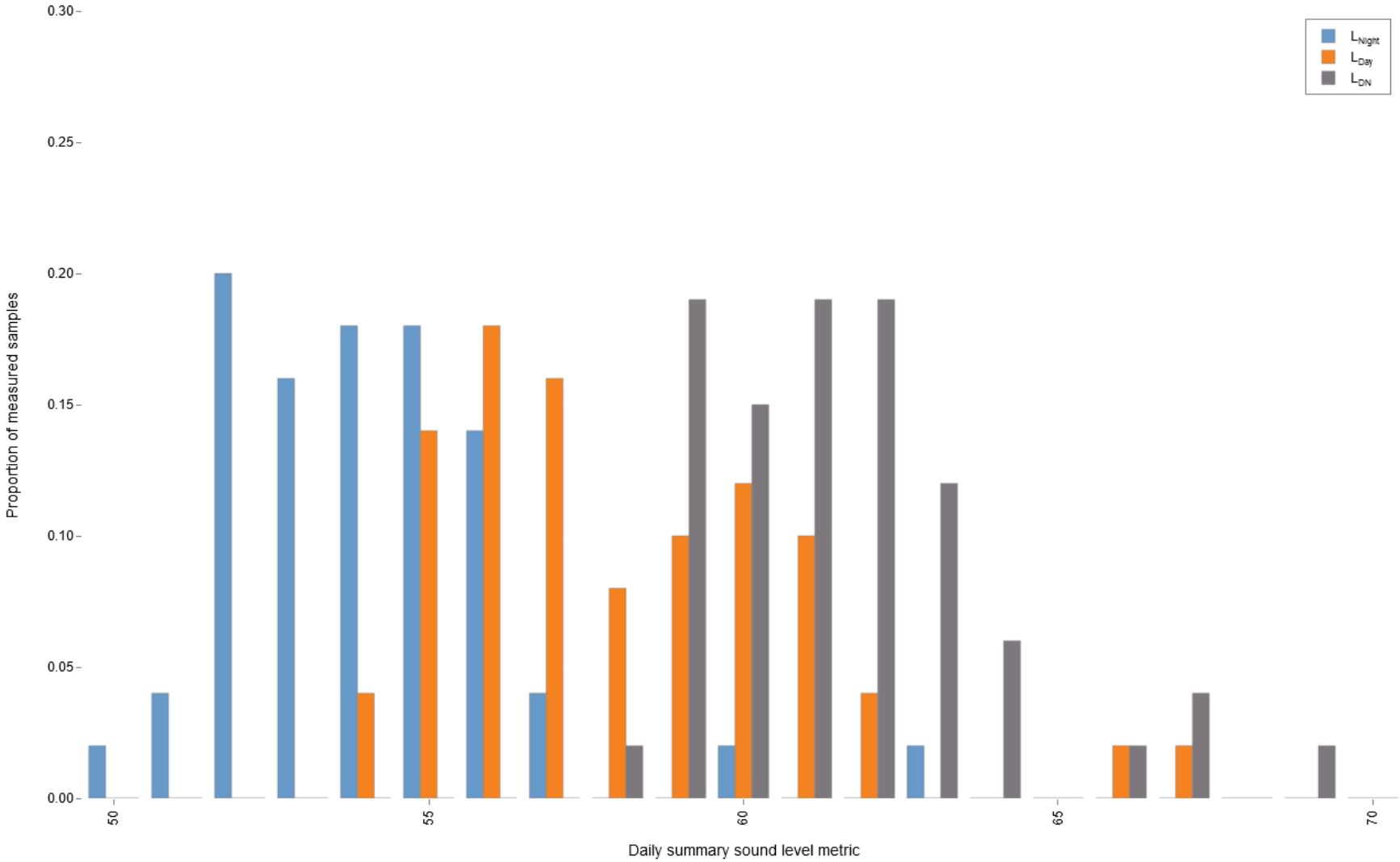

Figure C-4. Measurement location D sample distribution of daily summary sound level metrics

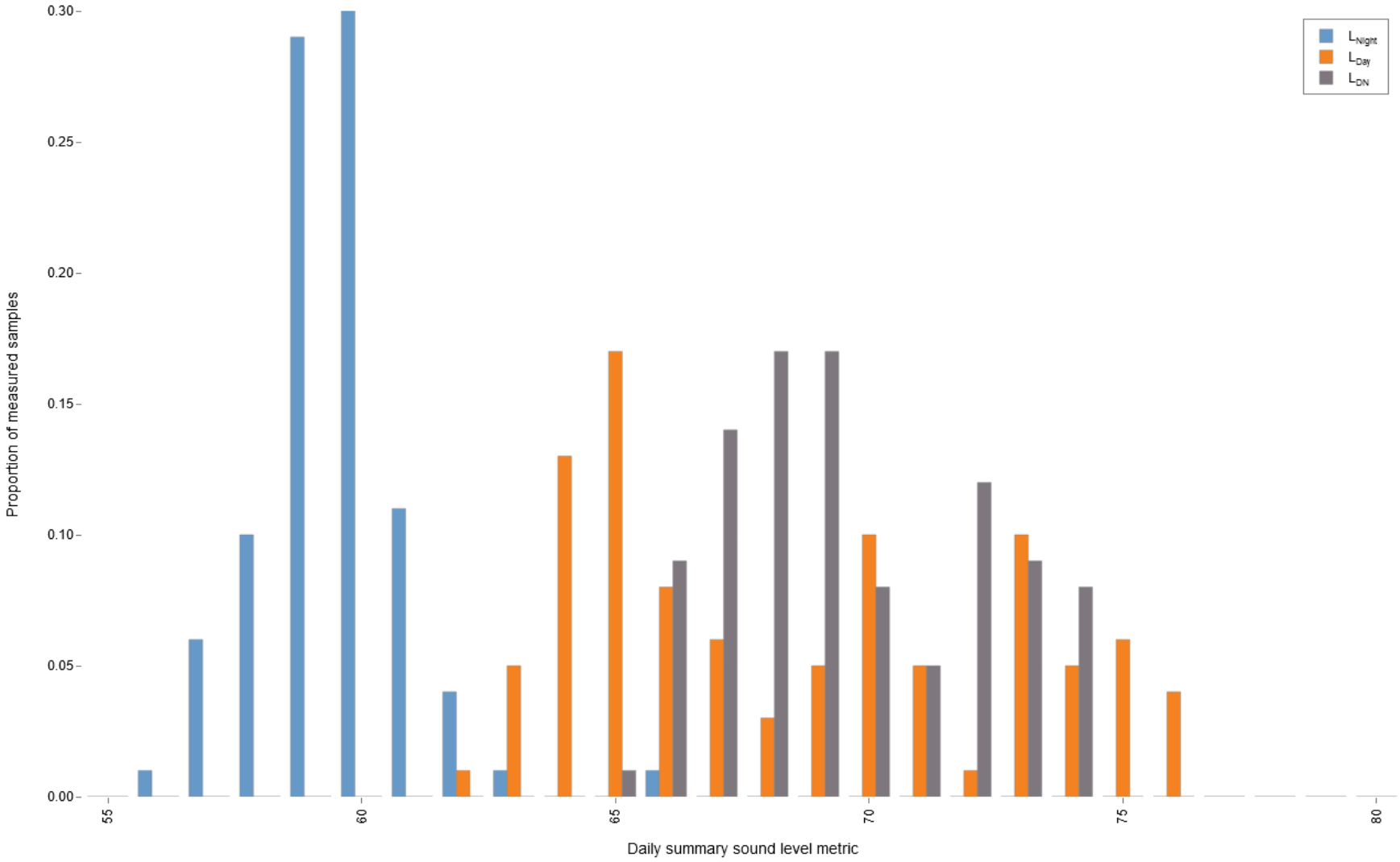

Figure C-5. Measurement location E sample distribution of daily summary sound level metrics

APPENDIX D: SUMMARY OF 1-MINUTE EQUIVALENT SOUND LEVEL DATA

Table D-1. Measurement location A summary of measured 1-minute A-weighted equivalent sound levels

Start time of hourly period (hh:mm) [a]	Number of samples [b]		1-Minute A-weighted equivalent sound level, L_{eq} (dBA) [c]					
			Weekdays [d]			Weekends [d]		
	Weekdays [d]	Weekends [d]	1st percentile [e]	Average [e]	99th percentile [e]	1st percentile [e]	Average [e]	99th percentile [e]
07:00	2700	1140	46	55	67	41	50	66
08:00	2700	1140	46	54	63	42	50	59
09:00	2700	1140	45	53	65	43	50	62
10:00	2700	1140	45	53	65	44	51	60
11:00	2648	1140	45	53	67	45	52	62
12:00	2820	1140	45	53	64	44	52	63
13:00	2782	1140	45	53	64	44	52	64
14:00	2760	1140	45	54	72	44	53	64
15:00	2760	1090	46	54	69	44	53	66
16:00	2760	1080	45	54	68	44	53	71
17:00	2160	1680	46	54	66	45	53	71
18:00	2160	1680	45	54	69	44	53	68
19:00	2160	1680	44	53	68	43	53	69
20:00	2160	1680	43	52	61	42	52	67
21:00	2160	1680	41	51	59	41	50	62
22:00	2160	1680	41	50	59	38	49	57
23:00	2160	1680	42	49	55	36	48	59
00:00	2160	1680	41	48	60	35	46	57
01:00	2160	1680	37	47	61	36	45	55
02:00	2160	1680	37	47	64	34	44	54
03:00	2160	1680	37	48	66	35	44	56
04:00	2160	1680	39	48	65	36	45	60
05:00	2160	1680	41	51	61	38	47	63
06:00	2160	1680	44	54	64	40	50	61

[a] Denotes the start time of each 1-hour period. For example, the row with "07:00" in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-minute samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 59 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-minute A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

[d] Weekday summary statistics are presented in this table as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Weekend summary statistics are presented as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[e] The lowest 1% and greatest 1% of 1-minute A-weighted equivalent sound levels have been excluded to display the 1st and 99th percentiles (respectively), as the relatively wide range of minimum and maximum sound levels can be less informative due to outlier data. The presented average has been computed from all sampled data.

