



Barrio Logan Nighttime Noise Study

June 2020

Commissioned by:



**PORT of
SAN DIEGO**
Waterfront of Opportunity



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Executive Summary

The San Diego Unified Port District (the Port) commissioned the Barrio Logan Nighttime Noise Study (Study) to identify nighttime noise sources and help the Port, the City of San Diego, and maritime industry work with the community to find ways to decrease nighttime noise. Nighttime noise is a neighborhood issue that affects quality of life, including mental and physical health. The Study seeks to identify nighttime noise sources in the Barrio Logan community between the hours of 10:00 p.m. and 6:00 a.m., with a focus on 1:00 a.m. to 4:00 a.m., and to recommend measures that avoid, minimize, and/or mitigate adverse nighttime noise-generating sources.

BACKGROUND AND OVERVIEW OF THE STUDY

Barrio Logan is one of the oldest and most culturally rich, urban San Diego neighborhoods and is located southeast of downtown, adjacent to the Port's working waterfront. Barrio Logan is unique in that it operates under a 40-year-old community plan. Once planned and believed the area would convert to entirely industrial uses, the residents and commercial businesses fought to keep their community, which has strengthened and grown. However, the resulting mix of residential, commercial, and industrial uses has led to conflicts and compatibility issues, including what can be deemed an acceptable ambient nighttime noise level. For years, Barrio Logan residents and business operators have complained of excessive and disruptive noise within the community. In spring 2019, City of San Diego Councilmember Moreno formally requested the Port fund a nighttime noise study to address nighttime noise concerns in Barrio Logan.¹ The purposes of the Study are to:

1. Engage with community members to understand their nighttime noise concerns.
2. Engage with industry representatives to understand nighttime operations.
3. Collect nighttime noise data.
4. Identify potential causes to changes in ambient nighttime noise and record community concerns and observations.
5. Clarify the regulatory framework and operations of local industry.
6. Work with residents, agencies, local businesses, and stakeholders to recommend practical improvements and solutions.

The Port is delighted to take a leadership role on the Study to better understand the causes of nighttime disturbances and how the Port can be a better neighbor to the community by identifying tools to avoid, minimize, and/or mitigate adverse nighttime noise sources and improve the quality of life for Barrio Logan residents. The Study is intended to help the Port, the City of San Diego, and the nearby maritime industry better understand the relationship between local industry and the nighttime noise impacts affecting the neighboring community.

¹ The Study was funded through the Port's Maritime Industrial Impact Fund (MIIF). The purpose of the MIIF is to invest money in environmental concerns off tidelands within neighboring communities.

PRIMARY NOISE SOURCES

The community and industry engagement, along with the monitoring data and observations by professional noise experts, collectively indicate the most commonly reported and significant noise sources were generated by the activities listed below. Each of these noise sources is described in detail in [Section 4.0, Sources of Nighttime Noise](#), of this Study.

- **Traffic on freeways and local streets:** Relatively constant noise from flowing traffic on Interstate 5 (I-5) and State Route 75 (SR-75), and more variable and generally louder noise from passing vehicles on local streets.
- **Rail activities:** Freight train assembly (referred to as coupling) and switching operations that occur primarily in the San Diego Metropolitan Transit System (MTS) and Burlington Northern Santa Fe (BNSF) railyards.
- **Rail activities:** Federally mandated freight and passenger train horns and bells at each of the seven MTS and five BNSF road crossings in Barrio Logan.
- **Working waterfront operations:** Noise from machinery and outdoor operations.

KEY FINDINGS AND RECOMMENDATIONS

Key Findings

Based on the data collected through various noise measurements and surveys, and with an understanding of the current regulatory setting for the affected Study area, the Study concluded the following:

1. During late night hours, most areas within Barrio Logan are in compliance with the applicable noise standards and policies most of the time, but also there are short spikes in decibels that exceed those noise limits on a frequent and regular basis. The levels that exceeded the hourly limits of the Stationary Source Noise Ordinance resulted from permissible spikes from required train horns and rail operations, and local road and freeway traffic.
2. Mobile traffic noises generally comply with the 65 dB community noise equivalent level (CNEL) (24-hour weighted average) limit for residential areas.
3. Intermittent, sudden, and significantly louder than ambient noises such as horns and bells, and bangs and clanks directly from heavy freight cars and trains, create significant disturbances but are generally compliant with current Federal Rail Authority regulations.
4. Some sources, while still compliant, have equipment and/or operations that may offer opportunities for reducing background or ambient noise over time. However, these are very large operations with long, life-cycle equipment that can be expensive and time-consuming to modify.
5. Noise from recycling operations can be reduced through changes in hours of operation and possible enforcement of discretionary permit approvals and zoning use limitations.
6. Maritime and industrial operations comply with the current 75 decibel (dB) hourly limits.

Recommendations

Noise is cumulative, so overall noise levels experienced are a combination of multiple sources. This is typical for the most impacted areas within the Barrio Logan community. Therefore, it is anticipated that to achieve a reduction in overall noise levels, a combination of various mechanical and operational, and possibly policy and regulatory, actions will be required. Preliminary recommendations to avoid, minimize, and mitigate disruptive nighttime noises in Barrio Logan include best noise management practices that prioritize reduction of noise at the source before measures are implemented to mitigate the effects of the noise. Measures to reduce potential noise levels within the community are described in [Section 6.0, Findings and Recommendations](#), and are summarized below.

- **Physical improvements to reduce and mitigate noise sources:**
 - Quiet zone establishment and rail crossing improvements to eliminate required sounding of train horns on approach to all street crossings.
 - Grade separation of rail and road crossings to eliminate the required sounding of train horns and the crossing controls and bells at intersections.
 - Road improvements, including repairs of potholes and cracks, smoother pavement, and typical traffic-calming enhancements, to reduce vehicle speed and engine and tire impact noise.
 - Industrial equipment, building, and mechanical upgrades such as enclosures around noisy mechanical equipment and replacement of diesel motors with electric motors consistent with current and future technology.
 - Gates, fencing, and/or sound walls installed around outdoor operations and noisy equipment.
 - General best practice building standards and improvements to be implemented as part of commercial and industrial approvals.
- **Operational changes in local industry and businesses:**
 - Work with businesses, particularly those with outdoor operations, where feasible and does not impact with their contractual obligations to limit work hours during late nighttime and early morning.
- **Compliance with existing regulations, policies, and standards** such as truck routes, hours of operation, property line noise standards, and permitted uses.
- **Best Management Practices and Tools:**
 - Clarify Noise Ordinance standards for mixed-use zones to make the maximum permissible noise levels more clear to business/property owners, code enforcement officers, and police so they are easier to understand, comply with, and enforce.

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1.0 Approach and Understanding

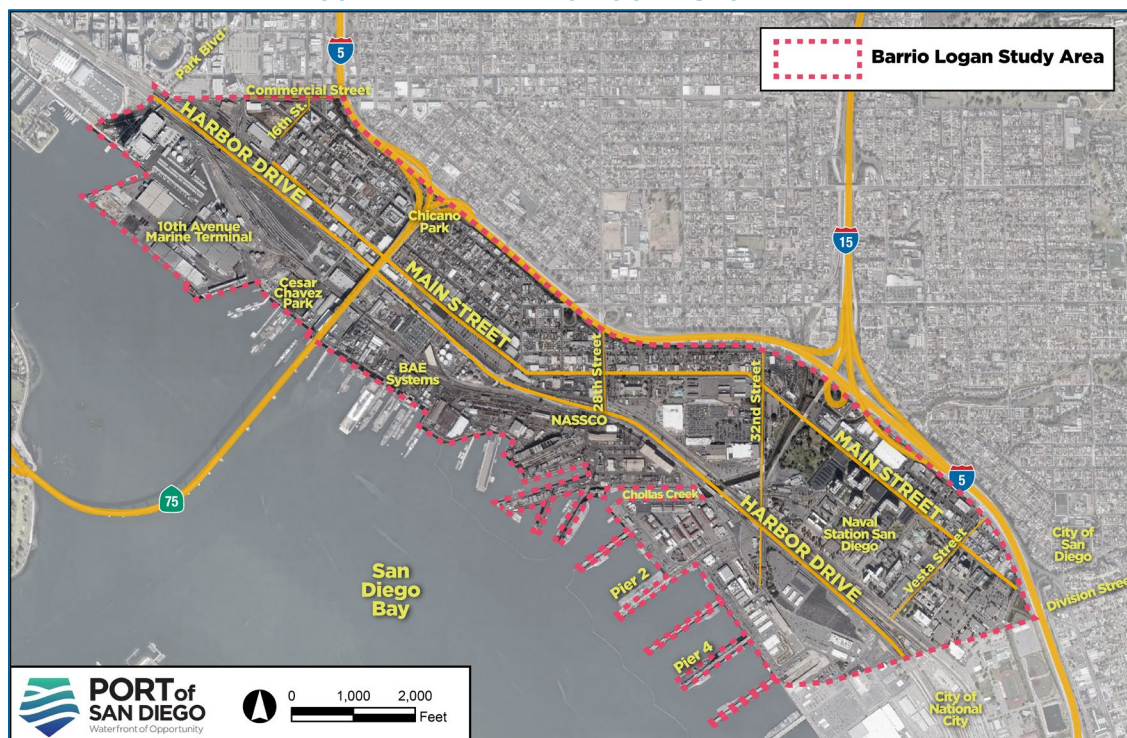
1.1 SCOPE OF STUDY

The Port is proud to lead the effort to better understand the causes of nighttime disturbances in the Barrio Logan community between the hours of 10:00 p.m. and 6:00 a.m., with a focus on 1:00 a.m. to 4:00 a.m., and to recommend measures that avoid, minimize, and/or mitigate adverse nighttime noise sources. The goal of the Study is to identify potential causes of ambient nighttime noise and identify achievable actions to reduce community impacts over the long term. This Study helps establish an objective baseline of data within the community to better understand the issue and to help identify potential solutions to reduce overall noise levels experienced by residents, occupants, and visitors. The Study area is coterminous with the Barrio Logan Community Planning Area as shown below in [Figure 1, Barrio Logan Study Area](#).

There are five main components of the Study:

1. Clarify the regulatory framework and standards governing noise in the area.
2. Conduct community engagement to record residents' concerns and observations.
3. Conduct industry engagement to understand and document nighttime operations and noise sources.
4. Measure and analyze nighttime noise.
5. Make recommendations to reduce and mitigate nighttime noise.

FIGURE 1. BARRIO LOGAN STUDY AREA



1.2 UNDERSTANDING NOISE

Noise is generally defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called “A weighting” is used to filter noise frequencies that are not audible to the human ear. The A scale approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. In this Study, all noise levels are A-weighted and “dBA” is understood to identify the A-weighted decibel. Throughout this Study, “dB” shall mean “dBA.”

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others fluctuate slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. Following are the noise descriptors most commonly used in traffic noise analysis that have been applied to the Study:

- **Average noise levels** over a period of minutes or hours are usually expressed as dB L_{eq} , or the equivalent noise level for that period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level ($L_{eq}[h]$) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria (NAC) used by the Federal Highway Administration (FHWA). The period of time average may be specified; $L_{eq}(8)$ would be an 8-hour average; when no period is specified, a 1-hour average is assumed.
- **The community noise equivalent level (CNEL)** is the 24-hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections include an addition of 5 dB to the measured sound levels in the evening hours between 7:00 p.m. and 10:00 p.m. and an addition of 10 dB to the measured sound levels at nighttime hours between 10:00 p.m. and 7:00 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound seems louder. CNEL is applied to transportation-related noise sources (e.g., highways, roads, aircraft and moving trains). From the calculated $L_{eq}(h)$, the equivalent CNEL can be derived based upon the proposed hourly operational data and applying the evening and nighttime penalties of 5 dB and 10 dB, respectively.

Because decibels are logarithmic units, Sound Pressure Level (SPL) cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer,

two cars passing simultaneously would not produce 140 dB—rather, they would combine to produce 73 dB.

- **Percentile-Exceeded Sound Level (L_{xx})** represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time). Maximum Sound Level (L_{max}) is the highest instantaneous sound level measured during a specified period.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dB or acoustical energy. Two noise sources do not sound twice as loud as one source. It is widely accepted the average healthy ear can barely perceive a change of 3 dB, whether increase or decrease; a change of 5 dB is readily perceptible; and an increase or decrease of 10 dB sounds twice or half as loud. Therefore, when the noise level increases from a moderately quiet 60-dB conversation to 70-dB car noise, that car noise is 10 times as much pressure and energy, and twice as loud. Likewise, a truck is typically twice as loud as a car, or four times as loud as a normal conversation.

Table 1, Typical Noise Levels, provides examples of common activities and the sound levels associated with those activities.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	--110--	Rock Band
Jet Flyover at 300 meters (1,000 feet)	--100--	
Gas Lawn Mower at 1 meter (3 feet)	--90--	
Diesel Truck at 15 meters (50 feet), at 80 kilometers per hour (km/hr) (50 miles per hour [mph])	--80--	Food Blender at 1 meter (3 feet) Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 meters (100 feet)	--70--	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	--60--	Normal Speech at 1 meter (3 feet)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans 2013 <https://dot.ca.gov/programs/environmental-analysis/noise-vibration>

From the source to the receiver, noise changes both in level and frequency spectrum. The most obvious change is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on the following important factors:

ground absorption, atmospheric effects and refraction, shielding by natural and man-made features, noise barriers, diffraction, and reflection. For a point noise source, such as construction equipment, the attenuation or drop-off in noise level would be 6 dB for each doubling of unobstructed distance between the source and the receiver. For example, a noise level of 70 dB at a distance of 50 feet would drop to 64 dB at 100 feet. For a line noise source, such as vehicles traveling on a roadway, the attenuation or drop-off in noise level would be approximately 3 to 4.5 dB for each doubling of unobstructed distance between source and the receiver. For example, as shown in [Table 2, Noise Levels Diminish with Distance](#), a noise source that measures 70 dB at a distance of 50 feet will diminish to 66 dB at 100 feet and 62 dB at 200 feet. Assuming there were no other louder noise sources, a reduction of the noise source by 10 dB (e.g., from 70 dB to 60 dB) at 50 feet will result in an equal 10 dB reduction at each of the diminished levels as the distance increases (e.g., 56 dB at 100 feet and 52 dB at 200 feet).