Table D-2. Measurement location B summary of measured 1-minute A-weighted equivalent sound levels

Start time of hourly period (hh:mm) [a]	Number of samples [b]		1-Minute A-weighted equivalent sound level, L_{eq} (dBA) [c]					
			Weekdays [d]			Weekends [d]		
	Weekdays [d]	Weekends [d]	1st percentile [e]	Average [e]	99th percentile [e]	1st percentile [e]	Average [e]	99th percentile [e]
07:00	2820	1200	54	61	70	46	56	65
08:00	2820	1200	54	61	67	47	57	63
09:00	2820	1200	53	60	67	49	57	64
10:00	2820	1200	52	59	67	51	58	65
11:00	2855	1200	51	59	67	50	59	65
12:00	2940	1200	52	59	67	50	59	66
13:00	2940	1200	51	59	67	51	59	67
14:00	2940	1200	52	59	66	51	59	67
15:00	2940	1200	53	59	66	52	60	68
16:00	2940	1200	53	60	67	52	60	70
17:00	2340	1800	54	60	65	52	59	69
18:00	2340	1800	52	59	65	51	58	67
19:00	2340	1800	51	58	64	50	57	68
20:00	2292	1800	50	56	62	49	56	67
21:00	2228	1800	48	55	62	48	55	64
22:00	2220	1800	46	54	62	46	54	60
23:00	2220	1800	45	53	62	45	53	62
00:00	2220	1800	44	52	64	44	51	60
01:00	2220	1800	43	51	62	42	50	59
02:00	2220	1800	42	51	63	41	49	58
03:00	2220	1800	43	52	63	40	48	58
04:00	2220	1800	44	53	63	41	50	60
05:00	2220	1800	48	56	64	42	52	62
06:00	2220	1800	51	59	65	47	55	62

[a] Denotes the start time of each 1-hour period. For example, the row with "07:00" in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-minute samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 59 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-minute A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

[d] Weekday summary statistics are presented in this table as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Weekend summary statistics are presented as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[e] The lowest 1% and greatest 1% of 1-minute A-weighted equivalent sound levels have been excluded to display the 1st and 99th percentiles (respectively), as the relatively wide range of minimum and maximum sound levels can be less informative due to outlier data. The presented average has been computed from all sampled data.

Table D-3. Measurement location C summary of measured 1-minute A-weighted equivalent sound levels

Start time of hourly period (hh:mm) [a]	Number of samples [b]		1-Minute A-weighted equivalent sound level, L_{eq} (dBA) [c]					
			Weekdays [d]			Weekends [d]		
	Weekdays [d]	Weekends [d]	1st percentile [e]	Average [e]	99th percentile [e]	1st percentile [e]	Average [e]	99th percentile [e]
07:00	2100	840	53	62	76	48	56	67
08:00	2024	840	54	62	78	50	58	68
09:00	1980	840	54	62	77	53	59	67
10:00	1980	840	54	62	76	54	59	68
11:00	1980	840	54	62	77	53	60	67
12:00	2040	840	54	61	76	53	59	66
13:00	2100	840	53	61	75	53	59	68
14:00	2100	840	54	61	76	53	59	66
15:00	2100	840	53	61	74	53	60	68
16:00	2100	840	54	60	71	54	59	67
17:00	1680	1260	55	60	70	54	59	69
18:00	1680	1260	54	59	69	54	59	66
19:00	1680	1260	51	58	68	52	58	66
20:00	1680	1260	49	57	64	49	57	66
21:00	1680	1260	49	55	65	47	56	63
22:00	1680	1260	45	54	62	46	55	63
23:00	1680	1260	43	51	60	44	53	63
00:00	1680	1260	41	50	60	42	51	62
01:00	1680	1260	38	49	61	41	49	59
02:00	1680	1260	39	49	62	39	48	60
03:00	1680	1260	39	50	64	40	48	58
04:00	1680	1260	41	52	64	40	49	60
05:00	1680	1260	45	55	63	43	52	65
06:00	1680	1260	51	58	66	47	55	68

[a] Denotes the start time of each 1-hour period. For example, the row with "07:00" in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-minute samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 59 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-minute A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

[d] Weekday summary statistics are presented in this table as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Weekend summary statistics are presented as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[e] The lowest 1% and greatest 1% of 1-minute A-weighted equivalent sound levels have been excluded to display the 1st and 99th percentiles (respectively), as the relatively wide range of minimum and maximum sound levels can be less informative due to outlier data. The presented average has been computed from all sampled data.

Table D-4. Measurement location D summary of measured 1-minute A-weighted equivalent sound levels

Start time of hourly period (hh:mm) [a]	Number of samples [b]		1-Minute A-weighted equivalent sound level, L_{eq} (dBA) [c]					
			Weekdays [d]			Weekends [d]		
	Weekdays [d]	Weekends [d]	1st percentile [e]	Average [e]	99th percentile [e]	1st percentile [e]	Average [e]	99th percentile [e]
07:00	2100	900	50	57	68	48	54	64
08:00	2100	900	50	57	73	49	54	63
09:00	2100	900	50	57	75	49	55	61
10:00	2100	900	50	57	75	50	55	64
11:00	2220	900	50	56	69	51	56	64
12:00	2220	900	50	57	72	51	55	60
13:00	2220	900	50	56	70	50	56	64
14:00	2220	900	50	56	75	50	56	65
15:00	2220	900	50	56	65	49	56	69
16:00	2220	900	51	56	67	50	57	65
17:00	1680	1440	51	56	66	51	57	67
18:00	1680	1440	50	56	65	51	58	67
19:00	1680	1440	50	55	63	52	56	66
20:00	1680	1440	49	55	64	51	56	67
21:00	1680	1415	48	54	64	49	56	67
22:00	1680	1380	47	53	62	47	54	63
23:00	1680	1341	46	52	58	45	53	64
00:00	1680	1320	45	52	62	43	51	62
01:00	1680	1320	45	51	62	43	50	58
02:00	1680	1320	46	52	65	43	49	60
03:00	1680	1320	46	52	68	43	50	61
04:00	1680	1320	47	53	67	44	51	60
05:00	1680	1320	49	55	65	45	52	63
06:00	1680	1320	50	57	65	45	53	59

[a] Denotes the start time of each 1-hour period. For example, the row with "07:00" in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-minute samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 59 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-minute A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

[d] Weekday summary statistics are presented in this table as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Weekend summary statistics are presented as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[e] The lowest 1% and greatest 1% of 1-minute A-weighted equivalent sound levels have been excluded to display the 1st and 99th percentiles (respectively), as the relatively wide range of minimum and maximum sound levels can be less informative due to outlier data. The presented average has been computed from all sampled data.

Table D-5. Measurement location E summary of measured 1-minute A-weighted equivalent sound levels

Start time of hourly period (hh:mm) [a]	Number of samples [b]		1-Minute A-weighted equivalent sound level, L_{eq} (dBA) [c]					
			Weekdays [d]			Weekends [d]		
	Weekdays [d]	Weekends [d]	1st percentile [e]	Average [e]	99th percentile [e]	1st percentile [e]	Average [e]	99th percentile [e]
07:00	3300	1440	61	66	71	57	62	73
08:00	3300	1440	61	66	70	59	66	89
09:00	3300	1440	62	65	72	61	67	86
10:00	3300	1440	62	65	72	61	67	83
11:00	3300	1440	62	65	72	62	66	77
12:00	3300	1440	61	65	70	62	66	80
13:00	3360	1440	61	65	72	62	66	82
14:00	3360	1440	60	65	83	62	67	82
15:00	3360	1440	60	66	85	60	67	79
16:00	3360	1440	61	67	85	62	66	80
17:00	2640	2160	62	67	83	61	67	85
18:00	2640	2160	61	65	75	61	68	87
19:00	2640	2160	60	64	70	60	68	86
20:00	2640	2160	58	63	72	58	65	83
21:00	2640	2160	56	62	70	56	63	85
22:00	2640	2160	54	60	68	54	60	67
23:00	2640	2160	52	58	65	52	58	65
00:00	2640	2100	48	56	65	49	56	65
01:00	2640	2100	47	56	65	47	55	65
02:00	2640	2100	46	56	66	45	54	64
03:00	2640	2100	48	57	67	45	55	65
04:00	2640	2100	50	59	67	47	56	64
05:00	2640	2100	55	61	67	51	58	66
06:00	2640	2100	60	64	70	55	61	67

[a] Denotes the start time of each 1-hour period. For example, the row with "07:00" in this column represents the hour from 7:00am to 8:00am.

[b] Number of 1-minute samples included in the corresponding hourly period throughout the measurement survey. Only samples containing greater than or equal to 59 seconds of continuous measurement duration were considered for calculation of these statistics.

[c] Sound levels reported in this table are 1-minute A-weighted equivalent sound levels. Presented statistics were computed arithmetically from sampled values in decibels for each sampling period.

[d] Weekday summary statistics are presented in this table as all hours from 07:00 (7:00am) on Monday through 17:00 (5:00pm) on Friday. Weekend summary statistics are presented as the complementary period from 17:00 (5:00pm) on Friday through 07:00 (7:00am) on Monday.