TABLE 2: NOISE LEVELS DIMINISH WITH DISTANCE

Noise Source Type	50 feet from Source (dB)	100 feet from Source (dB)	200 feet from Source (dB)	400 feet from Source (dB)
Point Source	70	64	58	52
	60	54	48	42
Line Source	70	66	62	58
	60	56	52	48

A large object in the path between a noise source and a receiver can significantly reduce noise levels at that receiver. The amount of reduction provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense vegetation, as well as man-made features, such as buildings and walls, can significantly alter noise levels. Walls or berms are often specifically used to reduce noise.

Also, it is important to understand noise is constantly fluctuating. While momentary peaks and spikes can be measured, regulations generally measure average noise levels, usually over 1-hour periods. Some ordinances and regulations create absolute limits on the maximum sound levels. Such standards are often reserved for special uses such as outdoor racetracks with maximum levels for the vehicle. A passing car or truck could exceed the noise ordinance limits for a moment, but the sustained or average level is the larger concern in terms of protecting and promoting a healthy work and living environment. Sustained, elevated noise levels can have measurable impacts on our health and well-being.

2.0 Regulatory Framework

There are three primary land use and regulatory jurisdictions within and adjacent to Barrio Logan: the City of San Diego (local), the Port (state), and the Navy (federal). Each operates relatively independent of the others.

The Port has jurisdiction over and governs the use of all land within the mean high tide line (Tidelands). The Port determines if a project's construction and operation noise levels are consistent with the ordinances of the applicable member city, such as San Diego, during consistency review with the requirements of the California Environmental Quality Act (CEQA) and the discretionary project approval phase. Port projects that exceed the City's Noise Ordinance would need to disclose such an impact as significant and unavoidable in an Environmental Impact Report, and the Board of Port Commissioners would need to adopt a Statement of Overriding Considerations (CEQA Guidelines Section 15093). Port projects are also subject to the applicable city's building permits and the California Noise Insulation Standards.

Although Naval Base San Diego is located within the Barrio Logan Community Plan area, it is not subject to local noise policies and/or regulations. Naval Base San Diego is only subject to federal guidelines and regulations.

Table 3, Applicable Noise Regulations, Plans, and Standards, lists the various regulations, plans, and standards that are applicable to Barrio Logan.

TABLE 3: APPLICABLE NOISE REGULATIONS, PLANS, AND STANDARDS

Regulation	Description
Federal	
Federal Railroad Administration (FRA) (49 CFR Part 210)	FRA has a federal Noise Emission Compliance Regulation governing compliance of noise emissions from interstate railroads. The FRA's Railroad Noise Emission Compliance Regulation (49 CFR Part 210) prescribes compliance requirements for enforcing railroad noise emission standards adopted by the Environmental Protection Agency (EPA) (40 CFR Part 201). The FRA establishes standards for train warning horn loudness and duration for road crossings (96 to 110 dB), and maximum limits for moving trains (88 dB) and coupling (freight train assembly) operations (92 dB).
State	
California Environmental Quality Act (CEQA)	Potential impacts associated with excessive noise and vibrations are considered under CEQA. The evaluation of potential impacts from a proposed project ensures that decision-makers and the public are aware of potentially excessive noise and vibration levels that would occur as a result of project implementation and, if available, mitigation measures to reduce them to acceptable levels. If a project is currently at or exceeds the significance thresholds for traffic noise and noise levels would result in less than a 3 dB increase, the impact is not considered significant.
California Noise Insulation Standards (California Code of Regulations, Title 24)	Title 24 establishes an interior noise standard of 45 dB for multiple unit and hotel/motel structures. If a project is located within a CNEL area with noise contours of 60 dB or greater, additional acoustical studies must be prepared that demonstrate that the design of the building will reduce interior noise to 45 dB CNEL or lower.

TABLE 3: APPLICABLE NOISE REGULATIONS, PLANS, AND STANDARDS, CONTINUED

Regulation	Description
Local	
City of San Diego General Plan (Noise Element)	The Noise Element provides goals and policies to guide compatible land uses and incorporate noise attenuation measures for new uses to protect people living and working in the City from an excessively noisy environment. The City's goal is controlling noise to acceptable levels at its source. However, when this is not feasible, the City applies additional measures to limit the effect of noise on future land uses, which include spatial separation, site planning, and building design techniques that address noise exposure and the insulation of buildings to reduce interior noise levels. The General Plan considers single-family and multifamily uses normally compatible in areas up to 65 dB CNEL. Although not generally considered compatible, residential uses are conditionally allowed in areas up to 75 dB with noise attenuation in areas affected primarily by motor vehicle traffic noise with existing residential uses.
The City of San Diego Noise Abatement and Control Ordinance (Municipal Code Section 59.5.0101 et seq.)	The City regulates noise through the City of San Diego Municipal Code, Chapter 5, Article 9.5, Noise Abatement and Control. The Noise Ordinance provides sound level limits between adjacent properties and zoning boundaries and construction noise limits.

Federal Noise Regulations

Federal Railroad Administration

As noted in [Table 2](#), the Federal Railroad Administration (FRA) regulates noise levels associated with the railways and railway activities. The MTS and BNSF railways are not subject to local noise policies or regulations by the Port or City. Moving rail cars and coupling (freight train assembly) activities are subject to FRA standards of 88 dB and 92 dB, respectively.

The Code of Federal Regulations (CFR) Title 49, Part 222 requires a locomotive engineer to sound the train horn when approaching a public highway-rail grade crossing (typically a location where a roadway crosses a train track at the same grade). This rule also specifies the duration, pattern, and volume level of the horn. Trolley and freight locomotives are required to sound their warning horns and bells for a minimum of 15 to 20 seconds when approaching an at-grade road crossing. The minimum sound level is 96 dB. The maximum volume level for the train horn is 110 dB. Each at-grade crossing is required to have bells to warn vehicles and pedestrians of oncoming trains. Each bell is required to generate a minimum of 70 dB at approximately 50 feet. For most crossings, there is one such bell for each actuated crossing gate. The bells ring constantly during the approach and exit of the train through the crossing. This may be several minutes depending on the length and speed of the train. For example, local BNSF freight trains are often over 5,000 feet in length and travel about 10 miles an hour (15 feet per second). Such a train would require roughly 5 minutes to cross the intersection.

The FRA also includes provisions for the creation of “quiet zones” whereby the required sounding of train horns is eliminated where equivalent at-grade crossing safety can be demonstrated, typically through enhanced crossing protections, or supplemental safety measures at at-grade intersection crossings.

A quiet zone must be at least one-half-mile long and contain one or more grade crossings. The six rail crossings in Barrio Logan are approximately 2.5 miles in length. For Barrio Logan, if the community is interested in pursuing a “quiet zone” designation, the agencies that would be involved in the creation of a quiet zone would include the City of San Diego, San Diego Association of Governments (SANDAG), MTS, BNSF, North County Transit District (NCTD), California Public Utilities Commission (CPUC), and FRA.

Often, cities already have existing supplemental safety measures, as defined in the FRA Train Horn Rule (CFR Title 49 Part 222), to satisfy this requirement. However, the City of San Diego does not have these supplemental measures at all crossings, so additional installation would be necessary prior to attaining approval of the quiet zone. These measures may include, but are not limited to, four-quadrant gates that fully block vehicular traffic from entering the crossing, or gates with raised medians or other channelization devices (e.g., fencing).

Implementation of a quiet zone is intended to reduce noise associated with train horns, but it should be noted that noise would not be fully eliminated due to two important caveats:

- Quiet zones do not apply to stationary bells and horns mounted at crossing locations.
- Trains in quiet zones may still sound their horns in emergencies per FRA regulations or at the discretion of the train operator.

As such, it is possible the supplemental safety measures required for implementation of a quiet zone may result in noise increases emanating from the crossings as a result of the addition of grade-crossing signal assemblies or stationary horns. However, the rail lines in Barrio Logan are bordered by industrial and commercial uses and buildings. Residential uses are, with exception of the Mercado Apartments on the north side of Main Street, generally 500 or more feet from the rail lines. Therefore, trading the sound of additional crossing bells at 70 dB for the entire period while the train approaches and exits the street crossing (possibly several minutes depending on the length and speed of the train) for elimination of the much louder (96 to 110 dB) but shorter duration (horns) would appear to be beneficial to the community.

The process to establish a quiet zone is fairly direct and simple. One involved agency must initiate the process. Notification to all involved agencies is provided and coordination is initiated. This is typically done as part of a feasibility study and extensive coordination between the agencies. The FRA has published a guide to establishing quiet zones (see [Appendix 1](#) for 49 CFR Chapter II, Part 222, Appendix C). The following are the key steps and requirements:

1. **Written Notice.** The public authority must provide a written Notice of Intent to the railroads that operate over the proposed quiet zone, to the state agency responsible for highway and road safety, and to the CPUC, which is responsible for grade crossing safety.
2. **Identify Crossings.** Determine all public, private, and pedestrian at-grade crossings that will be included within the quiet zone. There are 12 (7 MTS and 5 BNSF) crossings in Barrio Logan.
3. **Half-mile Minimum Zone Length.** Ensure the quiet zone will be at least one-half mile in length. The Barrio Logan zone is approximately 2.5 miles long.

4. **Crossing Conditions Inventory Form and Inspection.** A complete and accurate Grade Crossing Inventory Form must be on file with the FRA for all crossings (public, private, and pedestrian) in the quiet zone. An inspection of each crossing in the proposed quiet zone should be performed and the Grade Crossing Inventory Forms updated, as necessary, to reflect the current conditions at each crossing.
5. **Crossing Safety Devices.** Every public crossing in the quiet zone must be equipped with active warning devices comprising both flashing lights and gates. The plans for the quiet zone may be made assuming that flashing lights and gates are at all public crossings; however, the quiet zone may not be implemented until all public crossings are actually equipped with the flashing lights and gates.

The CPUC must approve the design of all rail crossings. Pursuant to CPUC General Order 88-B, if all interested parties, including the CPUC, agree to the terms of the rail crossing design, then an informal authorization process may be used that expedites the approval process. However, if an interested party does not provide written agreement for the proposed rail crossing design, a formal application would be required to modify the rail crossing, a process for which the CPUC may hold hearings to analyze and discuss the safety of the proposed rail crossing design. In this case, the CPUC may impose additional requirements for the rail crossing.

The creation of quiet zones is generally deemed exempt from local ordinances and state environmental regulations as a part of maintenance and operations of the national railroad system.²

State Noise Standards

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, establishes building standards applicable to all occupancies throughout the state. The code provides acoustical regulations for exterior-to-interior sound insulation. Title 24 regulations state that interior noise levels generated by exterior noise sources shall not exceed 45 dB with windows closed in any habitable room for residential use. If a project is located within a CNEL area with noise contours of 60 dB or greater, additional acoustical studies must be prepared that demonstrate the design of the building will reduce interior noise to 45 dB CNEL or lower.

Local Policies, Standards, and Regulations

Port of San Diego – Subject to City Building Code and applies San Diego Noise Ordinance Standards as part of CEQA and Coastal Permitting Authority

Current Port operations adjacent to the Barrio Logan community primarily consist of maritime and industrial activities. Noise associated with these activities includes various types of outdoor mechanical equipment, large diesel-powered cranes with warning signals, and deliveries by truck and rail. The noise levels associated with these activities vary. The City of San Diego does not have land use authority over Port property; however, the Port

² Project Study Report, Middletown-Old Town San Diego Quiet Zone, March 14, 2019, pages 1-2, 20.

applies the City's Noise Ordinance requirements to development as part of CEQA analyses and determinations associated with Coastal Development Permits issued by the Port.

Transition Zone Policy³

While not a regulation, in June 2008, the Port adopted a Transition Zone Policy that establishes a long-term strategy to minimize land use conflicts between industrial and residential uses around the Port properties (see Board of Port Commissioners Policy No. 725 [Appendix 7]). The purpose of this policy is to provide a transition from maritime industrial lands to adjoining residential areas by establishing general guidelines that encourage the creation of transition zones that would host compatible land uses. The transition zones help balance the needs of different uses of the waterfront while also promoting the goals and objectives of adjacent community planning areas. Typical land uses within transition zones include office space, parks, greenbelts, parking, and maritime administrative office facilities. The size and width of transition zones vary based on existing community plans, city development plans, existing structures, and zoning.

According to the Transition Zone Policy, a transition zone should adhere to the following key principles:

- Provide mandated separation between industrial and residential land uses, safeguarding the environmental health of the regional neighborhoods and residents.
- Protect and enhance the existing and prospective operations of the businesses governed by City plans, Community Group plans, and the Port Master Plan to include visitor-serving, commercial, retail, industrial, working-waterfront, and maritime-related job-producing industries.
- Only permit uses that do not pose a health risk to sensitive receptor land uses adjacent to or in near proximity to the Port's industries.

City of San Diego General Plan

As stated previously, the Port relies on the City of San Diego noise regulations within the City of San Diego General Plan and the City of San Diego Noise Ordinance, which implements the City's General Plan Noise Element. The City General Plan provides policies that guide future growth, while improving the City's quality of life. The Noise Element is incorporated in the General Plan and provides information, goals, and policies to guide compatible land uses and the incorporation of noise attenuation measures for new uses to protect people within the City from an excessive noise environment. The Noise Element presents Land Use – Noise Compatibility Guidelines for the compatibility of various land uses with different noise exposures, defined by using the Community Noise Equivalent Level (CNEL). The Element defines three different tiers of compatibility: (1) Compatible, (2) Conditionally Compatibility, and (3) Incompatible. This compatibility is described in the City of San Diego's Table NE-3 (not reproduced herein). As part of the table, interior noise standards are provided for certain noise-sensitive land uses to ensure adequate exterior-to-

³ In December 2019, the California Air Resources Board (CARB) prepared a draft Freight Handbook that similarly recommends a transition zone (500 feet) between freight rail lines and residential uses to avoid adverse air quality impacts while enabling this critical service to continue to operate.

interior noise reduction is provided if these uses are located within “Conditionally Compatibility” noise environments.

City of San Diego – Noise Ordinance and Zoning Ordinance

The City of San Diego Noise Ordinance (Municipal Code Section 59.5.04) directly limits noise emissions but only applies to fixed operational, non-mobile noise sources. Nighttime noise limits range by zone type from 40 dB for single-family residential zones to 60 dB for commercial and 75 dB for industrial zones. Mobile sources, such as traffic on roads and highways, are addressed as a land use compatibility issue in the General Plan Noise Element, and limits are provided as CNEL. Residential areas are considered compatible with a 65 dB CNEL. Generally, the 65 dB CNEL is a constraint on newly proposed residential uses rather than a restriction on or requirement to reduce the noise from mobile sources. New residential developments in areas with 65 CNEL or greater need to demonstrate they can provide outdoor residential areas of 65 dB or less and achieve indoor levels of 45 dB or less.

Pursuant to Municipal Code Section 59.5.0401, it is unlawful for any person to cause noise by any means so that the one-hour average sound level exceeds the applicable limit given in [Table 5, City of San Diego Noise Limits](#), at any location in the City on or beyond the boundaries of the property on which the noise is produced. Exceedance of the noise levels listed in [Table 5](#) is considered a potentially significant environmental impact. As stated in Section 59.5.0401(b), the sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

TABLE 5: CITY OF SAN DIEGO NOISE LIMITS

Land Use	Time of Day	1-Hour Average Sound Level (decibels)
Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
Multi-family Residential (up to a maximum density of 1/2000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
All Other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
Industrial or Agricultural	Any time	75

A particular regulatory weakness for the Barrio Logan community is the failure of the City’s Noise Ordinance to recognize the mixed-use zones that predominate in Barrio Logan. Discrete standards exist for residential, commercial, and industrial use zones, including transitions between such use zones. However, with one exception noted below, the City’s Noise Ordinance fails to address or regulate the impacts of noise sources between these same individual uses which exist side-by-side within the same mixed-use zones which are so prevalent in Barrio Logan. [Figure 2, Existing Land Use, Zoning, Port Transition Zone](#) on

page 13, illustrates the mix and proximity of single-family, multifamily, commercial and industrial uses, often on very small lots.

For example, it is not clear whether an industrial use next to a single-family residence in the Barrio Logan Planned District (BLPD)-B mixed-use subdistrict, which allows single-family, multifamily, and heavy industrial uses, would be subject to the 75 dB around the clock noise limit for industrial uses, the 40 dB for the adjacent single-family residence, or the 60 dB average of the two.

The noted exception is in the BLPD Redevelopment Subdistrict which expressly states:

“All industrial activity shall be located within an enclosed building. No use, activity, nor process shall produce vibrations, noxious odors, or noises that are perceptible without instruments by the average person at the property lines of a site.” (152.0317(g))

No “perceptible” noise is a very high standard and is limited to the northwest portion of Barrio Logan.

For the purposes of this Study, noise limits were assumed for each of the three mixed-use BLPDs by applying the same arithmetic mean of the noise limits established in Municipal Code Section 59.5.0401.(b) that would be applicable to each of the primary permitted uses within each district as is required between single-use zones. For example, the BLPD Redevelopment Subdistrict permits a mix of residential, commercial, and light industrial uses. The assumed nighttime standard is 60 dB, which is the average of the 45 dB for multifamily residential, 60 dB for commercial, and 75 dB for industrial zones. Similarly, the BLPD-B zone also permits a mix of residential, commercial, and industrial uses. The BLPD-A zone is primarily a residential zone but allows pre-existing commercial and light industrial uses in existence before the effective date of the ordinance to remain. New or expanded commercial and industrial uses in BLPD-A are prohibited.

Within the BLPDs, three recycling facilities exist and are regulated by the City LDC, as Small and Large Processing Plants. The IMS Recycling facility on Boston Avenue is located in the BLPD-B zone and is subject to a 60-dB limit, at the property line. The other two facilities are each located in the BLPD-D zone and are subject to a 75-dB limit, at the property line. These facilities all required Neighborhood Use Permits (NUP – Section 141.0620(f)), which is required when a use is permitted in a neighborhood, but may cause negative impacts to the surrounding neighborhood. The NUP is reviewed and processed by city staff and its intent is to minimize potential negative impacts caused by development, to surrounding properties (e.g., noise and odors). Through the NUP process, the city may establish use-specific operational and site standards to protect, mitigate, and promote compatibility with the surrounding uses. Facilities subject to a use permit would be required to conform with the specific operating restrictions of the permit, including noise restrictions. Additionally, there are other uses in Barrio Logan that required the issuance of either a Limited Use Permit or a Conditional Use Permit. The purpose of these permit types matches those of the NUP.

The Noise Ordinance is applied as part of the approval of discretionary development projects whereby projects will be evaluated against the limits to determine potential environmental impacts. For existing uses, the Noise Ordinance is enforced through complaints. Complaints may be made to the City of San Diego Code Enforcement division of the Development Services Department (619-236-5500; <https://www.sandiego.gov/development->

[services/code-enforcement](#)). Complaints can also be completed on a form and emailed to the department (<https://www.sandiego.gov/sites/default/files/legacy/ced/pdf/requestinvestigationen.pdf>).

Code Enforcement works normal business hours. Responses are prioritized by both Code Enforcement and the Police Department based on risks to health and safety. Noise complaints typically do not get an immediate response. Nonetheless, reporting and documentation of the complaint and noise events are important to creating an administrative record for future enforcement and action. Code Enforcement has a specific category and complaint form for noise. (<https://www.sandiego.gov/development-services/code-enforcement>)

A case will be opened, prioritized (<https://www.sandiego.gov/development-services/code-enforcement/priority-cases>), and assigned to staff within one business day. Research is conducted to determine existing approvals and conditions. Most cases warrant inspections, which are then scheduled with the responsible party. If an inspection reveals code violations, staff will determine the appropriate remedy. This may include the issuance of a citation or notice. In most cases, the person responsible for a violation is given an opportunity to voluntarily comply and correct the situation. Once the deadline in the notice has expired, the owner or responsible person may be subject to one or more of the actions below:

- **Civil Penalties** – May be assessed up to a daily maximum amount of \$10,000 and up to a total maximum amount of \$400,000.
- **Judicial Remedies** – The City Attorney can file criminal or civil cases against the responsible party or parties.

Complaints to the Code Enforcement division can be reviewed online (<https://aca.accela.com/SANDIEGO/Default.aspx>). As of January 2020, there were more than 14,000 complaints to Code Enforcement since January 2017; 3,130 are active cases, meaning that over 11,000 have been closed. A little more than 300 were classified as Noise – Other Nuisance (not dogs). There were 150 total cases in the 92133 zip code, which includes Barrio Logan and Logan Heights. Of these, 68 are active cases. There were eight noise complaints other than dogs and four cases that were non-residential sources and nighttime. Only one active case involved noise (illegal auto repair on residential property). There were zero recorded complaints regarding industrial, maritime, trains, or horns.

Another option is to call the non-emergency number of the Police Department (619-531-2000) if the noise is occurring after business hours. If the noise has ceased by the time the officers arrive, they cannot take enforcement action unless one is willing to sign a complaint. Mediation is an alternative solution for ongoing conflicts with neighbors. In mediation, disputing parties meet with trained, impartial mediators to resolve their problems. Neighbors interested in mediation should contact the National Conflict Resolution Center at (619) 238-2400.

City of San Diego CEQA Thresholds – Traffic Noise

The City of San Diego's CEQA Significance Determination Thresholds⁴ outline the criteria and thresholds used to determine whether project impacts are significant. The purpose of the thresholds is to assist City of San Diego staff, project proponents, and the public in determining whether, based on substantial evidence, a project may have a significant effect on the environment under Section 21082.2 of CEQA, and whether, therefore, the environmental impact requires mitigation. A significant environmental impact related to traffic noise would occur if the project would expose people to transportation noise levels that exceed the adopted sound level limits as presented in the City's Significance Determination Thresholds and as identified in [Table 4, Traffic Noise Significance Thresholds](#).

TABLE 4: TRAFFIC NOISE SIGNIFICANCE THRESHOLDS (dB CNEL)

Structure/Proposed Use That Would Be Impacted by Traffic Noise	Interior Space	Exterior Useable Space ¹	General Indication of Potential Significance
Single-family detached	45 dB	65 dB	Structure or outdoor useable area is <50 feet from the center of the closest (outside) lane on a street with existing or future ADTs >7,500
Multi-family, school, library, hospital, day care center, hotel, motel, park, convalescent home	Development Services Department ensures 45 dB pursuant to Title 24	65 dB	
Office, church, business, professional uses	n/a	70 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >20,000
Commercial, retail, industrial, outdoor spectator sports uses	n/a	75 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >40,000

Source: City of San Diego CEQA Significance Determination Thresholds, 2016.

ADT = average daily traffic; dB = decibel

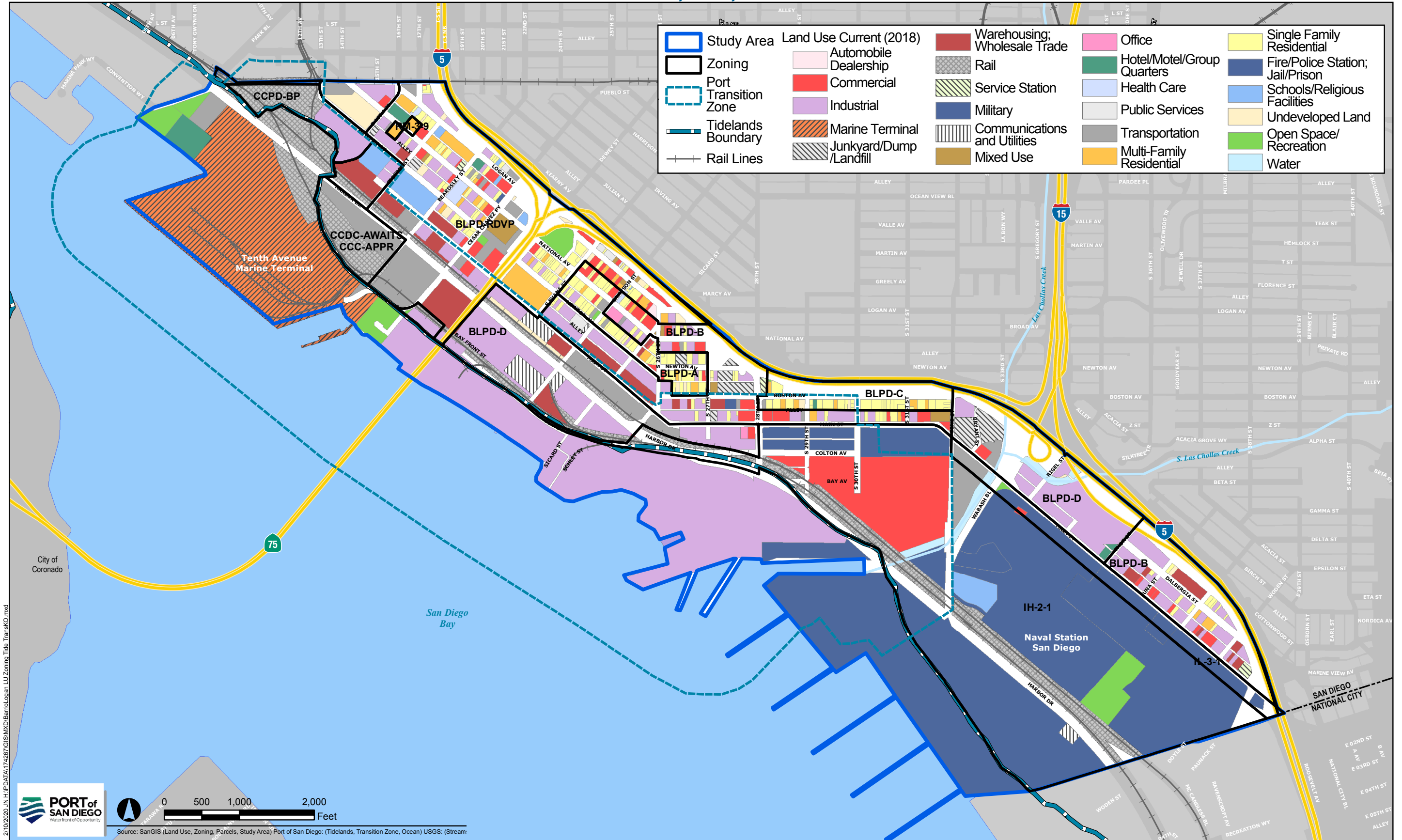
1. If a project is currently at or exceeds the significance thresholds for traffic noise described above and noise levels would result in less than a 3 dB increase, then the impact is not considered significant.

The Noise Element of the General Plan specifies compatibility guidelines for different categories of land use. Please refer to the Noise Element for more details.

⁴ City of San Diego, 2016. https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf

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FIGURE 2. EXISTING LAND USE, ZONING, PORT TRANSITION ZONE



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City of San Diego Zoning – Barrio Logan Planned District Zone

Most of Barrio Logan is located within a BLPD zone. There are five BLPD subdistricts: Redevelopment, A, B, C, and D, each with a different mix and emphasis of permitted uses.

1. The Redevelopment subdistrict is a truly mixed-use zone of residential, commercial, and industrial uses with special development standards to maintain the small lot and diversified character.
2. Subdistrict A is a multifamily zone that allows commercial and industrial uses that existed prior to the effective date of the ordinance (7/5/1983) to remain.
3. Subdistrict B is a mixed-use heavy industrial and residential zone.
4. Subdistrict C is a purely single-family and multifamily residential zone.
5. Subdistrict D is an exclusively heavy industrial and maritime use zone, and residential uses are prohibited.

There are three other applicable zones in Barrio Logan: the IL-3-1 Light Industrial, IH-2-1 Heavy Industrial, and RM-3-9 Multi-family.

Table 6, Maximum Nighttime Noise Levels, shows the applicable City Noise Ordinance maximum late nighttime noise levels for each BLPD subdistrict and standard zones in Barrio Logan. **Figure 3, Zoning (Noise Ordinance Limits)**, identifies the zones and the applicable Noise Ordinance limits.