[e] The lowest 1% and greatest 1% of 1-minute A-weighted equivalent sound levels have been excluded to display the 1st and 99th percentiles (respectively), as the relatively wide range of minimum and maximum sound levels can be less informative due to outlier data. The presented average has been computed from all sampled data.

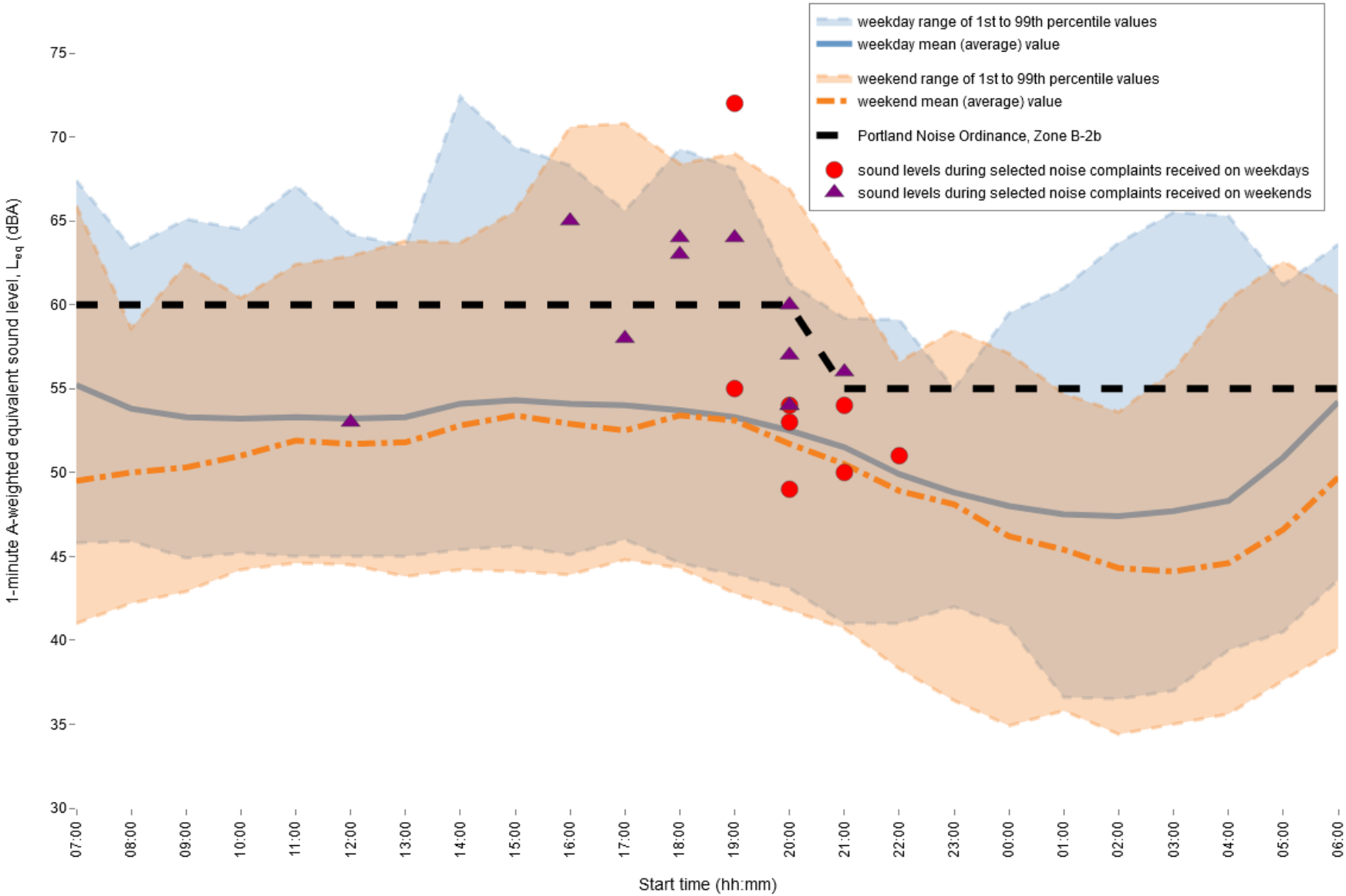

Figure D-1. Measurement location A ranges of 1-minute A-weighted equivalent sound levels

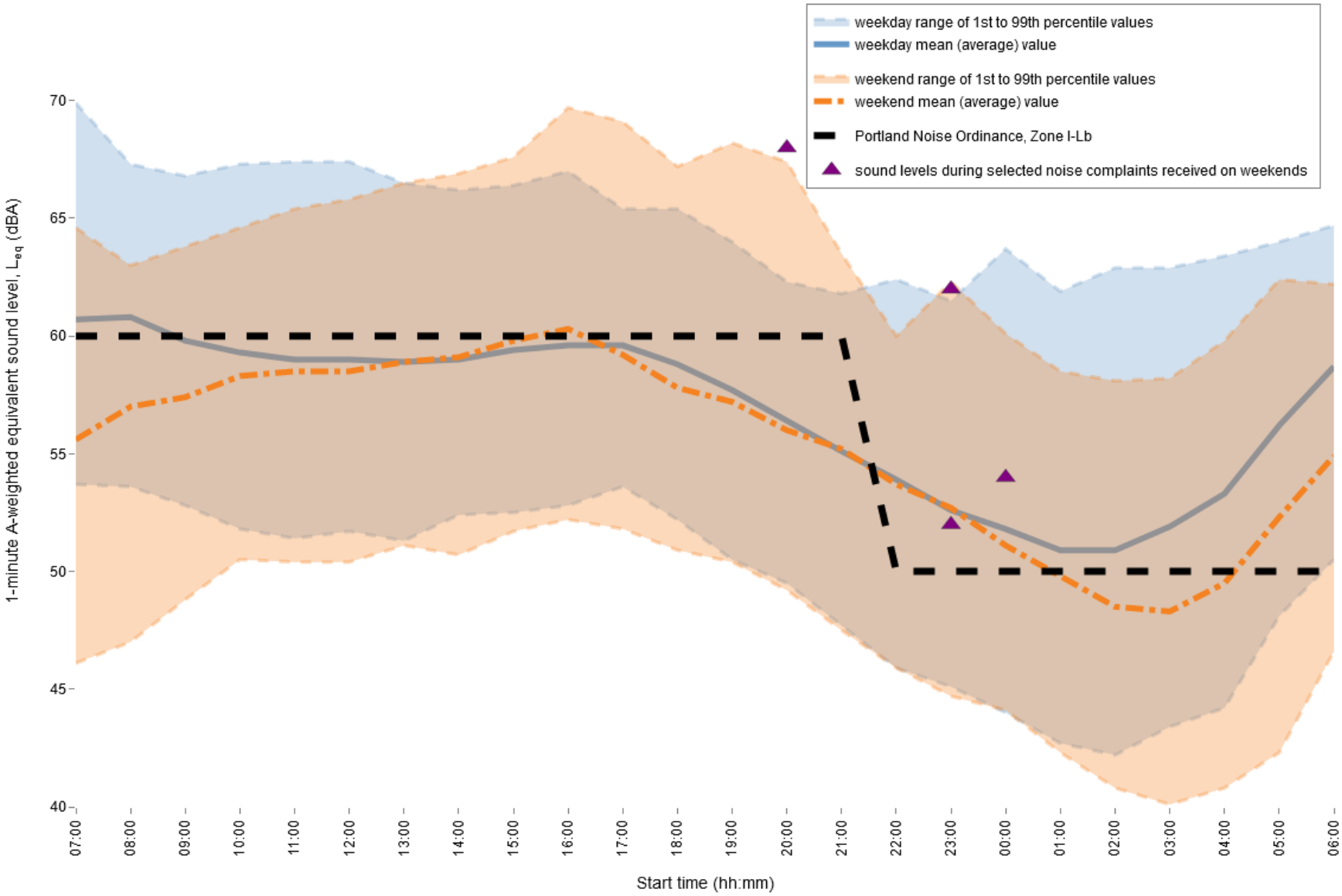

Figure D-2. Measurement location B ranges of 1-minute A-weighted equivalent sound levels