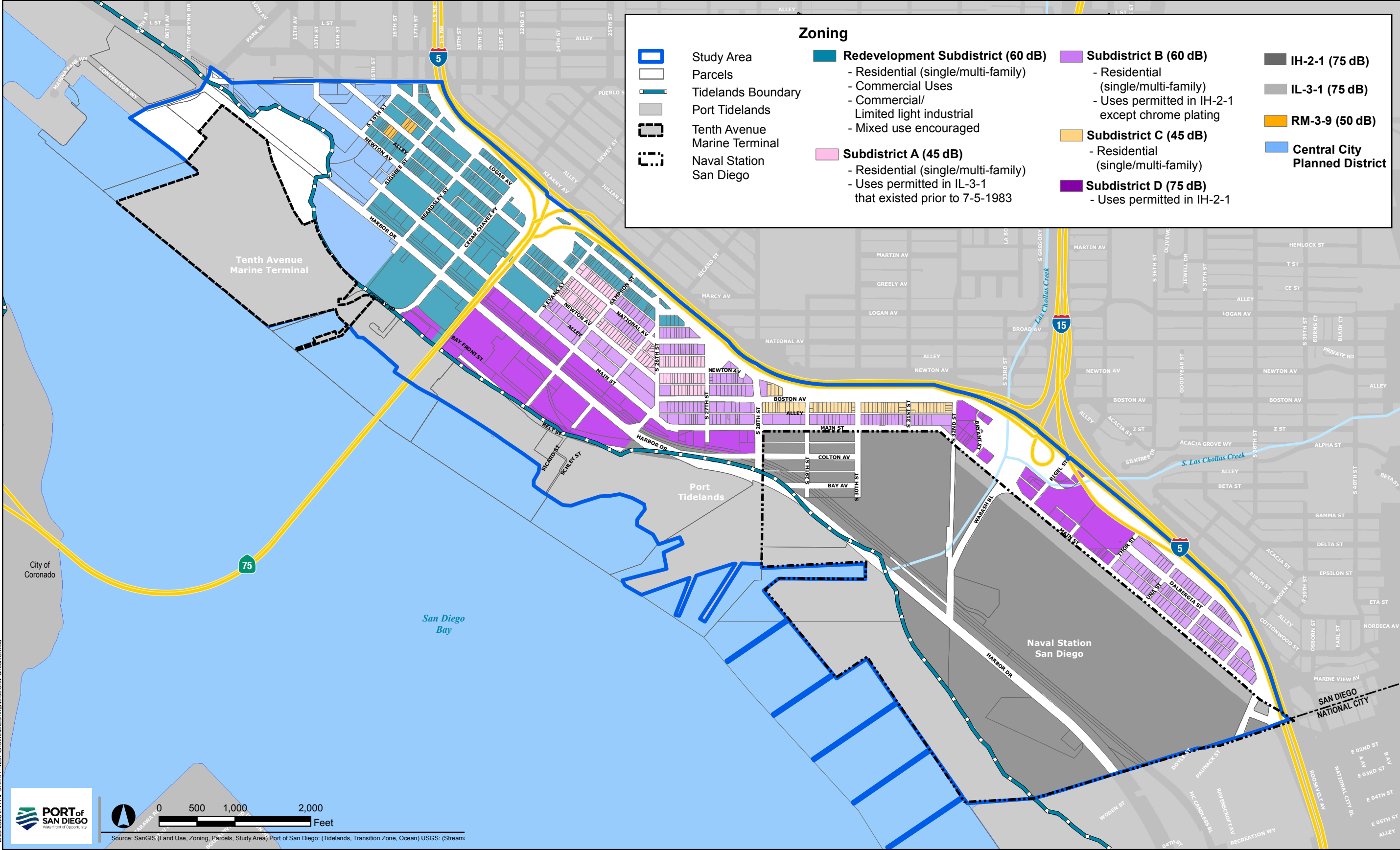
TABLE 6: MAXIMUM NIGHTTIME NOISE LEVELS

Existing Study Area Zones	Primary Zone Uses	Noise Ordinance Limits 1-Hour Maximum dB (10:00 p.m. to 7:00 a.m.)
BLPD – Redevelopment	<ul style="list-style-type: none"> - Single/multi-family - Commercial - Limited Light Industrial - Mixed use 	<p>60 dB¹</p> <p>(Average of 45 Residential, 60 Commercial, and 75 Industrial)</p>
BLPD – A	<ul style="list-style-type: none"> - Single/multi-family - IL-3-1 Light Industrial uses that existed prior to 7/5/1983 	<p>45¹</p> <p>(52.5 dB adjacent to Commercial uses, 60 dB adjacent to Light Industrial uses in existence prior to 7/5/1983)</p>
BLPD – B	<ul style="list-style-type: none"> - Single/multi-family - IH-2-1 Heavy Industry 	<p>60 dB¹</p> <p>(45 Multifamily and 75 Industrial)</p>
BLPD – C	<ul style="list-style-type: none"> - Single/multi-family 	45 dB ¹
BLPD – D	<ul style="list-style-type: none"> - IH-2-1 Heavy Industry - Waterfront Dependent 	75 dB
IL-3-1	<ul style="list-style-type: none"> - Light Industrial 	75 dB
IH-2-1	<ul style="list-style-type: none"> - Heavy Industrial 	75 dB
RM-3-9	<ul style="list-style-type: none"> - Multi-family 	50 dB

¹ The City's Noise Ordinance does not contemplate or directly apply to mixed-use zones. For the purposes of this Study, the base maximum noise limit for each BLPD subdistrict was set by applying the arithmetic mean principle of Municipal Code Section 9.5.040 for opposing land use districts to the primary permitted uses of each BLPD zone. A 45 dB level was assumed as the limit for all residential uses as the average of 40 dB for single family, 45 dB for multifamily up to 22 dwelling units per acre (du/acre), and 50 dB for other (i.e., > 22 du/acre). It is assumed that Subdistrict A will have a maximum of 45 dB for the multifamily uses, except where adjacent to nonresidential uses in existence before the effective date of the ordinance (7/5/1983) where an averaged level of 52.5 dB (Commercial), and 60 dB (Industrial) would apply in the same manner as adjacent zones.

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FIGURE 3. ZONING (NOISE ORDINANCE LIMITS)



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0 500 1,000 2,000 Feet

Source: SanGIS (Land Use, Zoning, Parcels, Study Area) Port of San Diego: (Tidelands, Transition Zone, Ocean) USGS: (Stream)

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City of San Diego Truck Routes and Restrictions

The San Diego City Council amended the truck route and truck and weight restrictions for Barrio Logan on December 4, 2018 (Resolution R-312086 [R-2019-249]). The amendment included a ban on vehicles weighing more than five tons on certain streets in Barrio Logan that typically have a low volume of traffic, including parts of Boston Avenue, Main Street, and 28th, 29th, 30th, 31st, and 32nd Streets. As shown on the following page in [Figure 4, Truck Route and Prohibition Map](#), the prohibition on five-ton commercial vehicles covers the following road segments:

1. Sigsbee Street between Harbor Drive and Logan Avenue
2. Beardsley Street between Harbor Drive and Logan Avenue
3. Cesar Chavez Parkway between Harbor Drive and Logan Avenue
4. Main Street between Cesar Chavez Parkway and Sampson Street
5. Evans Street between Main Street and Logan Avenue
6. Sampson Street between Harbor Drive and Logan Avenue
7. Sicard Street between Main Street and National Avenue
8. 26th Street between Main Street and Logan Avenue
9. 27th Street between Main Street and Broad Street
10. 28th Street between Main Street and Boston Avenue
11. 29th Street between Main Street and Boston Avenue
12. Boston Avenue between 28th Street and 32nd Street (with an exemption for commercial vehicles over five tons but with a height over 13 feet, 6 inches due to height limitations of the Navy-owned bridge at 32nd Street)
13. Main Street between 28th Street and 32nd Street

At the request of the community, the San Diego Police Department has recently increased enforcement of the truck routes through establishment of formal operation. As reported by the Police Department at the Barrio Logan Community Planning Group meeting, this has resulted in a significant increase of citations:

- January–July 2019 = 49 citations
- August–September 2019 = 109 citations
- October 2019 = 80+ citations

Temporary noise spikes associated with truck traffic was apparent on all monitored data and appears to be a significant source of nighttime noise. Continued enforcement of the truck routes is expected to reduce intermittent noise spikes associated with truck traffic throughout the community.

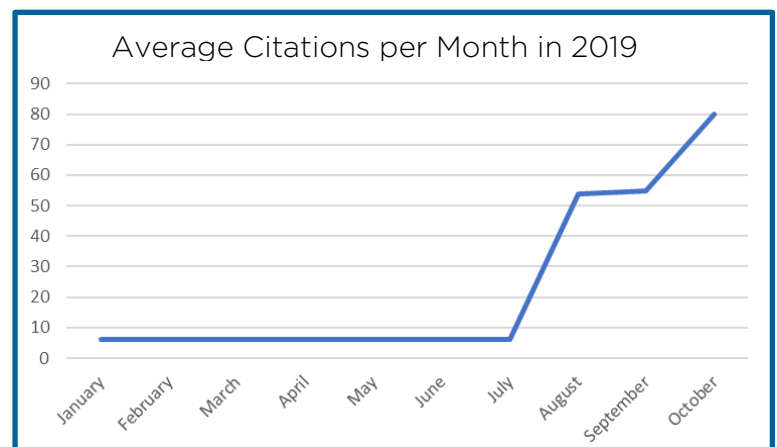


FIGURE 4. TRUCK ROUTE AND PROHIBITION MAP



3.0 Community Engagement & Survey

3.1 COMMUNITY ENGAGEMENT

Community Engagement Milestones

This Study included extensive community engagement to raise awareness of the Study, engage residents in the process, and collect information to better understand community concerns and their first-hand observations of noise events. Community members were updated on findings throughout the term of the Study. Below is a list of the community engagement milestones:

- September 18, 2019 – Community Planning Group Meeting presentation and discussion, distribution of informational flyer, business cards, and paper surveys (Spanish and English).
- Three In-person Outreach Field Days – In-person engagement with residents, employees, and operators of local businesses in the neighborhood to talk to community members about their experiences with nighttime noises (Friday, September 27, 2019; Saturday, October 5, 2019; and Wednesday, November 6, 2019). Residents were encouraged to participate further by completing the nighttime noise survey, which was available on the Port’s website or via hard copy. From September 18 through December 31, 2019, the engagement efforts resulted in:
 - 530+ direct contacts
 - Distribution of 750 pieces of material (informational flyers and business cards)
 - 40 completed noise surveys (paper and online)
- October 16, 2019 – Community Planning Group Meeting discussion
- November 18, 2019 – Maritime Stakeholders Forum presentation and discussion
- November 20, 2019 – Community Planning Group Meeting presentation and discussion

Community Engagement Locations

On Friday, September 28, the community outreach team visited 12 locations. Where feasible, staff left information sheets, paper surveys, and business cards on community boards or with store managers, supervisors, and other staff where clientele and/or employees live in the neighborhood.

On Saturday, October 5, 2019, the community outreach team expanded its reach to laundromats, restaurants, and other storefronts to find more residents. In total, contact was made at 24 places.

A third day of community engagement was conducted on Wednesday, November 6, 2019, to build on the momentum of the prior days. The method and approach were modified again to focus on residents completing the noise survey. On this day, 19 noise surveys were completed as a result of interaction with approximately 50 individuals in and around the

same venues visited previously. These efforts created a broader awareness of the Study efforts and led to completion of 40 surveys to document noise events experienced by Barrio Logan residents.

3.2 COMMUNITY NOISE SURVEY RESULTS

The in-person and online survey for Barrio Logan residents regarding nighttime noise events was a major element of the community engagement component of the Study. The full results of the survey are included [Appendix 2](#) and summarized below.

The survey included nine main questions and seven supplementary follow-up questions to provide more detail. Forty surveys were completed through January 2020. The average response rate to the survey questions was excellent, between 80 percent and 100 percent on the primary questions. The follow-up questions allowed respondents to provide detailed descriptions. Nearly 500 responses and comments were provided in total, offering an excellent and reliable insight into the conditions in Barrio Logan.

On the following page, [Figure 5, Observed Noise Locations](#), identifies the location of the survey respondent at the time of the noise event. The arrow adjacent to the “location dot” shows the general reported direction of the noise. It should be noted that because of the 45-degree angle of the streets and orientation of the shoreline, people tend to orient either toward the street or the shoreline. As a result, north can mean northwest toward downtown San Diego or northeast toward I-5. Similarly, south can mean toward the shoreline or southeast down the streets parallel to the shoreline toward National City.

Overall, 72.5 percent of the survey respondents reported the observed noises identified in the survey came from the south or west. When viewed with the mapped arrows, the vast majority of the survey respondents appears to be referring to the shoreline and the railyards. This observation is further supported by the responses to the other survey questions.

When asked to identify or describe the location or direction of the noise, approximately 83 percent of the total reported noise sources were categorized as being from shipyard-, railroad-, and traffic-related uses.

The chart to the right shows the top responses for the most common descriptions of reported noises.

Horns, the most reported common description of noises, have multiple sources, including mandated warning train horns when approaching road crossings, ship horns used to communicate during certain weather events between tugboats and the shipyard, and mandated warning horns on the cranes in the shipyards.

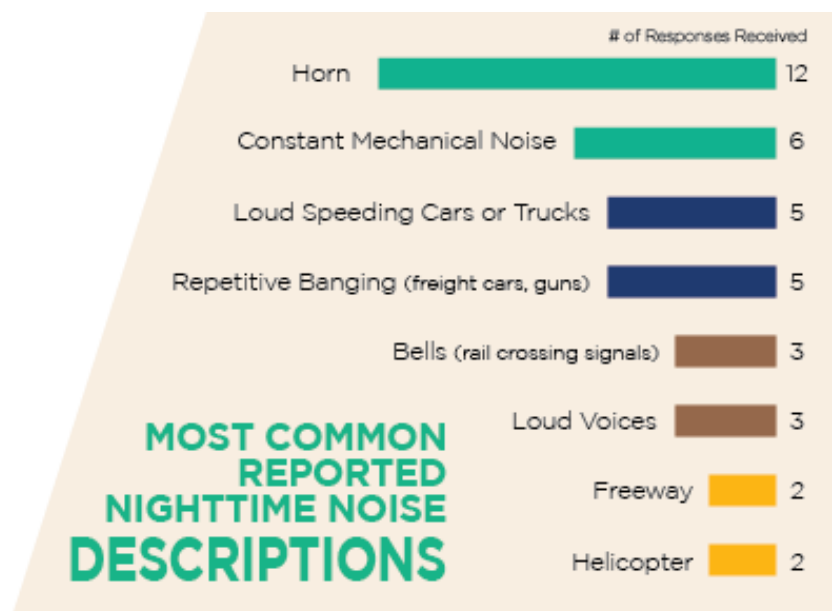
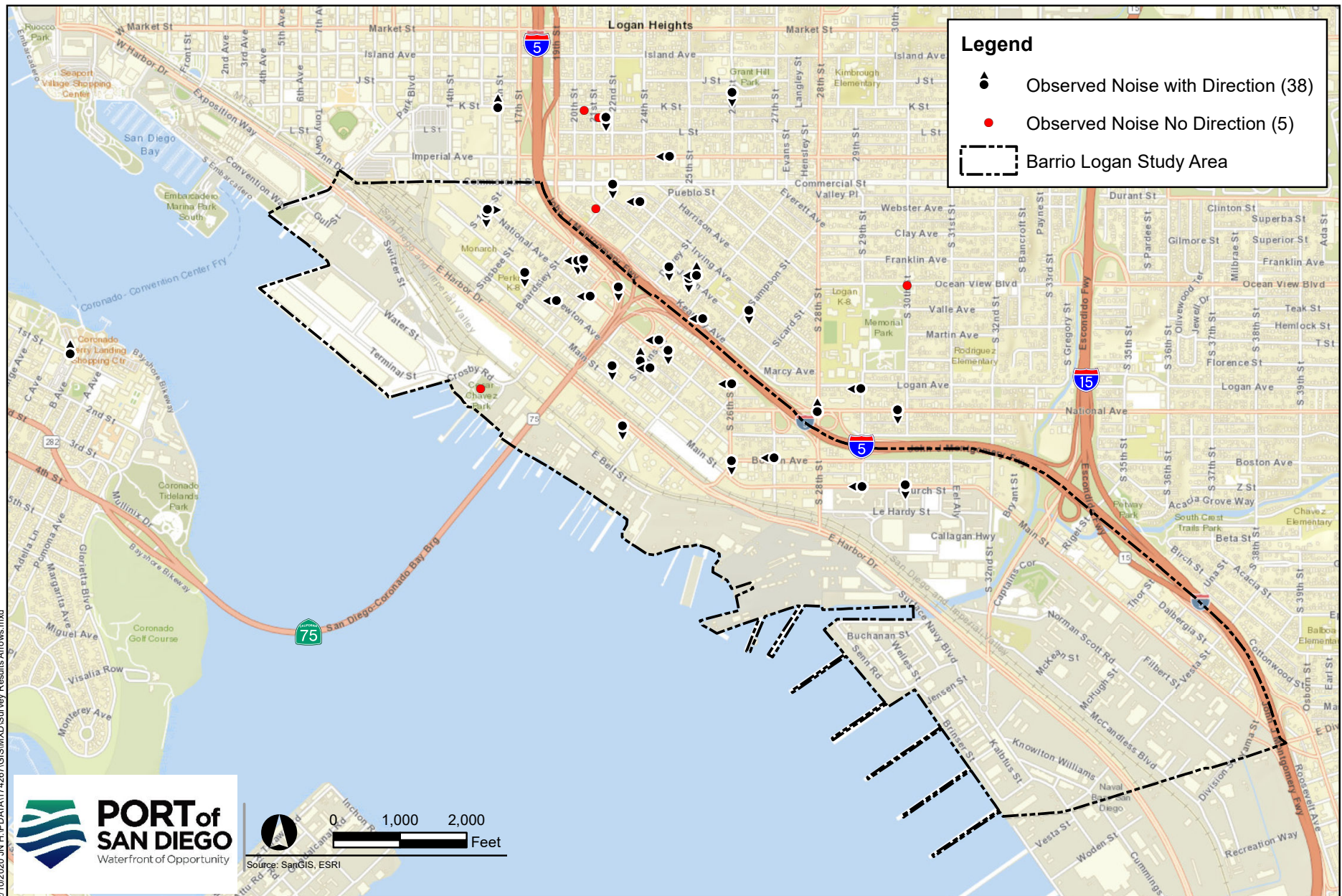


FIGURE 5. OBSERVED NOISE LOCATIONS



Additionally, survey responses included several references to very loud, repetitive banging that some survey respondents described as sounding like gun fire. The observed noise was characterized as possible target practice as opposed to criminal activity due to the length and repetitiveness of the sound. There are two likely explanations. One is actual target practice and weapons training heard across the San Diego Bay from quarterly training exercises on the Navy Seal facilities on the Silver Strand. The other, more likely, and more frequent source is the banging that occurs in succession when freight train rail cars are joined together (referred to as coupling); the slack in the coupling device makes a loud bang and is repeated down the length of the train. This occurs nightly, generally between midnight and 6:00 a.m., as the trains are being assembled and when they depart and arrive from both the MTS and BNSF railyards. However, BNSF's coupling activities should be distinguished from MTS's: when BNSF freight cars are switched and coupled the noise can be heard for several blocks (especially when empty), whereas MTS light rail cars are generally coupled at less than 1 MPH and the noise generated from coupling is limited to several feet away.

The community survey nighttime noise results are included in [Appendix 2](#). The following statistics summarize the survey results:

- 92 percent reported they have heard the noise before, and the vast majority reported the noises occur most days and nights.
- 83 percent of the reported sources were categorized as shipyard, railroad, or traffic noises.
- 75 percent of respondents characterized the reported noises as very noticeable or very loud.
- 72.5 percent of respondents said the noises woke them from sleep or kept them from sleeping (55 percent) or they were startled by the noise (17.5 percent).
- 72.5 percent of the respondents said the reported noise was coming from the south or west, generally from the railroad and waterfront.
- 72.5 percent reported the noise lasting more than a minute.
- Nearly 50 percent said it lasted longer than 5 minutes.
- 40 percent said it lasted longer than 10 minutes.
- The noises were characterized as repetitive (47.5 percent), constant (32.5 percent), and irregular (20 percent).
- 15 percent said they had become used to the noises.

3.3 INDUSTRY INTERVIEWS AND DOCUMENTATION

A key component of the Study was conducting interviews with local industry representatives. During October 2019, Port tenants and representatives from local industries that extend beyond the Port Tidelands were interviewed to learn more about what happens during nighttime hours on their respective properties. Subsequent meetings and site visits occurred through December 2019. The industry representatives were very cooperative and provided ready access and helpful information about equipment and operations in general, and particularly those that make noise during nighttime hours.

Rail Service

Phone and in-person interviews were conducted with representatives of MTS, BNSF, NCTD, and the City of San Diego.

Rail service in San Diego comprises two types: passenger and heavy freight. Passenger service is provided by MTS, NCTD, Metrolink, and the Coaster. BNSF operates heavy freight seven days a week on a combination of its own lines between National City and Laurel Street in San Diego, and BNSF shares rail lines through San Diego with MTS, NCTD, Metrolink, and the Coaster. NCTD oversees, schedules, and manages all the rail service in San Diego.

Commuter and freight service share the same tracks, and thus, are required to run at different times; this is referred to as temporal separation. Commuter/passenger rail generally operates from 5:00 a.m. to midnight. Therefore, passenger service is not operating during the late nighttime hours of concern. However, freight service is limited to late night hours, seven days a week. Unlike the passenger cars, heavy freight trains operated by BNSF have different cars, weights, and coupling systems. Building a train, switching cars, and starting and stopping the train cars, particularly the heavy freight variety, creates very loud banging noises as the slack in the coupling links between cars is taken up or released during movement. The resultant bangs ripple down the trains, car by car, as the train is moved forward and back as more cars are added and whenever the cars accelerate and decelerate significantly. The assembly and disassembly of freight trains occurs primarily in the railyards but extends onto the service tracks for longer trains, which range between 1,000 and 6,000 feet (over one mile) in length. BNSF and MTS both have yards in and adjacent to Barrio Logan. BNSF builds its trains on its tracks in Barrio Logan from 5th Avenue down to the PASHA auto yards in National City. The noises from this operation are unavoidable, and the hours of operation during the late-night hours are also unavoidable under the shared track operating system. BNSF generally runs two trains up to 5,000 to 6,000 feet in length (in and out) each day. MTS also runs one local freight train that is approximately 800 to 1,600 feet in length for the San Diego and Imperial Valley Railroad (SDIV) between the MTS yard and San Ysidro Monday through Friday on the MTS tracks.

Naval Base San Diego

Naval Base San Diego, also known as 32nd Street Naval Station, is the principal homeport of the Pacific Fleet, consisting of greater than 58 Navy ships. Naval Base San Diego is located along the southwestern portion of the Barrio Logan community and is divided into the wet side and the dry side. The wet side is on the bay side of Harbor Drive with the main gate at 32nd Street. There are also gates at 8th Street in National City, and the farthest south gate is at Pier 13. All ships at Naval Base San Diego are moored on the wet side. The wet side has the Naval Base San Diego movie theater, Budweiser Brew House, Mini-NEX and Uniform Store, and several restaurants. The Naval Base San Diego dry side main gate is from 32nd Street. It has two gas stations, the commissary, Main Exchange (NEX), and other stores. Most Naval Base San Diego housing is also located on the dry side. Naval Base San Diego proper is under federal ownership and composed of over 1,600 land acres and 326 acres of water.

An interview with the Navy Community Planning and Liaison Officer reported the Navy facility is a very large operation that is largely unknown to the larger San Diego community.

It functions as a university for the Navy, annually matriculates as many graduates as University of California at San Diego (UCSD), and has the same number of daily visitors (50,000) as the San Diego International Airport. The defense related industry represents one-fifth of all economic activity in the County of San Diego. The wet side facilities west of Harbor Drive include Navy ship construction, maintenance, and repair operation activities. Contractors from the nearby ship building and repair businesses of NASSCO, Huntington Ingalls Industries (HII), and BAE are bussed into the Navy yard facilities and represent roughly 10 percent of the employees.

Noise sources at the Naval Base are typically associated with the maintenance and repair of ships and vessels, in addition to other base operations, such as construction or repair of buildings, roads, grounds, and piers. The Navy does not conduct around-the-clock operations. The Navy's primary hours of operation are from 7:00 a.m. to 3:30 p.m., which creates significant traffic outside the gate within the Barrio Logan community as the thousands of staff come and go from the facility. Some flex shifts work slightly later but leave by 5:00 p.m.; these activities include command operations, training, education, and a full complement of support services. After 6:00 p.m., activities include security watches. The Navy Exchange store closes by 8:00 p.m. There are no regular late-night noise sources from the Navy operations. The Navy does have an emergency broadcast communications system called the "Big Voice" which is an outdoor speaker system; however, it is only tested during the day and used at night only in the event of an emergency.

NASSCO

NASSCO is located west of Harbor Drive at 28th Street and is a major ship builder for the U.S. Navy. NASSCO has been designing and building ships on the working waterfront since 1960. NASSCO operates seven days a week around the clock with three shifts per day: shift 1 is 6:30 a.m. to 3:00 p.m.; shift 2 is 3:00 p.m. to midnight; and shift 3 is midnight to 6:30 a.m. Shifts 1 and 2 include approximately 2,000 employees each. NASSCO currently builds three major ships per year. Noise sources include:

- **Cranes.** NASSCO has over 100 cranes (mostly electric powered) of various size and capacity. Nine of the 100 cranes are diesel powered and are installed with selective catalytic reduction (SCR) and diesel particulate filters (DPF). The diesel-powered cranes move the largest shipbuilding blocks in the yard with weights up to 300 tons. All of the cranes have installed horns/beepers pointed toward the ground to warn of any crane use or movement (horns sound every time a crane moves) pursuant to Occupational Safety and Health Administration (OSHA) Section 1910.179 requirements for overhead. NASSCO moves very large, heavy blocks and ship building materials all day during shifts 1 and 2 (6:30 a.m. to midnight), on occasion, the size and weight of certain blocks require two cranes simultaneously. Currently, there is limited movement of cranes or major moves on shift 3 (midnight to 6:30 a.m.).
- **Horns.** Warning horns that signal the opening of the gates to the NASSCO rail spur used for steel delivery by rail sound two to three times per week, typically during the first shift (6:30 a.m. to 3 p.m.).
- **Truck traffic via Gate #14 (near BAE) for steel delivery via Harbor Drive.** NASSCO cannot absorb a ships worth of steel delivered all at once; therefore, there are truck

deliveries daily at Gate 14 and deliveries by rail once or twice a week. This typically occurs during first shift (6:30 a.m. – 3:00 p.m.).

Shift 3 is currently not a full production shift. Rather, it is used mostly for maintenance and yard cleanup and includes approximately 300 to 400 employees. The more intensive daytime operations may be extended to shift 3, from midnight to 6:30 a.m., when new construction production requirements dictate.

Blast and Paint operations are conducted in a fully enclosed hangar facility on first and second shift. Big fans run during paint operations. The fans run the filter systems in each of the 7 hangars that destroy 98% of volatile organic compounds (VOC's) that are associated with blasting and painting. They are located outside on Harbor Drive and could be a source of noise. Paint operations do not occur during shift 3, and therefore, such activities would not affect late-night hours.

NASSCO and all U.S. Navy ships are required to test ship whistles before ships are sent out to sea. For NASSCO the tests occur prior to a newly constructed ship heads out to sea for the first time following construction; however, on average, this occurs once or twice a year. Per federal regulations, ship whistles use two distinct durations and must be audible for at least one-half mile. The first duration is a “short blast” (about one second in duration). The second is a “prolonged blast” (4 to 6 seconds in duration). The system is designed to be operated in automatic and manual modes, and both functions need to be tested. The sound signals per regulation often use short and long blasts in one iteration; for example, testing includes one prolonged blast followed by three short blasts; the duration of this testing may take up to 45 minutes. This is typically performed during daytime shifts.

BAE

BAE is located west of Harbor Drive at Sampson Street and provides ship repair services for more than 50 U.S. Navy vessels homeported in San Diego, in addition to the various commercial ships that make port calls in San Diego. BAE facilities include a 55,000-ton lift and drydock, 26,000-ton lift and drydock, and 2,800 feet of piers. BAE operates two shifts, Monday through Saturday: 6:00 a.m. to 2:30 p.m.; and 3:00 p.m. to 11:00 p.m. BAE leaves a half hour between shifts to avoid employee overlap for parking and traffic congestion. BAE noted that the only late-night noises are from tugboat horns used to communicate with landside operations during relatively infrequent docking activities due to wind and tide considerations. BAE does not use trains or perform block lifts.