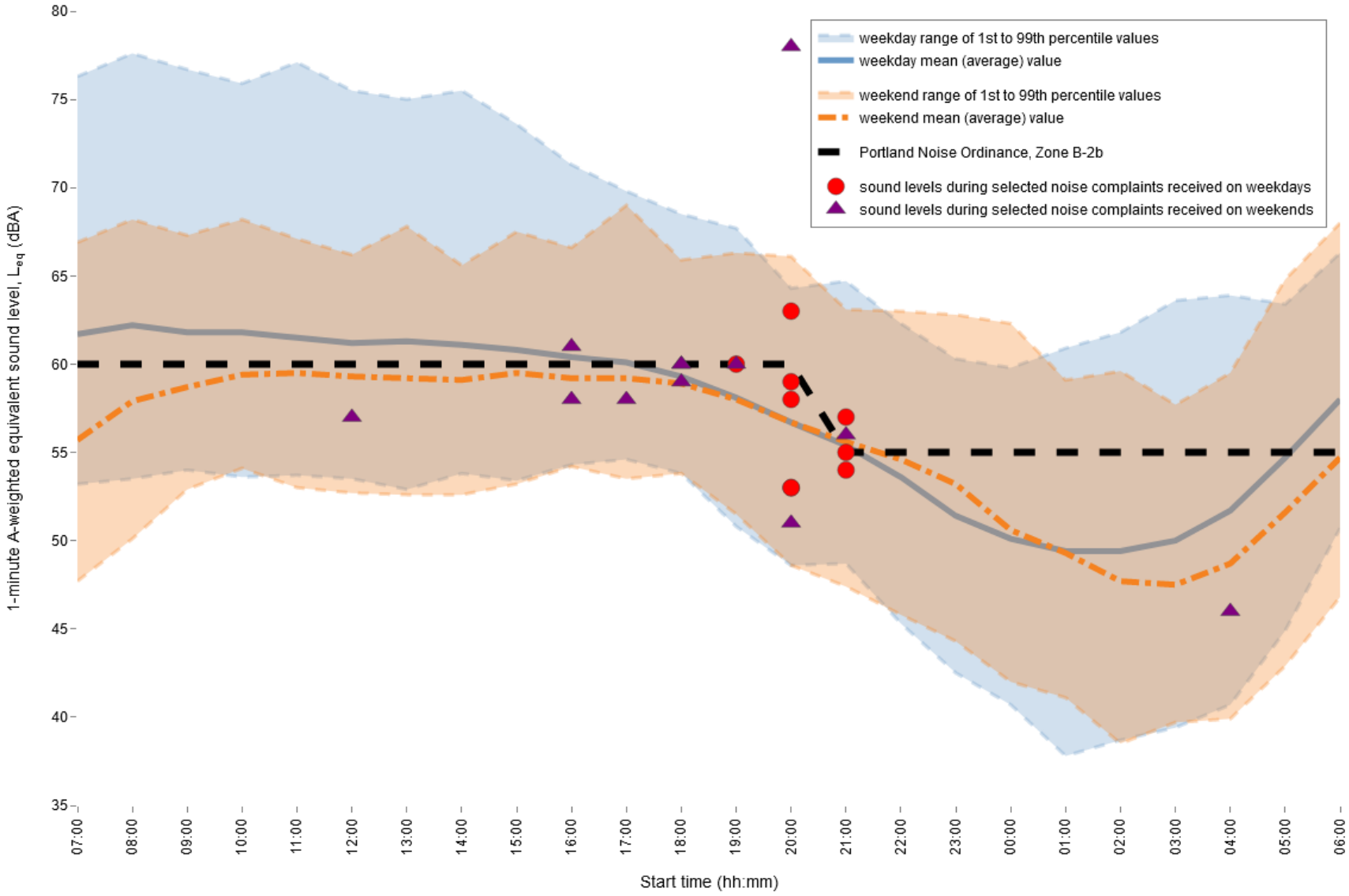

Figure D-3. Measurement location C ranges of 1-minute A-weighted equivalent sound levels

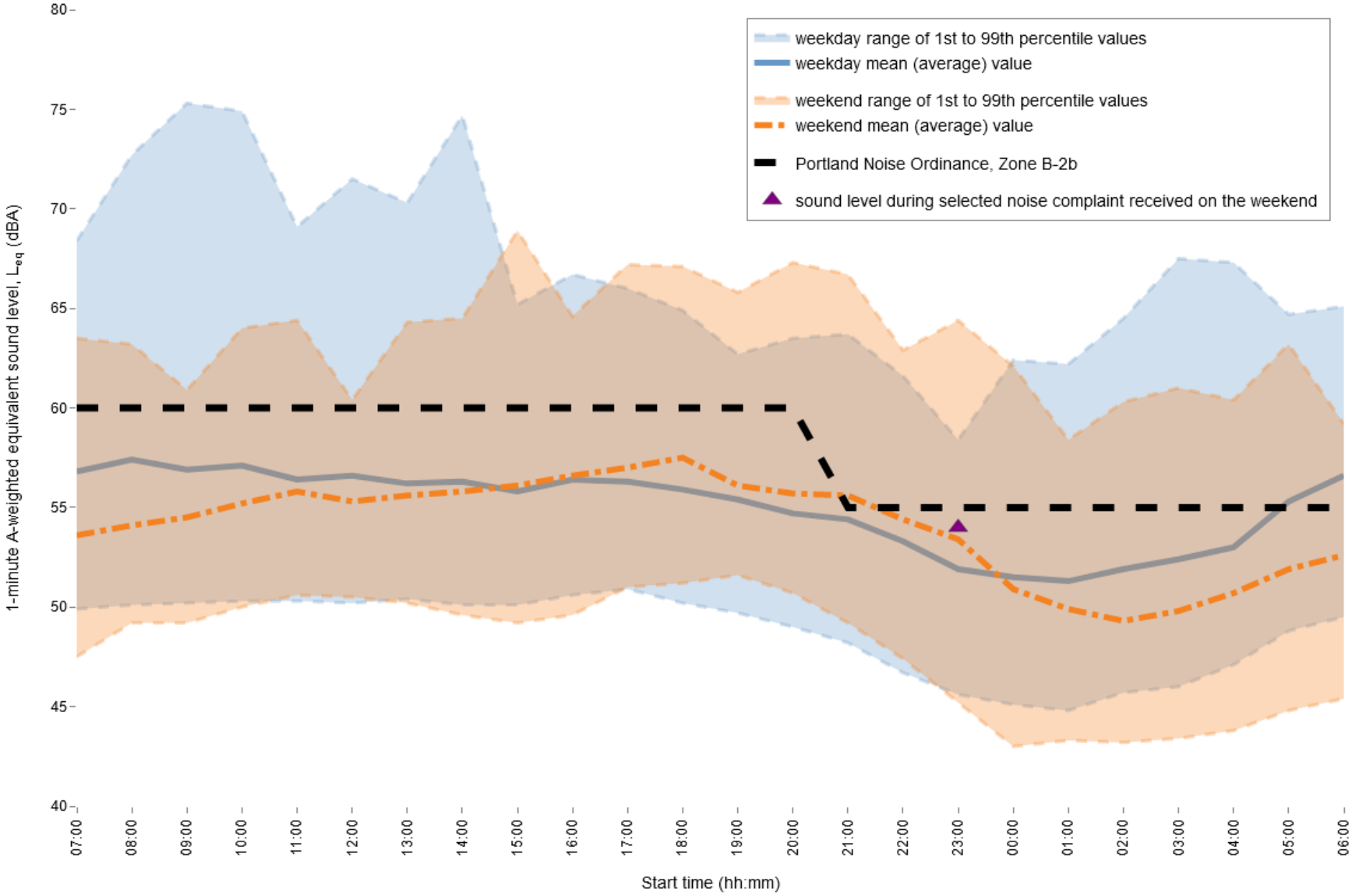

Figure D-4. Measurement location D ranges of 1-minute A-weighted equivalent sound levels

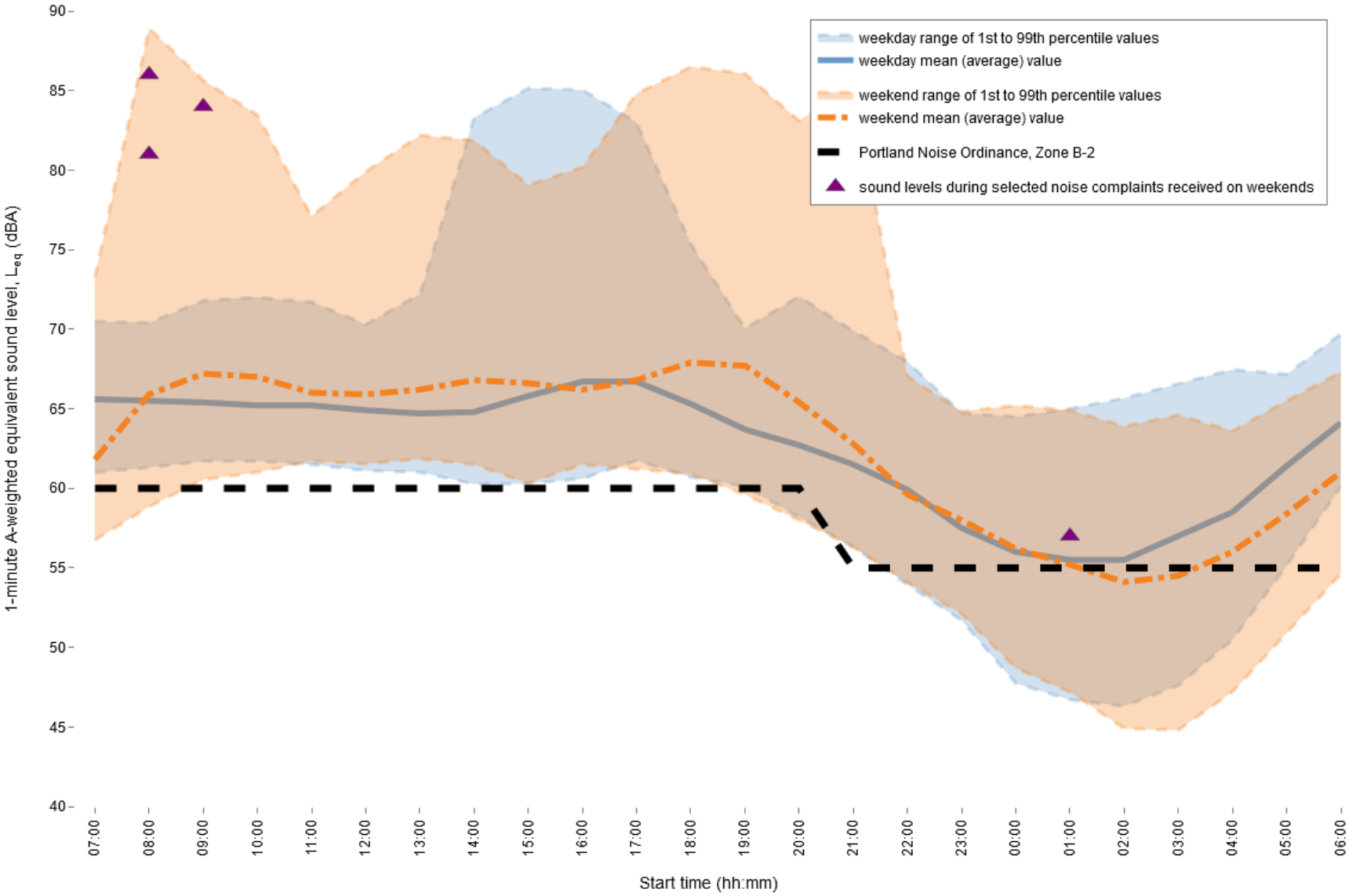

Figure D-5. Measurement location E ranges of 1-minute A-weighted equivalent sound levels