Source: Port of San Diego, 2019.

Huntington Ingalls Industries (HII)

HII is located west of CP Kelco and Harbor Drive, directly south of the Coronado Bridge (SR-75), and is also in the ship building and repair business. Similar to NASSCO and BAE, HII uses large cranes with horns as part of its construction process. HII operates three shifts per day. The third/night shift is mostly security and does not include active shipbuilding or repair operations.

CP Kelco

CP Kelco is a global company that produces food additives; it was founded in San Diego in 1929. CP Kelco is located east of HII on Harbor Drive, also directly south of the Coronado Bridge (SR-75). CP Kelco is a manufacturer/refinery of a specialized food and other liquid additive that thickens and stabilizes liquids. CP Kelco's operations require its compressor machines and cooling towers to operate around the clock. A tour of the facilities conducted in November 2019 showed the building has a main door on the community side (north) that was open, a rollup door on the eastern side, and two fan openings on the western side. The potential nighttime noise sources include air compressors and motors that are used to operate the larger fermentation tank where its product is produced. A noise attenuation wall was constructed 10 years ago to reduce noise to the adjacent HII property to the north. The compressors are in an older metal building with open doors and louvers for ventilation.

10th Avenue Marine Terminal (TAMT)

TAMT operates one shift daily from 8:00 a.m. to 9:00 p.m. All deliveries of parts and supplies are by truck. The truck route includes two entry and exit points: one near Petco Park and the second via the Cesar Chavez gates, with truck traffic complete by 6:00 p.m. All loading/unloading of ships is done by trucks in the yard. Truck traffic is done by 5:00 p.m. to 6:00 p.m. There is also occasional rail use for throughput that comes in/out on tariff. After 9:00 p.m., only security and general property maintenance occurs.

As of the publishing date of this Study, TAMT is in the process of demolishing a large transit shed and trucking debris from the site. This generates truck traffic during daytime hours but is temporary and will be completed by Summer 2020. TAMT tenants are in the process of converting some on-terminal cargo handling equipment to electric alternatives (e.g., electric yard trucks), which should dramatically reduce operational related noise.

Recycling Facilities & Outdoor Operations

On the following page, [Table 7, Junkyard/Landfill/Recycling Centers in Barrio Logan](#), describes the locations identified in [Figure 2](#) (page 13) as Junkyard/Dump/Landfill. This general category includes primarily outdoor facilities and operations in the Barrio Logan study area including two recycling businesses (IMS and SA Recycling) in three locations (Boston Avenue, 27th and Main, and 32nd and Main). The facilities vary in the type of activities that occur onsite and in hours of operation, and therefore, so do the associated noise sources at the facilities. Noise is generally generated by use of onsite equipment such as forklifts, vehicle use (i.e., back up warning noise), unloading and sorting of materials, and workers and visitors coming to and from the site.

[Table 7](#) identifies the location, business name (if any), existing zoning, the referenced industrial zones where applicable, the posted hours of operation, the observed use, the

relevant use listed in the zoning code, and the type of approval required for the use. The purpose of this table is to identify the existing recycling uses and other outdoor operations and the required form of approval.

All three recycling operations are permitted uses subject to a Neighborhood Use Permit (NUP), one of the lowest levels of discretionary approval issued by the City, approved at the staff level. The IMS Recycling facility on Boston Avenue is located in the BLPD-B zone and is subject to a 60-dB limit at the property line. The other two sites are each located in the BLPD-D zone and are subject to a 75-dB limit at the property line.

As noted in the table, all but one of the observed uses were issued permits. A few are permitted principal uses, while most are subject to either a Neighborhood, Limited, or Conditional Use Permit. These permits allow the City to establish use-specific operational and site standards to protect, mitigate, and promote compatibility with the surrounding uses. Facilities are required to conform with the specific operating restrictions of the permit, including noise restrictions, and any violations would be enforceable by the City's Code Enforcement Division. The City mandates facilities have standard hours of operation from 7:00 a.m. to 7:00 p.m. when located within 500 feet of residentially zoned property. (See [Section 2, Regulatory Framework, Local Policies, Standards and Regulations](#), for more information.)

EXCERPT FROM TABLE 6: MAXIMUM NIGHTTIME NOISE LEVELS (PAGE 15)

Existing Study Area Zones	Primary Zone Uses	Noise Ordinance Limits 1-Hour Maximum dB (10:00 p.m. to 7:00 a.m.)
BLPD - B	- Single/multi-family - IH-2-1 Heavy Industry	60 dB ¹ (45 Multifamily and 75 Industrial)
BLPD - D	- IH-2-1 Heavy Industry - Waterfront Dependent	75 dB

TABLE 7: JUNKYARD/LANDFILL/RECYCLING CENTERS IN BARRIO LOGAN

(C = Commercial Use Permit; L = Limited Use Permit; N = Neighborhood Use Permit; P = Permitted Use; - = Prohibited Use)

Name and Address	Hours of Operation	Zoning	Reference Zone	Maximum 1-Hour dB (10:00 p.m. to 7:00 a.m.)	Observed Use	Presumed Applicable Zoning Use	Permit Type
SA Recycling 1211 S 32 St	9:30 a.m. to 4 p.m.	BLPD-D	IH-2-1	75 dB	Large recycling center on multiple lots. Contains vehicles and misc. equipment	Large Processing Facility Accepting All Types of Traffic	N
IMS Recycling 2740 Boston Ave	9:30 a.m. to 4 p.m.	BLPD-B	IH-2-1	60 dB	Large recycling center on multiple lots. Contains vehicles and misc. equipment	Large Processing Facility Accepting All Types of Traffic	N
Unknown 2642 Newton Ave	Unknown	BLPD-A	IL-3-1 ¹	45 dB	Medium storage lot, contains vehicles and misc. equipment	Equipment & Materials Storage Yards	P

TABLE 7: JUNKYARD/LANDFILL/RECYCLING CENTERS IN BARRIO LOGAN, CONTINUED

Name and Address	Hours of Operation	Zoning	Reference Zone	Maximum 1-Hour dB (10:00 p.m. to 7:00 a.m.)	Observed Use	Presumed Applicable Zoning Use	Permit Type
Unknown 2191 Newton Ave	N/A	BLPD-B	IH-2-1	60 dB	Empty fenced lot	Equipment & Materials Storage Yards	P
Shell Gas Station 1145 S 28 th St	24 hours	BLPD-B	IH-2-1	60 dB	Gas station, parking lot	Automobile Service Station	L
Chingon Custom Metal Fabrication 2720 Main St	Unknown	BLPD-B	IH-2-1	60 dB	Four warehouses on-site, medium sized storage yard that mostly contains vehicles	Light Manufacturing	P
Chevron 3774 Main St	24 hours	BLPD-B	IH-2-1	60 dB	Gas station, parking lot	Automobile Service Station	L
Unknown 2069 Main St	Unknown	BLPD-D	IH-2-1	75 dB	Large storage lot, mostly empty, contains construction/utility equipment	Equipment & Materials Storage Yards	P
Unknown 1304 Sampson St	N/A	BLPD-D	IH-2-1	75 dB	Utilities, power station	Energy Generation & Distribution Facilities	P
Unknown 1604 Newton Ave	Unknown	BLPD-RDVP	IP-2-1	60 dB	Small storage yard (cars, vans, boats). One small warehouse on-site	Equipment & Materials Storage Yards	-
Charlie's Auto Repair 1025 Sigbee St	Unknown	BLPD-RDVP	IP-2-1	60 dB	Small commercial auto body shop, no dismantling	Automobile Service Station	L
Unknown 1792 National Ave	Unknown	BLPD-RDVP	IP-2-1	60 dB	Small public parking lot, landscaped, food trucks on-site	Parking Facilities as a Primary Use	C
Unknown E Harbor Dr and Vesta St	N/A	IH-2-1	IH-2-1	75 dB	Utilities, power station	Energy Generation & Distribution Facilities	P

4.0 Sources of Nighttime Noise

The primary sources of nighttime noise within the Barrio Logan community include both transportation and stationary sources. Transportation-related sources are primarily vehicular traffic along major roads and train noise along trolley and freight lines. The community is generally not affected by significant overflight of aircraft or airport operations. Stationary noise sources generally include exterior heating, ventilation, and air conditioning (HVAC) units, public safety address systems, parking lot noise, and delivery activities.

The results of the community noise survey, interviews with local industry representatives, and three weeks of monitoring between midnight and 6:00 a.m. provide clear evidence that the majority of the nighttime noises are from three main sources: traffic, trains, and stationary sources at the working waterfront. These sources combine to create the overall conditions that vary by location throughout Barrio Logan. It should be noted that although noise sensitivity is generally considered to increase around 10:00 p.m. (i.e., when families tend to begin going to bed), noise monitoring occurred between midnight and 6:00 a.m. However, ambient noise and noise spikes documented for the period of 10:00 p.m. to midnight are anticipated to be similar to the midnight to 6:00 a.m. period. As such, recommendations provided in [Section 6.2](#) below that address reductions to late-night and early morning hours are also expected to apply to similar noise conditions experienced between the hours of 10:00 p.m. and midnight.

4.1 TRAFFIC

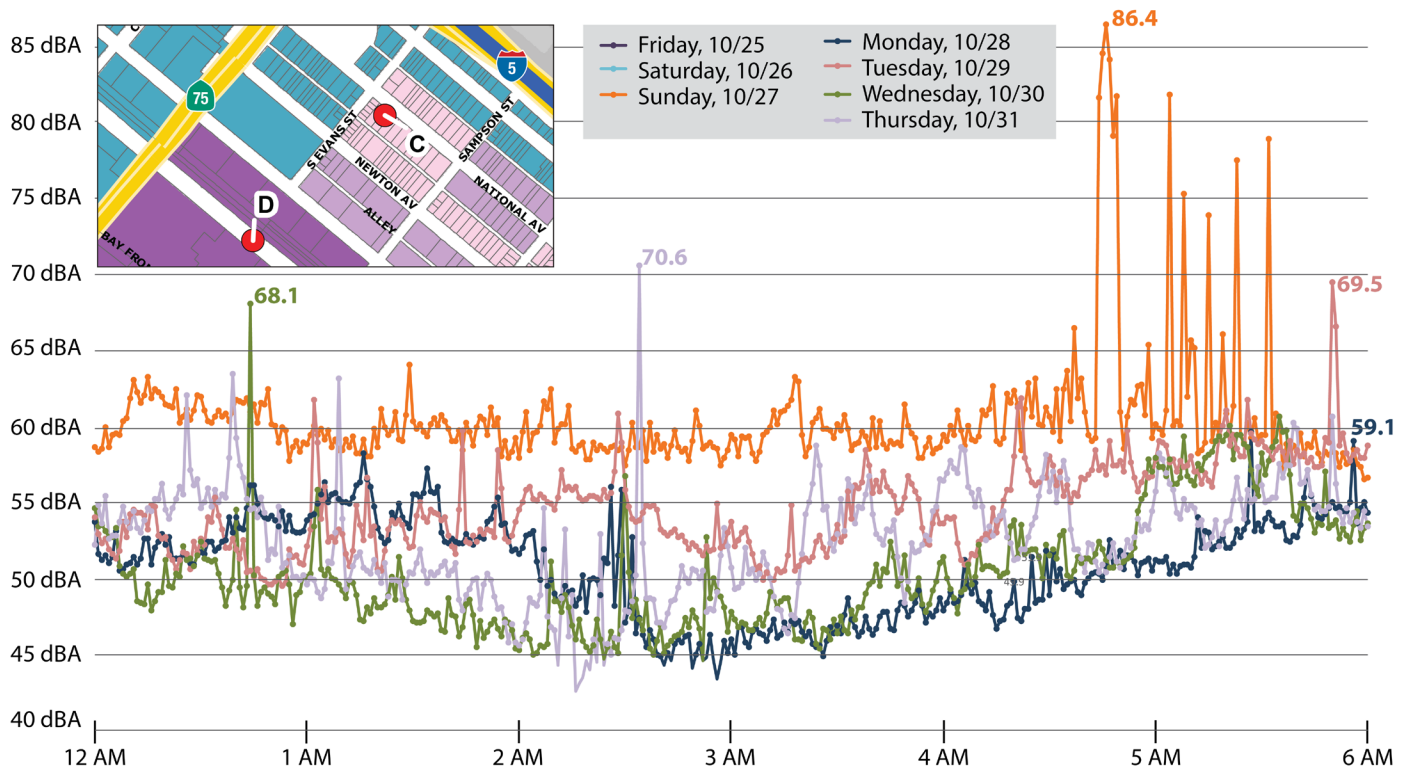
There are two main types of traffic noise: freeway/highway traffic from I-5 and SR-75, and surface street traffic (i.e., Harbor Drive). The patterns are readily apparent in the noise monitoring data. Noise from I-5 and SR-75 is constant and consistent, within a narrower range of noise level from low to high, from minute to minute, and over the course of the day and week. Surface or local street traffic follows similar daily and weekly patterns, with very noticeable increases in weekday morning commute traffic, increasing significantly between 4:00 a.m. and 6:00 a.m. These commuter traffic increases were noticed at every location over all three weeks of measurements. See [Appendix 3](#) for all noise monitoring results.

A comparison of the 1-minute interval measurements from monitoring locations C and D (see page 32 for [Figure 6, Location C \(National and Evans\) 1-Minute Interval Measurements, October 25 to 31, 2019](#) and [Figure 7, Location D \(Harbor South of 75\) 1-Minute Interval Measurements, October 25 to 31, 2019](#)) illustrates the different noise patterns. Location C, near the intersection of National and Evans, exhibits an entirely different pattern. Here, it is possible to distinguish each day of measurement from the others. During each day, represented by different color lines and points, the difference between the minimum and maximum measurements is very narrow – typically only 1 or 2 dB from minute to minute, and typically less than 5 dB hour to hour. This correlates very strongly with traffic noise from SR-75 and I-5, and the noise, like the traffic, is very constant.