APPENDIX E: DAILY SUMMARY SOUND LEVEL AND REPRESENTATIVE LAND USE COMPATIBILITY MAPS

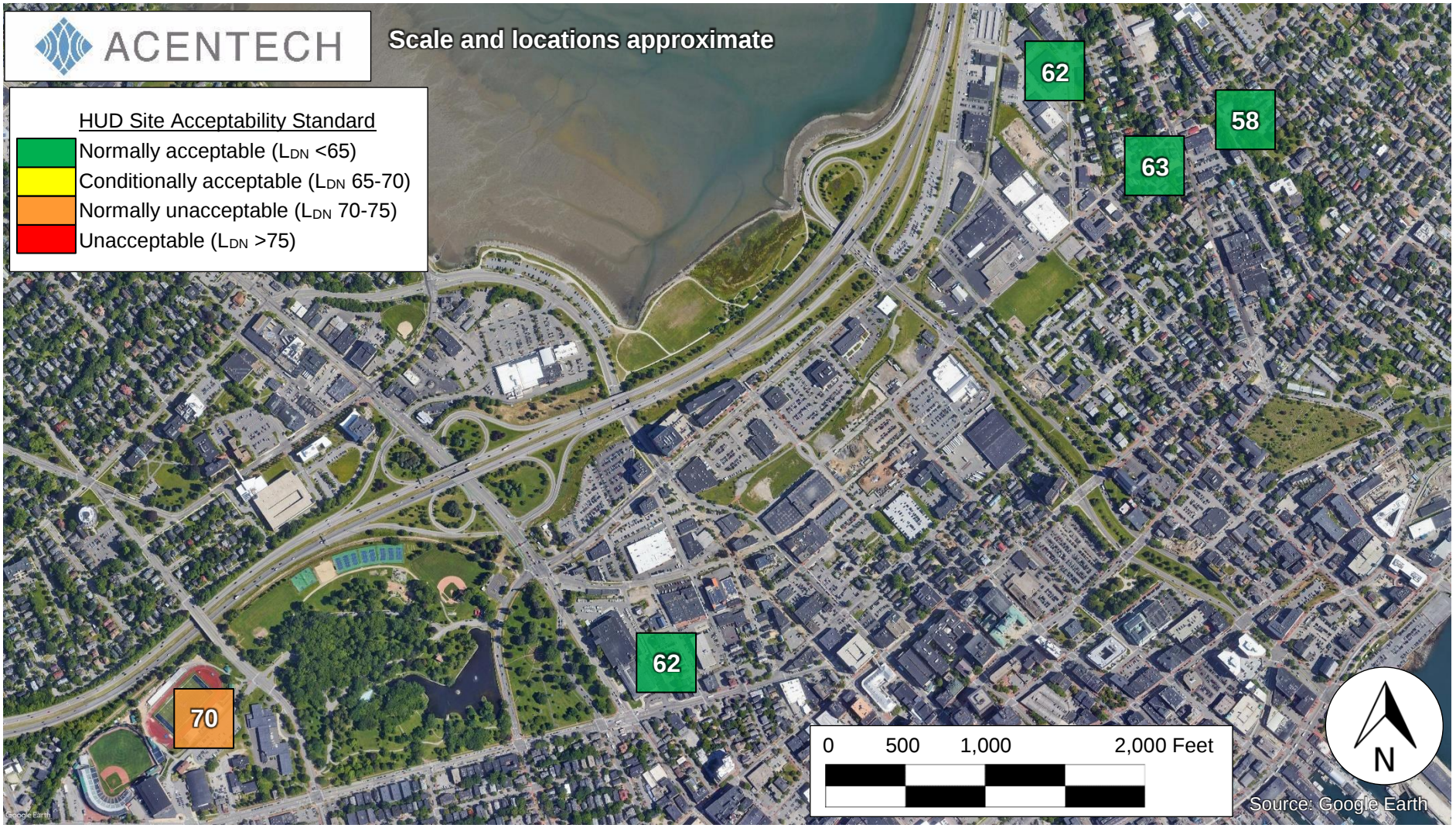

Figure E-1. Average Day-Night Sound Level (L_{DN}) map, 2021 Bayside Neighborhood study

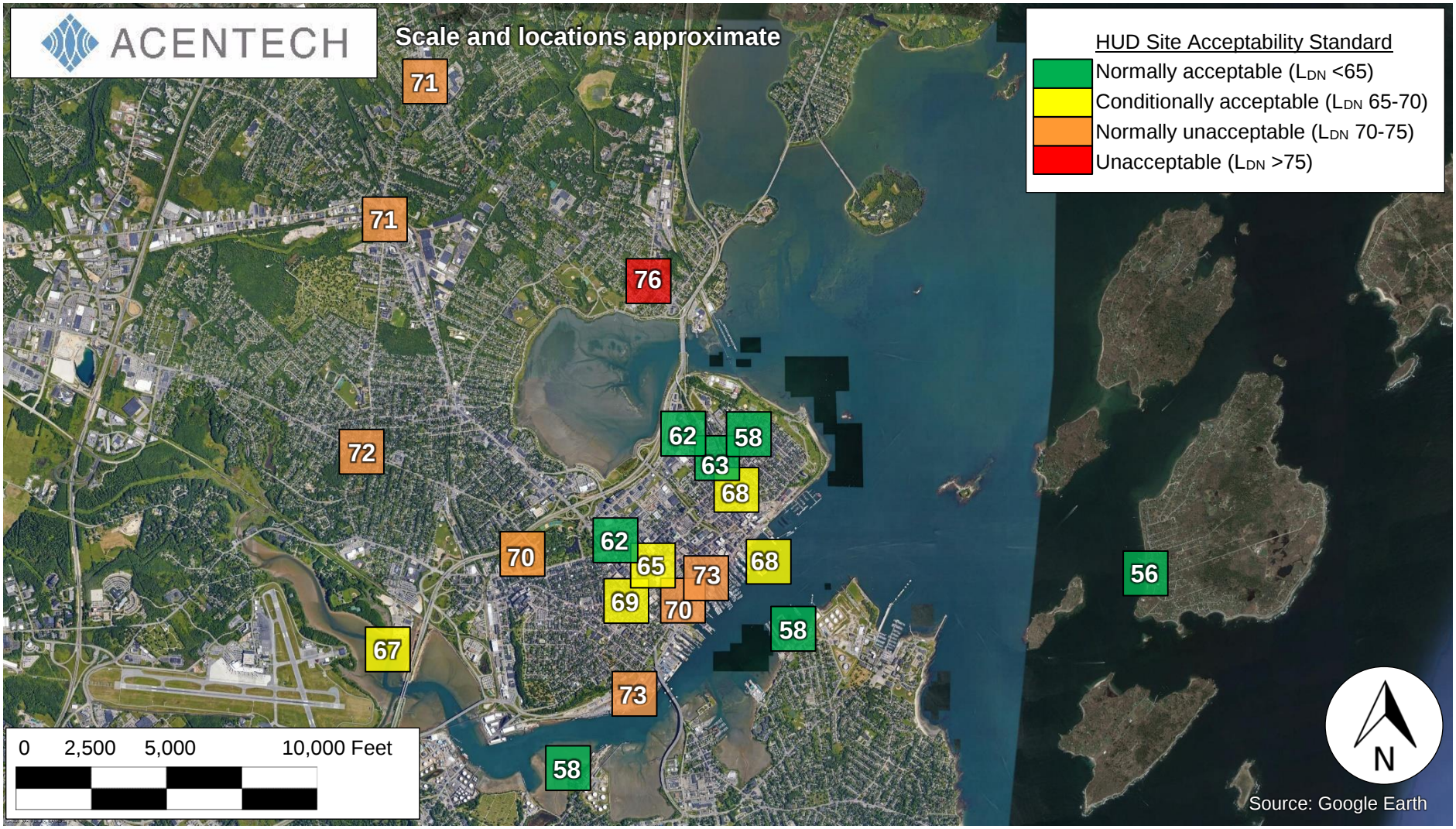

Figure E-2. Average Day-Night Sound Level (L_{DN}) map, combined 2017 and 2021 studies

Figure E-1. Average Day-Night Sound Level (L_{DN}) map, 2021 Bayside Neighborhood study

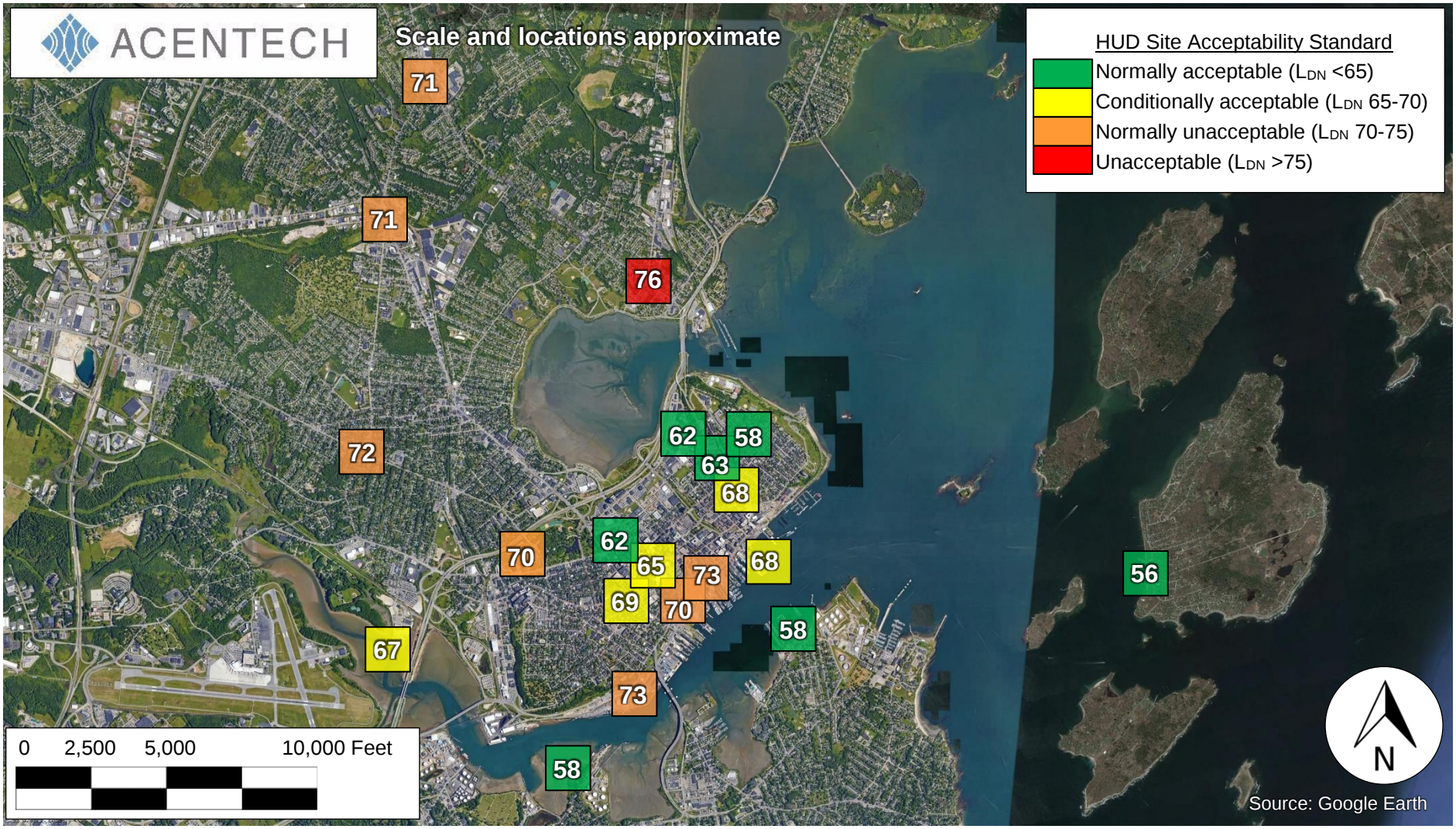

Figure E-2. Average Day-Night Sound Level (L_{DN}) map, combined 2017 and 2021 studies

CITY OF PORTLAND
Permitting and Inspections Department

Memorandum

TO: Mayor Snyder
Members of the City Council

CC: Danielle West, Interim City Manager

FROM: Jessica B. Hanscombe-Director of Permitting and Inspections

DATE: November 4, 2021

RE: Acentech Sound Study

The City of Portland contracted with Acentech to perform a sound study. Staff chose locations based on complaints that have been called into the Police Department. Police worked to get permission from Private Property Owners to have the sound meters installed on their property. In the first week, we had one stolen and had to replace it. The meters were placed by the employees of Acentech the first week of August and removed the last week of October. The locations were:

1. 60 Parris Street
2. 65 Cove Street
3. 179 Sheridan Street
4. Fitzpatrick Stadium
5. 90 Anderson Street

Acentech will compile the data, analyze it and provide staff with a report. We anticipate having this report the end of November to early December. Staff will review with Acentech.

CITY OF PORTLAND
IN THE CITY COUNCIL

AMENDMENT TO PORTLAND CITY CODE CHAPTERS 4 AND 15
RE: ENTERTAINMENT SOUND ORDINANCE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PORTLAND, MAINE IN CITY COUNCIL ASSEMBLED AS FOLLOWS:

1. That Sections 4-41 to 4-59 are hereby amended to read as follows:

Sec. 4-41. Purpose.

~~The~~ The purpose of this article is to control the issuance of special permits for entertainment.~~music, dancing or entertainment in facilities licensed by the state to sell liquor as provided by state law, entertainment in bottle clubs, and permits for after-hours entertainment and to control the operation of dance halls, concert halls, single dances and single concerts.~~

Sec. 4-42. Definitions.

Terms used in this article shall have their common meanings except that the definitions set forth in chapter 15 and/or in this section shall apply unless the context clearly indicates that a different meaning is intended.

~~*After-hours entertainment* shall mean music, dancing, or entertainment provided between the hours of 1:00 a.m. and 7:00 a.m.~~

~~*Concert* shall mean the presentation of live or amplified music for the entertainment of a live audience gathered specifically for that entertainment.~~

~~*Concert hall* shall mean any building, room or hall which is kept or used for concerts open to the public.~~

~~*Dance* shall mean every dance not held in a private residence; other than a class in which instruction in dancing is given for hire, or any dance held in a school hall under direct supervision~~

~~of school authorities, or any dance conducted by and exclusively for the benefit of any bona fide charitable organization.~~

~~*Dance hall* shall mean any building, room, hall, or other public place which is kept or used for public dancing, or which for compensation paid directly or indirectly to the owner, manager, or operator thereof, men, women or children are permitted to engage in dancing.~~

Entertainment shall mean and include any event to which the public is invited or allowed to watch, listen to, or participate in; or is conducted for the purposes of holding the attention of, gaining the attention of, or diverting or amusing patrons or guests, including, but not limited to any of the following:

1. Dancing by patrons to live or recorded music;

2. The presentation of music played on sound equipment operated by an agent or contractor of the establishment, commonly known as 'disc jockey' or 'DJ';

3. The playing of background music, except where the background music cannot be heard beyond the limits of the premises on which the music is being played;

4. The presentation of live music whether amplified or unamplified;

5. The presentation of music concerts, or other similar forms of musical entertainment from any source; or

6. Any other live performance, including, but not limited to, presentations by single or multiple performers, such as hypnotists, comedians, dance arts, concerts, dances, live bands, karaoke or other live music.

~~amusement, performance, or exhibition or diversion for patrons or customers of the licensed premises, whether provided by professional entertainers or by full-time or part-time employees of the licensed premises whose incidental duties include activities with an entertainment value.~~

Indoor Entertainment shall mean entertainment that is conducted within a fully enclosed building or structure, including ensuring that all windows and doors remain closed during the time that entertainment is occurring.

Outdoor Entertainment shall mean entertainment that is conducted outside of a fully enclosed building or structure, or is conducted within a building or structure in any manner such that the sound generated by that entertainment is intentionally projected outside of that building or structure.

...

DIVISION 2. LICENSE*

Sec. 4-51. Required.

~~(~~a) No person ~~licensed by the state to sell liquor to be consumed on the premises, and no bottle club licensed by the city, shall permit on the premises any music except that produced by radio or mechanical device, any dancing, or entertainment of any sort without an entertainment license from the city. The license required by this subsection and state law authorizes entertainment only during the hours when state law permits the sale of alcohol for consumption on the premises.~~shall conduct, or permit to be conducted on a premises or other location owned or controlled by that person, any entertainment without first obtaining a license as provided in this Article.

(b) *Single Event Entertainment License – Private Property.* A Single Event Entertainment License – Private Property shall allow the licensee to conduct a single indoor or outdoor entertainment event lasting no more than eight hours in one 24-hour period at the premises for which the license is issued. No more than five Single Event Entertainment Licenses may be issued for events at any one premises in any twelve-month period.

(c) *Single Event Entertainment License – Public Property.* A Single Event Entertainment License – Public Property shall allow the licensee to conduct a single indoor or outdoor entertainment event lasting no more than eight hours in one 24-hour period on City-owned property. Multiple events by the same party and on the same City-owned property may be combined into one license.

(d) *Indoor Entertainment License.* An Indoor Entertainment License shall allow the licensee to conduct indoor entertainment only at the premises for which the license is issued.

(e) *Outdoor Entertainment License.* An Outdoor Entertainment License shall allow the licensee to conduct outdoor entertainment only at the premises for which the license is issued.

(f) *Combined Entertainment License.* A Combined Entertainment License shall allow the licensee to conduct indoor and/or outdoor entertainment at the premises for which the license is issued.

(g) *Expanded Entertainment Addendum.* An Expanded Entertainment Addendum shall be in addition to any entertainment license and shall allow the licensee to conduct after-hours entertainment and/or to exceed the applicable sound limits. Expanded Entertainment Addendum shall be at the sole discretion of the City Council.