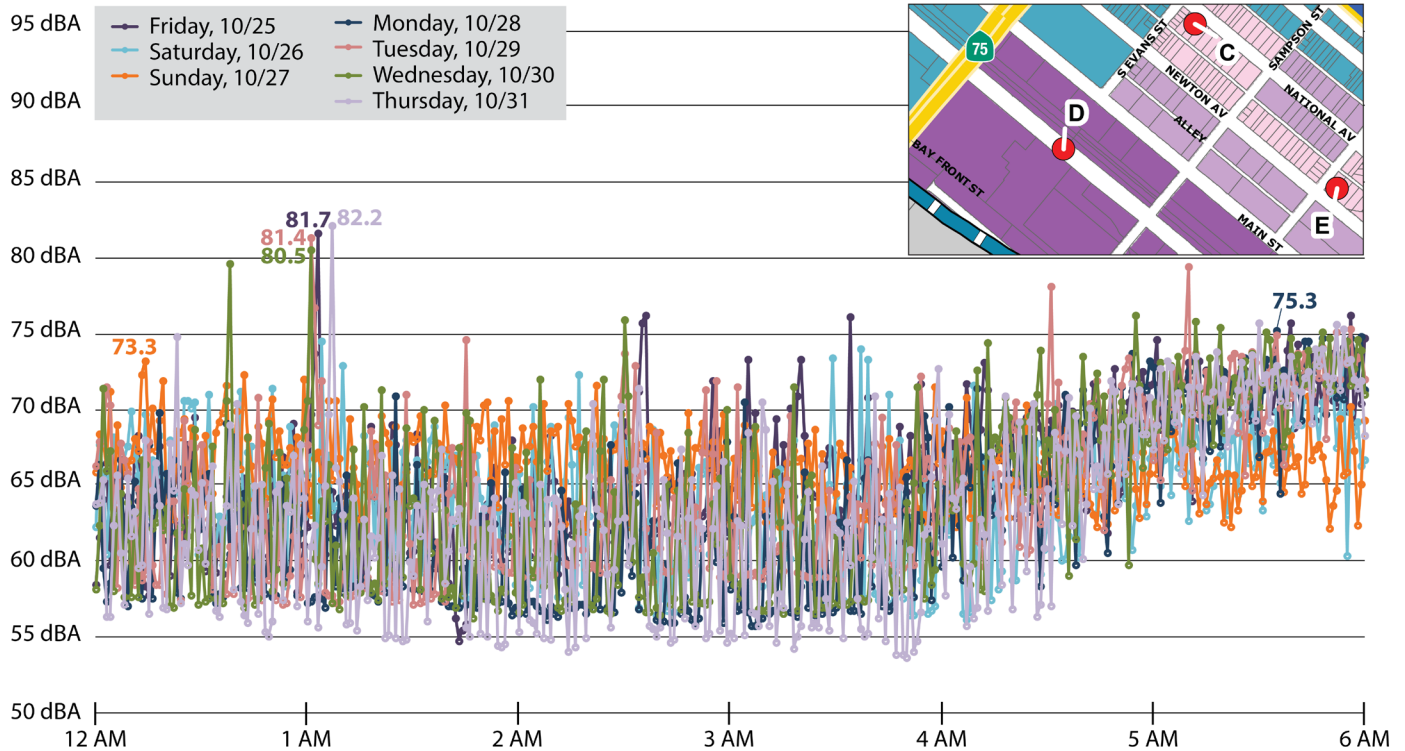
Location D exhibits the noise patterns of surface street traffic in close proximity to the residents. It has far greater variation in noise levels (typically 15 to 20 dB) minute to minute reflecting the impact of passing vehicles in close proximity to the monitor. The range of noise levels was fairly constant hour to hour between midnight and 4:00 a.m., and then

increased during the morning commute hours between 4:00 a.m. and 6:00 a.m. These short-term variations are averaged out when measured over 1-hour intervals consistent with the Noise Ordinance. See [Figure 8, Location D \(Harbor South of 75\) Hourly Intervals, October 25 to October 31, 2019](#). The increasing commuter traffic noise patterns between 4:00 a.m. and 6:00 a.m. were observed at all monitored locations.

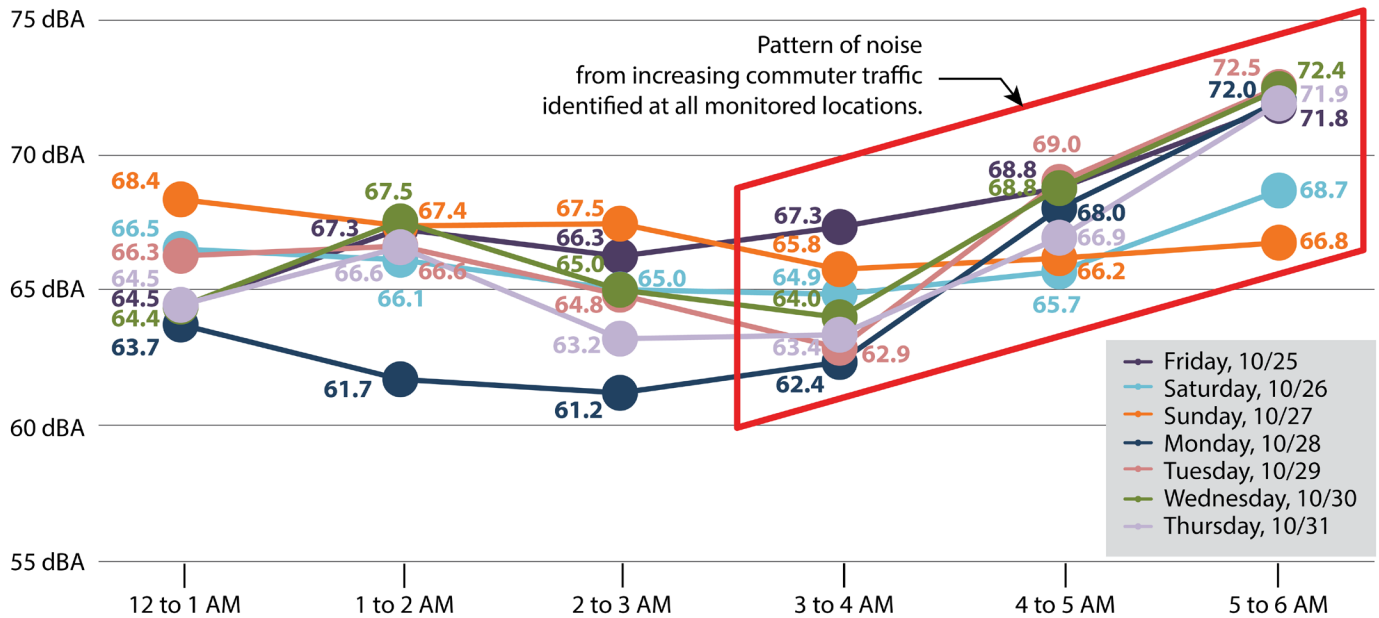
**FIGURE 6. LOCATION C (NATIONAL AND EVANS)
1-MINUTE INTERVAL MEASUREMENTS, OCTOBER 25 TO 31, 2019**



**FIGURE 7. LOCATION D (HARBOR SOUTH OF 75)
1-MINUTE INTERVAL MEASUREMENTS, OCTOBER 25 TO 31, 2019**



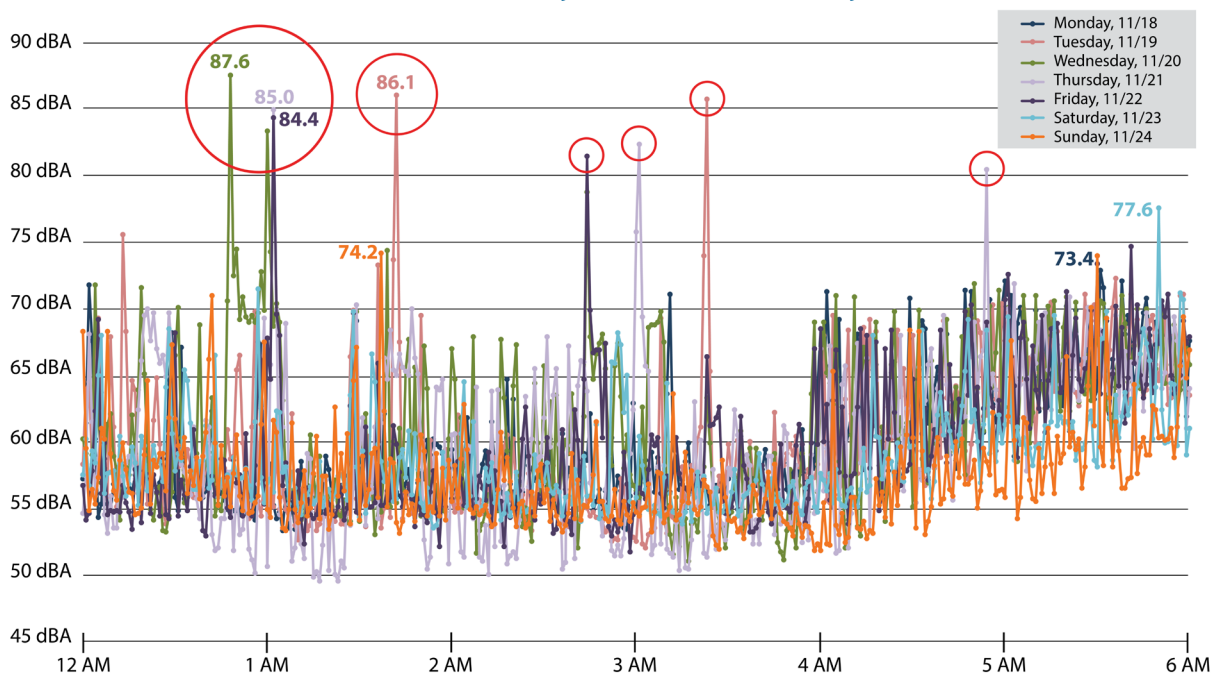
**FIGURE 8. LOCATION D (HARBOR SOUTH OF 75)
HOURLY INTERVALS, OCTOBER 25 TO 31, 2019**



Because of their consistency, freeway noises tend to become ambient as residents can more easily adapt to such noises. The shorter term, periodic noises, such as a revving motor or passing of a loud motorcycle, car, or truck, are more likely to startle and distract. In some ways, the local traffic has a more disruptive impact as the proximity and magnitude of the noise varies greatly, leading to relatively sudden spikes of noise with each passing vehicle versus the constant hiss or drone of the collective freeway traffic. Other traffic-related noise includes the sounds of impact from the tires hitting imperfections and damaged road surfaces such as cracks, seams, heaves, and potholes. The smoothness and material of the pavement affects the frequency or pitch, and the intensity of the sound. Asphalt is typically a noticeable 3 to 4 dB quieter than concrete.

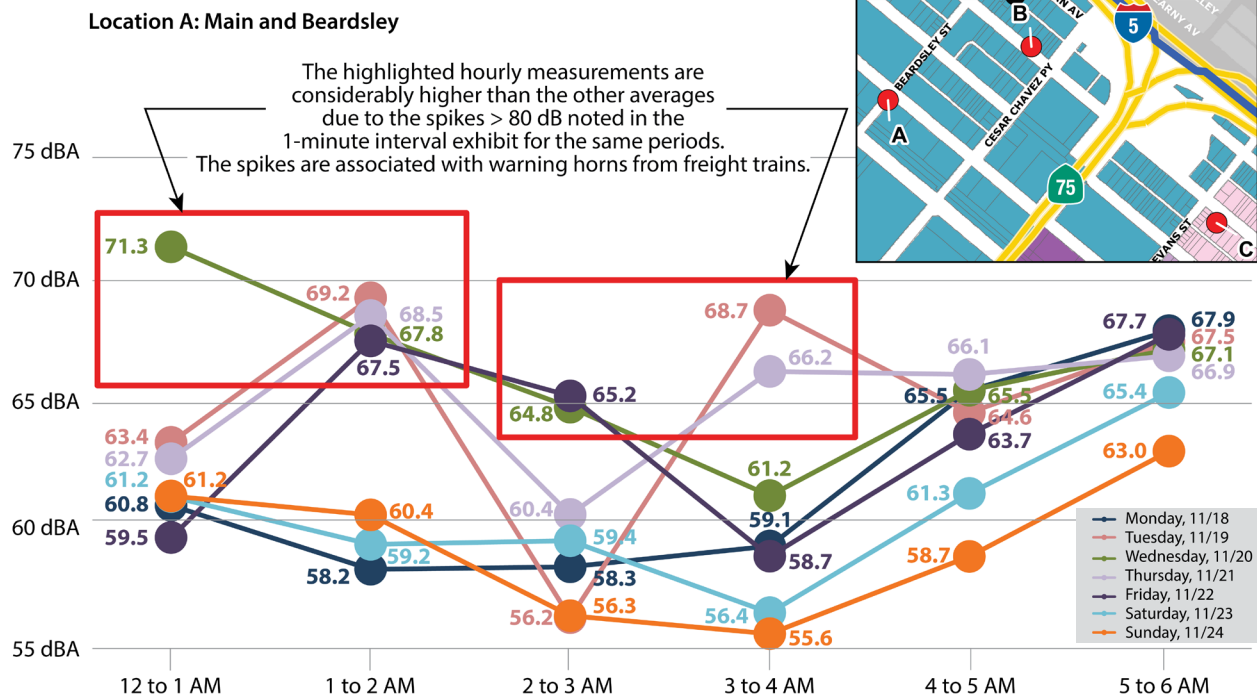
In addition to the regular noise patterns from streets and highways, there were also many recorded incidents of short-term, yet very loud noises that spiked above the observed patterns. Some of these significant spikes are generally quite random, but also tend to occur within certain windows. Despite being of short duration, some are loud and frequent enough to significantly raise the overall noise levels measured over the 1-hour measurement periods consistent with the limits of the City's Noise Ordinance, and over the course of a 24-hour period consistent with the policy guidelines established in the Noise Element of the City of San Diego General Plan. This is illustrated on the next page in [Figure 9, Location A \(Main & Beardsley\) 1-Minute Intervals, November 18 to 24, 2019](#), and [Figure 10, Location A \(Main & Beardsley\) Hourly Intervals, November 18 to 24, 2019](#). The highlighted 80+ dB spikes during the midnight, 1:00 a.m., 2:00 a.m., and 3:00 a.m. hours shown in the 1-minute intervals raise the hourly average in the hourly interval averages during the same period.