~~*After-hours entertainment* shall require a separate license as provided in this division subject to the following restrictions and requirements:~~

~~(1) Operations under such separate license shall end at 3:00 a.m.~~

~~(2) Establishments that have a liquor license shall limit attendance to individuals who are at least 21 years old. Establishments that do not have a liquor license shall limit attendance to individuals who are at least 18 years old.~~

~~(3) Any applicant for an after-hours entertainment license shall meet with the police department for review of the security plan and a site visit before the license is brought before the city council.~~

~~(4) The license shall allow no more than twenty-four (24) after hour events per calendar year.~~

~~(5) In addition to the after-hours license, at least seven (7) days in advance of each event, the license holder shall deliver a written notice to the Permitting and Inspections Department during normal business hours specifying the date upon which the event will be held. The Permitting and Inspections Department will forward the notice immediately to the police department, track the number and frequency of events per licensee per calendar month and inform a licensee if an event is not allowed.~~

~~(c) *Exceptions:* Upon application for a license for a single event, the council may allow after hours entertainment~~

~~to take place after 3:00 a.m. for a public purpose and may permit individuals under the age of 21 to attend the event, subject to such conditions, if any, that the council imposes to protect the public health, safety and welfare. Any events permitted under this paragraph will not count as one of the twenty-four events per year allowed by section (b)(4) above.~~

~~(d) No person shall conduct, maintain or operate a dance hall or a concert hall, as defined in section 4-42 of this code, without a license.~~

~~(e) No person shall conduct, maintain, or operate a single dance or single concert, as defined in section 4-42 of this code, on private property, where greater than 100 attendees are anticipated, or where alcohol will be consumed, without a license.~~

~~(f) No person shall conduct, maintain, or operate a single dance or single concert, as defined in section 4-42 of this code, on public property without a license from the Parks, Recreation, and Facilities Department.~~

Sec. 4-52. Application.

(a) Application for a license under this division shall, in addition to the requirements of chapter 15, be submitted on forms provided by the City. Applications shall specifically include~~contain~~:

(1) ~~t~~The name and contact information of the owner or person in control of the building and/or premises;~~,~~

(2) The name and contact information of the person responsible for the entertainment, who shall be available to respond to inquiries of the City at all times while entertainment is taking place;

(3) ~~t~~The location of the premises;~~,~~ and

(4) ~~a~~A plan of the premises, giving in detail the dimensions and diagram of space to be used for dancing, seating, ~~dressing rooms, check rooms,~~ toilet rooms, and means of egress ~~entrances, exits, stairways and fire escapes~~.

Applicants must provide all required information and pay all required fees before a license application will be considered.

(b) *Location of Application.* Applications for a Single Event Entertainment License – Public Property shall be submitted to the Parks, Recreation, and Facilities Department for approval. All other applications shall be submitted to the Permitting and Inspections Department.

(c) *Timing of Application.* Applications must be submitted no later than the following:

(1) For a Single Event Entertainment License – Private Property or Single Event Entertainment License – Public Property, a complete application, including license fee and noise deposit, must be submitted no later than seven business days prior to the licensed event.

(2) For all other licenses, a complete application, including license fee, sound mitigation plan, and review fee, must be submitted no later than four weeks prior to the City Council Meeting at which the applicant wishes the application to be considered.

(d) *Noise Deposits.* Applications for a Single Event Entertainment License – Private Property and Single Event Entertainment License – Public Property must include a noise deposit as follows:

(1) The noise deposit must be paid before a Single Event Entertainment License will be issued.

(2) The noise deposit shall be calculated based on the reasonably anticipated number of attendees:

Anticipated Attendees	**Noise Deposit**
Less than 200	$100
200-500	$250
500-1,000	$500
1,000+	$1,000

(3) The noise deposit shall be double the amount listed above for any licensee who has forfeited a noise deposit within the previous two years.

(4) The noise deposit shall be forfeited automatically, and in the City's sole discretion, if the licensee fails to adequately mitigate any noise impacts of the event after being given notice of the impact by the City and an opportunity to correct.

(5) Forfeiture of the noise deposit shall be in addition to any civil penalties or other remedies provided for in this Code, including the denial of a future license.

(e) *Sound Mitigation Plan.*

(1) A sound mitigation plan shall be required for the following applications:

(i) All initial applications for an Outdoor Entertainment License;

(ii) All initial applications for a Combined Entertainment License;

(iii) All initial applications for an Indoor Entertainment License if the licensee did not hold an entertainment license for the premises in the previous license year; and

(iv) All renewal applications that are required to go before the City Council for consideration.

(2) A sound mitigation plan shall consist of the following:

(i) The sound mitigation plan must be prepared and certified by a professional sound engineer with appropriate experience and training.

(ii) The sound mitigation plan shall be designed to minimize the impact of entertainment on the surrounding uses, and detail the methods by which the applicant will accomplish those goals.

(iii) The sound mitigation plan shall include, at a minimum, speaker location and direction; sound system details and controls; stage and site layout and direction; any noise cancelling or mitigating measures proposed; and anticipated sound readings at the proposed source of the sound, at a location 8′ from the means of egress located nearest to the noise source and/or 8′ from any outer wall of the premises (for indoor entertainment), at each property line of the premises (for outdoor entertainment), and at the closest residence.

(iv) The sound mitigation plan shall require an on-site monitor when the number of attendees at an entertainment event is expected to exceed, or does exceed, 250. The on-site monitor shall be equipped with a dedicated SPL meter, and shall be available to respond to any inquiry of a City official during the time that the entertainment is being conducted.

(5) The City and/or its designee will review the sound mitigation plan and will provide written recommendations to the City Council with respect to the proposed sound mitigation plan and license application. The applicant shall pay a sound mitigation review fee, as established by the City Council, to cover the costs of review.

(6) The applicant shall be responsible for the City's cost of reviewing the sound mitigation plan.

(7) Compliance with the sound mitigation plan, as approved by the City Council, shall be a condition of the applicant's license, if granted.

Sec. 4-53. Hearings.

(a) A public hearing shall be held prior to issuance of ~~any original license under this division other than a single dance license or a single concert license~~the following:~~.~~

(1) All initial applications for an Outdoor Entertainment License;

(2) All initial applications for a Combined Entertainment License;

(3) All initial applications for an Indoor Entertainment License if the licensee did not hold an entertainment license for the premises in the previous license year; and

(4) All renewal applications that are required to go before the City Council for consideration in accordance with subsection (b) below.

(b) At the request of the City Manager or his/her designee, or at the request of any member of the City Council or the Mayor, a public hearing shall be held prior to the issuance of any renewal

under this division other than a Single Event Entertainment License – Private Property or Single Event Entertainment License – Public Property.

Sec. 4-54. Appeals.

Appeal from the denial, suspension revocation or issuance with a condition or conditions of an entertainment license to a person ~~licensed by the state to sell liquor~~ shall be taken to the municipal board of appeals within thirty (30) days of such denial, suspension or revocation. The municipal board of appeals may grant or reinstate the permit if it finds that the permitted activities would not constitute a detriment to the public health, safety or welfare, or that the denial, suspension or revocation was arbitrary or capricious. If a license is issued with a condition or conditions and the board concludes that the condition or conditions do not protect the public health, safety or welfare or are arbitrary or capricious, the board shall refer the license back to the city council to determine whether the license will issue without the condition or conditions or whether the application will be denied. ~~The denial, suspension revocation or issuance with a condition or conditions of all other licenses or permits required hereunder shall be to the superior court under the provisions of Maine Rules of Civil Procedure 80B.~~

Sec. 4-55. Duration.

~~——~~(a) *Granting of Licenses.* Licenses shall be granted, denied, suspended, revoked, or granted with a condition or conditions as necessary to protect the public health, safety and welfare and in accordance with chapter 15, except for the following~~, but in the case of a special entertainment license, it~~:

(1) A Single Event Entertainment License – Public Property shall be granted, denied, suspended, revoked, or granted with conditions at the sole discretion of the Parks, Recreation, and Facilities Department.

(2) An Expanded Entertainment Addendum shall be granted, denied, suspended, revoked, or granted with conditions at the sole discretion of the city manager.

(b) *Expiration of Licenses.* Licenses shall be valid for one year from the date they are granted, except in the following situations:

~~(~~1) Where the licensee holds a state liquor license or a municipal bottle club license, an Indoor, Outdoor, and/or Combined Entertainment License shall be deemed terminated upon expiration or revocation of the respective state license ~~to sell alcoholic beverages~~ or the municipal bottle club license, as the case may be, prior to the expiration of the one-year period.

(2) Where the licensee does not hold a state liquor license or a municipal bottle club license, but does hold a food service establishment license, an Indoor, Outdoor, and/or Combined Entertainment License shall be deemed terminated upon expiration or revocation of the food service establishment license prior to the expiration of the one-year period.

(3) Chapter 15 notwithstanding, the city council may also grant temporary entertainment licenses for a period of less than one (1) year when, in its sole discretion, it determines that one (1) or more trial periods is necessary to evaluate the impact of the entertainment on the peace and quiet of the neighborhood and on the public health, safety and welfare.

Sec. 4-56. Reserved.

DIVISION 3. STANDARDS FOR ENTERTAINMENT PURSUANT TO A LICENSE

Sec. 4-57. Conditions; sound and noise limitation.

(a) Any other provision of this Code notwithstanding, a licensee shall not allow the licensed activity or any other activities on the licensed premises to generate sound or noise that exceeds either of the following standards without an Expanded Entertainment Addendum:

(1) Eighty-five (85) dBA; and

(2) Ninety-five (95) dBC.

(b) The standards set forth in subsection (a) above shall be measured as follows:

(1) For indoor entertainment, measurements shall be taken~~ninety-two (92) decibels, A-weighted, averaged over one (1) minute, when measured~~ eight feet (8') from the

means of egress located nearest to the noise source and/or 8′ from any outer wall of the premises.

~~(~~2) For outdoor entertainment, measurements shall be taken from the property line of the premises nearest to the noise source and/or nearest to the complainant's location, if any.~~, or eight feet (8′) from the noise source if it is generated outdoors.~~

(c) A licensee shall not allow the licensed activity to be conducted outside of the following times without an Expanded Entertainment Addendum.

(1) Outdoor entertainment, Sunday through Thursday: 8 a.m. to midnight;

(2) Outdoor entertainment, Friday through Saturday: 8 a.m. to 1 a.m. the following day; and

(3) Indoor entertainment: 8 a.m. to 1 a.m. the following day.

~~The city council may impose conditions for protecting the public health, safety and welfare on any entertainment license it issues.~~

Sec. 4-57.1. Sound oversight committee.

(a) There shall be a sound oversight committee of four (4) members appointed by the city council. One (1) member shall be a city employee nominated by the city manager; one (1) member shall be a police officer nominated by Portland's Downtown District board; and one (1) member shall be an entertainment licensee nominated by the nightlife oversight committee. The police officer shall be the chair of the sound oversight committee and shall be a non-voting member, except that the police officer shall cast the tie-breaking vote in the event of a tie.

(b) The sound oversight committee shall meet with ~~new entertainment license~~ applicants and licensees when ~~the license application is~~ referred to the ~~team~~ committee either by the city council or by the nightlife oversight committee. The sound oversight committee shall make recommendations to the applicant or licensee regarding actions it can take to mitigate noise and shall make any recommendations regarding noise mitigation it deems necessary to the city council for consideration.

~~———~~(c) When~~ever the police receive two (2) or more verified noise complaints from two (2) separate individuals in any seven (7) day period or five (5) or more verified noise complaints in any thirty (30) day period regarding a particular entertainment licensed establishment~~ a licensee exceeds the standards in § 4-57 of this Article, the police department shall notify the licensee to meet with the sound oversight committee within five (5) business days from the date of the written notification, or such other time as is agreed upon by the sound oversight committee, to identify ways in which the noise problems which have been identified can be mitigated. The sound oversight committee shall notify ~~the~~ any complainants with respect to that licensee in the previous twelve months of the date and time of the meeting.

The licensee shall agree to take effective measures to address the noise issues as recommended by the sound oversight committee, which measures shall be memorialized in a written agreement at the conclusion of the meeting with the sound oversight committee and shall be implemented within one (1) week of said meeting unless another date is agreed upon by the sound oversight committee. Failure to implement the plan in a timely fashion or to comply with all recommendations in the plan will result in a recommendation by the sound oversight committee to the city council to place conditions on or revoke the establishment's entertainment license.

If ~~the police receive two (2) or more verified noise complaints from two (2) separate individuals in any seven (7) day period or five (5) or more verified noise complaints in any thirty (30) day period regarding~~ the same licensed establishment on a subsequent occasion again exceeds the standards in § 4-57 of this Article, then the sound oversight committee is under no obligation to meet with the licensee but may make recommendations to the ~~city council~~ licensing authority to place conditions on or revoke the entertainment license.

(d) The sound oversight committee may also meet with liquor license applicants upon referral by the city council or the nightlife oversight committee and may recommend noise mitigation measures to liquor licensees upon referral by the Portland police department or the city council.

Sec. 4-57.5. Restricted locations.

Notwithstanding any other provision of this article, no new licenses shall be issued in the B-3c zone to drinking

establishments and chemical-free night clubs, as defined in section 14-47. For purposes of this section, renewal of an existing license by the party holding the license on the date of enactment shall not be considered a new license. Any transfer of ownership shall be considered a new license.
(Ord. No. 47-97, 8-4-97)

Sec. 4-58. Penalties.

In addition to suspending or revoking a license, the city may prosecute violations in court. A violation of this ~~division~~ Article shall be punished by a fine of five hundred dollars ($500.00) for a first offense, one thousand dollars ($1,000.00) for a second offense and two thousand dollars ($2,000.00) for a third or subsequent offense regardless of the time between offenses. Each act of violation and every day upon which any such violation shall occur shall constitute a separate offense. In addition to such penalty, the city may enjoin or abate any violation of this division by appropriate action. In addition to such penalty, if the court finds for the city, the city shall recover its costs of suit including reasonable experts' fees, attorneys' fees and investigative costs.

Sec. 4-59. Applicability.

This division shall not apply to events held: ~~(a) in a private residence;~~ (a~~b~~) in a class in which instruction in music is given for hire; (b~~e~~) school sponsored events ~~in a school~~ under supervision of school authorities; (c) City sponsored events under the supervision of City authorities~~; or (d) by and exclusively for the benefit of any bona fide charitable organization~~.

2. That Sections 15-12 and 15-21 are hereby amended to read as follows:

Sec. 15-12. Fees and expiration dates.

(a) Unless specified elsewhere in this Code, fees for licenses issued pursuant to this Code and the expiration date of each license shall be as follows:

...

Ch. 3, Art. II	Bottle clubs (must obtain FSE and ~~special~~ entertainment if applicable)	$940.00	June 30

Ch. 3, Art. III	Brewery, Winery and Distillery License (must obtain FSE and/or ~~special~~ entertainment if applicable)	$525.00	Concurrent with state liquor license

...

Ch. 4, Art. III	~~Music, dancing and special e~~Entertainment:		
	~~Entertainment with dancing~~	~~$529.00~~	~~Twelve months or concurrent with state liquor license or with any city license~~
	~~Entertainment without dancing~~	~~$295.00~~	~~Twelve months or concurrent with state liquor license or with any city license~~
	~~After-hours Entertainment~~	~~$595.00~~	~~Twelve months Or concurrent with state liquor license or with any city license~~
	~~Dance hall~~	~~$147.00~~	~~June 30~~
	~~Concert hall~~	~~$147.00~~	~~June 30~~
	~~Single dance with alcohol or with greater than 100 attendees~~	~~$38.00~~	~~Per dance~~
	~~Single concert with alcohol or with greater than 100 attendees~~	~~$38.00~~	~~Per concert~~
	Single Entertainment Event – Private Property	$50	Per event
	Single Entertainment Event – Public Property	$50	Per event
	Indoor	$500	12 months or

	Entertainment		concurrent with state liquor license or any city license
	Outdoor Entertainment	$700	12 months or concurrent with state liquor license or any city license
	Combined Entertainment	$800	12 months or concurrent with state liquor license or any city license
	Expanded Entertainment Addendum	$100	Per event

...

Sec. 15-21. Renewal hearings for state liquor licenses~~,~~ or name changes~~, or special entertainment licenses~~.

The City License Administrator is authorized to approve the renewal of State liquor licenses, name changes, ~~or special entertainment licenses,~~ or any changes in license classification other than a change allowing the sale of spirituous alcohol, without holding a hearing, unless the License Administrator determines that hearing is necessary, or has received a request from a member of the City Council or a City official for a hearing on a specific application. Hearings shall be held by the City Council.

Sound Oversight

October 21, 2021

Portland Police Department

Committee Members Present: Lt. Glen McGary (Portland Police Department), Chuck Fagone (Certified Code Enforcement Officer-Permitting and Inspections), Jack Murray (Sound Engineer and Portland Citizen), Bob Waitkevitch(Portland Business Owner)

Additional City Staff Present: Jessica Hanscombe (Director of Permitting and Inspections), Zack Lenhert (Licensing and Housing Safety Manager-Permitting and Inspections), Kelly Crotty (Police Information Technician-Portland Police Department)

Business Owner Present: Eli Cayer (Urban Farm Fermentory)

Lt. McGary opened the meeting up after introductions. He recapped the meeting he had with Mr. Cayer on July 21, at Urban Farm. Lt McGary referred to the memo he wrote regarding that meeting. Since that meeting, there have been 7 complaints with zero violations of the ordinance.

Eli Cayer spoke about his business and the changes he have made since his meeting with Lt. McGary. He has:

-Bought professional meter

-Monitoring both wave lengths

-Stopped the majority of events outside

-Sound insulating inside

-Sound engineer came in and now staff can lower the system via an ipad

-Moved the entrance to the side from the front

Committee members asked follow up questions at this time regarding the decibel limits when complaints were called in (none exceeded the allowable decibel limit).

Committee members are satisfied with the changes he has made since the July 21st meeting and recommend no further changes.

Sound Oversight

November 4, 2021

Portland Police Department

Committee Members Present: Lt. Glen McGary (Portland Police Department), Chuck Fagone (Certified Code Enforcement Officer-Permitting and Inspections), Jack Murray (Sound Engineer and Portland Citizen)

Additional City Staff Present: Jessica Hanscombe (Director of Permitting and Inspections)

Business Owner Present: Luke Davidson, Joe Masters (Owners of Maine Craft Distilling)

Lt. McGary opened the meeting up after introductions. We reviewed the Ordinance (Chapter 4). Also the notification that was sent to the business July 2019 when the new ordinance went into effect. The Lt reviewed how we measure sound with the decibel limit.

The Owners have a Class XI Combined Entertainment. They discussed what they have done to address complaints and what they will do in the future. Comments were:

-During 2020/2021 the latest show they held outside ended at 10pm on weekends and 9pm weekdays. Which is written in the contracts they sign with the artists. They will continue with this in 2022.

-In 2021 they held events on 18 weekends. In 2022 they will do less big events outside. Possible half.

-They use a monitor to independently monitor the sound

-For 2022 they will look at their choice of artists.

-The Owner will be working with their Sound Engineer on repositioning speakers and any other suggestions the engineer may have.

-The Business Owners have already reached out to the neighbors that have filed complaints and are working with them.

Committee members asked follow up questions at this time and advised on a different type of Sound Meter. Lt. McGary asked for a number that Dispatch could call when we get complaints. The Business Owner agreed to both of those.

Committee members are satisfied with the changes that were suggested and the steps they are taking with the neighborhood.