**FIGURE 9. LOCATION A (MAIN & BEARDSLEY)
1-MINUTE INTERVALS, NOVEMBER 18 TO 24, 2019**



○ Noise spikes greater than 80 dBA correlate with freight rail runs that tend to leave around 1 a.m. and return around 3 a.m. These noises are most likely train horns but may also reflect coupling and moving of train cars. These spikes notably raise the hourly averages during these same hourly periods.

**FIGURE 10. LOCATION A (MAIN & BEARDSLEY)
HOURLY INTERVALS, NOVEMBER 18 TO 24, 2019**



4.2 TRAINS

Railway noise includes noise from the trains and emergency signaling devices. Freight trains and light rail transit (trolley) can generate high, relatively brief, intermittent noise events. Trolley and freight vehicles are equipped with horns, whistles, and bells which are mandated for use in emergency situations and as a general audible warning to track workers, trespassers within the right-of-way, pedestrians, and motor vehicles at road grade crossings. Horns, whistles, and bells on the moving trolley vehicle, and horns from freight trains, combined with stationary bells at grade crossings, can generate excessive noise levels that can affect noise-sensitive land uses.

Two railroad companies operate along the approximately 2.5-mile length of rail lines through Barrio Logan: MTS and BNSF. Each has its own tracks and railyards on opposite sides of Harbor Drive. The MTS railyard is at the north end of Barrio Logan, generally between Park Boulevard and Sigsbee Street on the north side of Harbor Drive. The BNSF railyards are between Park Boulevard and Cesar E. Chavez Parkway, several hundred feet on the south side of Harbor Drive until near Schley Street where they border Harbor Drive toward the south.

Within the Barrio Logan community, the MTS Blue Line contains three trolley stations and seven at-grade road crossings. BNSF freight trains pass through five at-grade crossings. The rail facilities are shown on page 37 in [Figure 11, Zoning \(Noise Ordinance Limits\) and Rail Facilities](#).

At each at-grade crossing, there are train warning signals operating while the train is in the vicinity of the crossing. Trolley and freight locomotives are required to sound their warning horns and bells for a minimum of 15 to 20 seconds when approaching an at-grade road

crossing. Each at-grade crossing is required to have bells to warn vehicle and pedestrians of oncoming trains. Each bell is required to generate a minimum of 70 dB. However, as noted, the FRA regulates noise levels associated with railways and railway activities. The MTS and BNSF railways are not subject to local noise policies or regulations adopted by the Port or City. The FRA establishes standards for train warning horn loudness and duration for road crossings (96 to 110 dB). According to interviews with MTS, most of the older bells in the quiet zones established in San Diego have been measured in the 80 to 90 dB range. As part of the required improvements, many of the older bells were replaced with new replacement bells that have adjustable levels beginning at the minimum 70-dB level. For most crossings, there is a bell installed at each actuated crossing gate. Typically, there are two actuated crossing gates at each intersection, one for each vehicular travel lane approach to the rail crossing. It would be possible to test the existing bells and create a program to replace older bells with new ones. In this manner, the noise levels produced at the crossings could be reduced. This could be done independently or as part of quiet zone improvements.

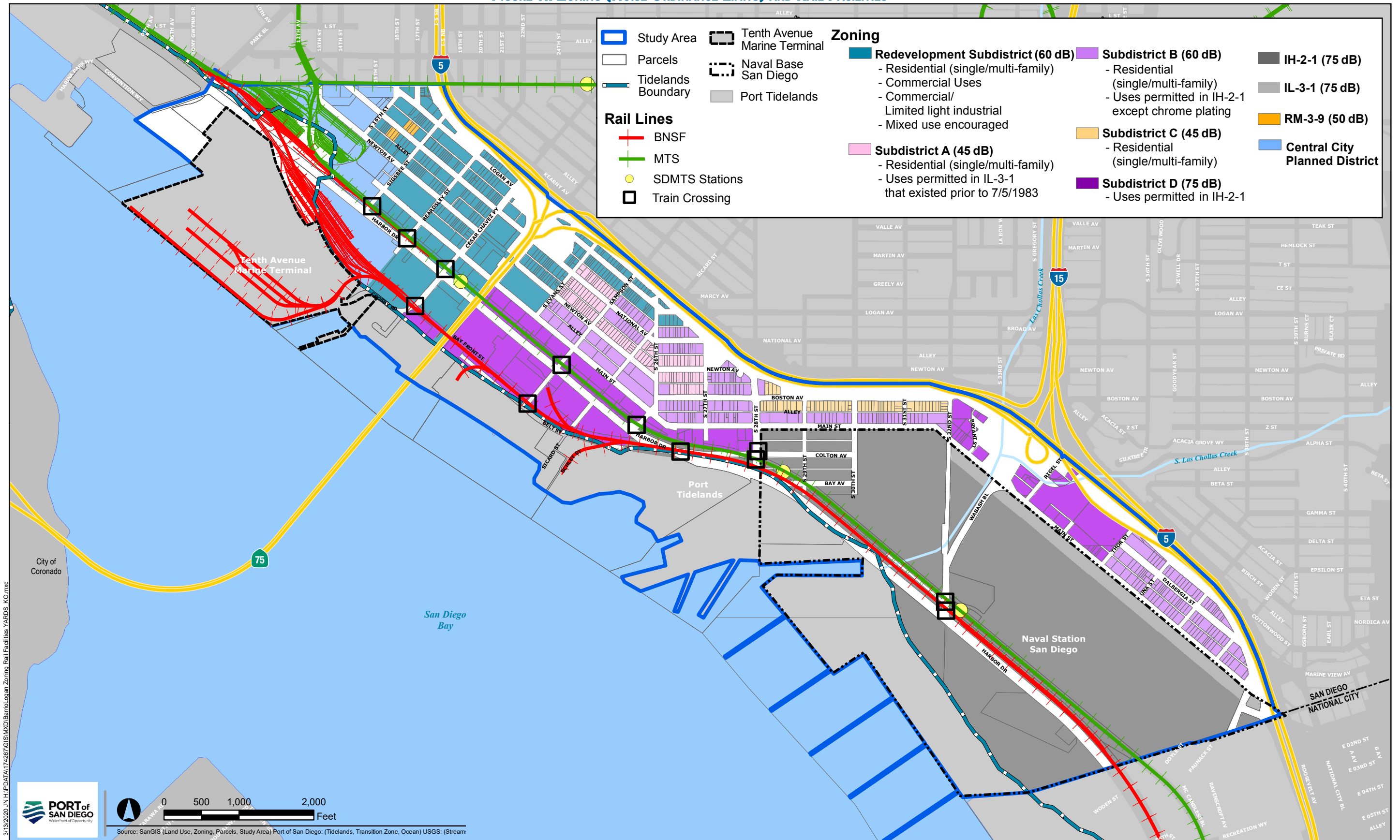
The MTS Blue Line trolley runs 21 hours a day, every day of the week, between the hours of 4:30 a.m. and 1:30 a.m. Approximately 206 scheduled trains each day pass through the Barrio Logan community (SDMTS 2019). Trolley operations are limited during the primary hours of concern (1:00 a.m. to 4:00 a.m.). Currently, 53 MTS trolley trains run through Barrio Logan between 10:00 p.m. and 7:00 a.m. on weekdays; 13 run between 10:00 p.m. and 1:30 a.m.; and 40 run between 5:00 a.m. and 7:00 a.m.

BNSF operates approximately four to six freight trains daily through Barrio Logan. Freight trains vary in length and in the number of locomotives or cars in each operation. Freight train operations are not on a set time schedule. With rare exceptions, all freight trains operate at night.

Freight service is restricted to late night hours, generally between midnight and 5:00 a.m., since they are not allowed to run while passenger trains are on the tracks. The freight service generates the most disruptive noise. Several late night rail-related noises were reported, including train horns, street crossing warning bells, banging and screeching of the coupling, and moving freight rail cars, which includes noise generated in the process of connecting new rail cars to a line.

Many of the reported and observed very loud spikes are associated primarily with the late night heavy freight operations. Their patterns match the very limited operational windows and general number and schedule reported by BNSF and SDIV (operated by MTS). These very loud spikes frequently occur around the 1:00 a.m. and 3:00 a.m. hours. However, the noise limits for such operations are high and do not appear to be exceeded.

FIGURE 11. ZONING (NOISE ORDINANCE LIMITS) AND RAIL FACILITIES



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4.3 STATIONARY SOURCES

The working waterfront operations of several Port tenants were confirmed to contribute to both the background ambient noise levels as well as the momentary loud spikes that can be most disruptive. Relatively constant background noise was observed from air handling and crane motors at the NASSCO ship building sites. Other mechanical noises from cooling towers and compressors at manufacturing facilities such as CP Kelco. Late-night noises were also observed at recycling centers.

Industrial Land Uses

Noise sources associated with industrial land uses include:

- Mechanical equipment operations (e.g., pumps, compressors, and vacuums),
- Public safety address systems,
- Parking lot noise (e.g., opening and closing of vehicle doors), and
- Delivery activities (e.g., use of forklifts, hydraulic lifts, trucks and trains).

Noise levels generated by industrial uses could expose nearby noise-sensitive land uses (e.g., residential units and parks) to levels that may exceed the limits specified in the City's Noise Ordinance (see [Table 5, City of San Diego Noise Limits](#) on page 11). Noise levels associated with stationary industrial sources can vary depending on the source; refer to the long-term monitoring locations D and F in [Appendix 3](#) and the short-term locations ST-16 and ST-24 in [Table 10, Short-term Noise Measurements](#) starting on page 47. The sources may be short-term, lasting for only a few seconds; may repeat (e.g., hammer or warning signal); and/or may occur over a longer period (e.g., air conditioning unit/compressor). Loud noises occur from warning horns for moving cranes, heavy gates, and the movement of heavy materials and equipment. Noise spikes as high as 85 dB were recorded and observed to be from material handling, warning devices, and motor accelerations. These spikes did increase the overall hourly noise levels but were neither loud enough nor frequent enough to raise the hourly average over the 75 dB limit, based on monitoring conducted at the sites near the waterfront maritime and other industrial activities. Measurements at sites away from the Port Tenants were found to be well below 75 dB and include traffic-related sources.⁵

As discussed previously in [Section 3.3, Industry Interviews and Documentation](#), primary noise sources from CP Kelco include motors, compressors, and the gears that operate the fermenter on the western half of the property, west of the BNSF rail line. The main noise sources are the cooling towers adjacent to Dewey Street and the building that houses compressor units. The compressors and cooling towers operate around the clock and are the most noticeable noise source in the early morning. During periods of higher temperatures, the fans may be operating and the building doors may be opened, thereby allowing noise to escape.

⁵ Noise level measurements conducted at Sites C and E exceeded the 1-hour threshold; however, such exceedances are assumed to be the result of noise spikes from train horns, etc.

Ship Building and Repair Yards

Noise levels of the ship building and repair yards located adjacent to the Barrio Logan community along the working waterfront, including local traffic noise, typically were 65 to 75 dB along Harbor Drive and dropped off to 50 to 60 dB along Main Street, as can be seen in the short-term locations ST-14 and ST-19 through ST-21. This is due to the combination of shielding from existing buildings and increased distance from the sources. Delivery trucks typically produce a maximum noise level of approximately 75 to 85 dB at a distance of 50 feet, depending, in part, on the speed of the truck. The truck backup alarms typically generate 65 to 75 dB at 50 feet. Additional noise sources, such as noise generated by heavy equipment activities, can also periodically generate high levels of noise in the community.

As discussed previously in [Section 3.3, Industry Interviews and Documentation](#), operations at NASSCO and BAE are sources of nighttime noise. NASSCO's nighttime noise sources include numerous large and tall cranes, regulatorily mandated crane movement warning horns, and freight rail spur train activity several times a week. NASSCO also uses large air handlers to regulate and circulate air as part of the HVAC systems, which can be a source of both daytime and nighttime noise and contribute to ambient noise. Noise levels may increase in the future if ship repair activity increases. The only BAE late-night noises sources are tugboat horns used to communicate with landside operations during relative infrequent docking activities. Naval Base San Diego, HII, and TAMT do not have nighttime operations.

Recycling Centers

Late-night noises were also observed at recycling centers associated with early morning operations including the moving, opening, and closing of trash containers as well as the processing of materials. See [Table 10, Short-term Measurements](#), sites ST-20 and ST-21 for more details.

5.0 Noise Measurements and Analyses; Field Inspections

5.1 NIGHTTIME NOISE MONITORING

The first week of nighttime noise monitoring occurred between October 25 and 31, 2019, at seven locations throughout Barrio Logan, using Larson Davis Type 2 sound level meters. Monitoring sites were selected to capture daily noise level patterns and statistics continuously over 1-minute intervals.

A second nighttime noise monitoring period occurred between November 11 and 24, 2019, at seven new locations throughout Barrio Logan, again using Larson Davis Type 2 sound level meters. It should be noted that noise measurement location “G” (located at Boston and 32nd) from the first monitoring period was relocated to the area of Main Street and 28th and is now depicted graphically as Location “H.” During this second monitoring period, the sound level meters were programmed to automatically turn on at 12:00 a.m. and shut off at 6 a.m. to capture the nighttime and early morning noise levels. The monitoring locations are shown on page 43 in [Figure 12, Zoning \(Noise Ordinance Limits\) and Noise Monitoring Sites](#).

The noise measurements recorded during the two monitoring periods include the average hourly (L_{eq}), maximum sound pressure (L_{max}), and minimum sound pressure (L_{min}), along with the statistical indicators (L_{10} , L_{50} , and L_{90}). By definition, the L_{10} value is the noise level exceeded for 10 percent of the time and takes into account the peaks in noise. The L_{10} has been found over the years to be a useful descriptor of road traffic noise as it correlates quite well with the disturbance people feel when close to busy roads. The L_{50} indicator is the median value of the noise over the measurement period. The L_{90} value is the noise level exceeded for 90 percent of the time and is a good indicator of the background noise levels (e.g., mechanical/industrial noise). A summary of the average noise level measurements taken between the hours of 12:00 a.m. and 6:00 a.m. each day are provided in [Table 8](#), below.

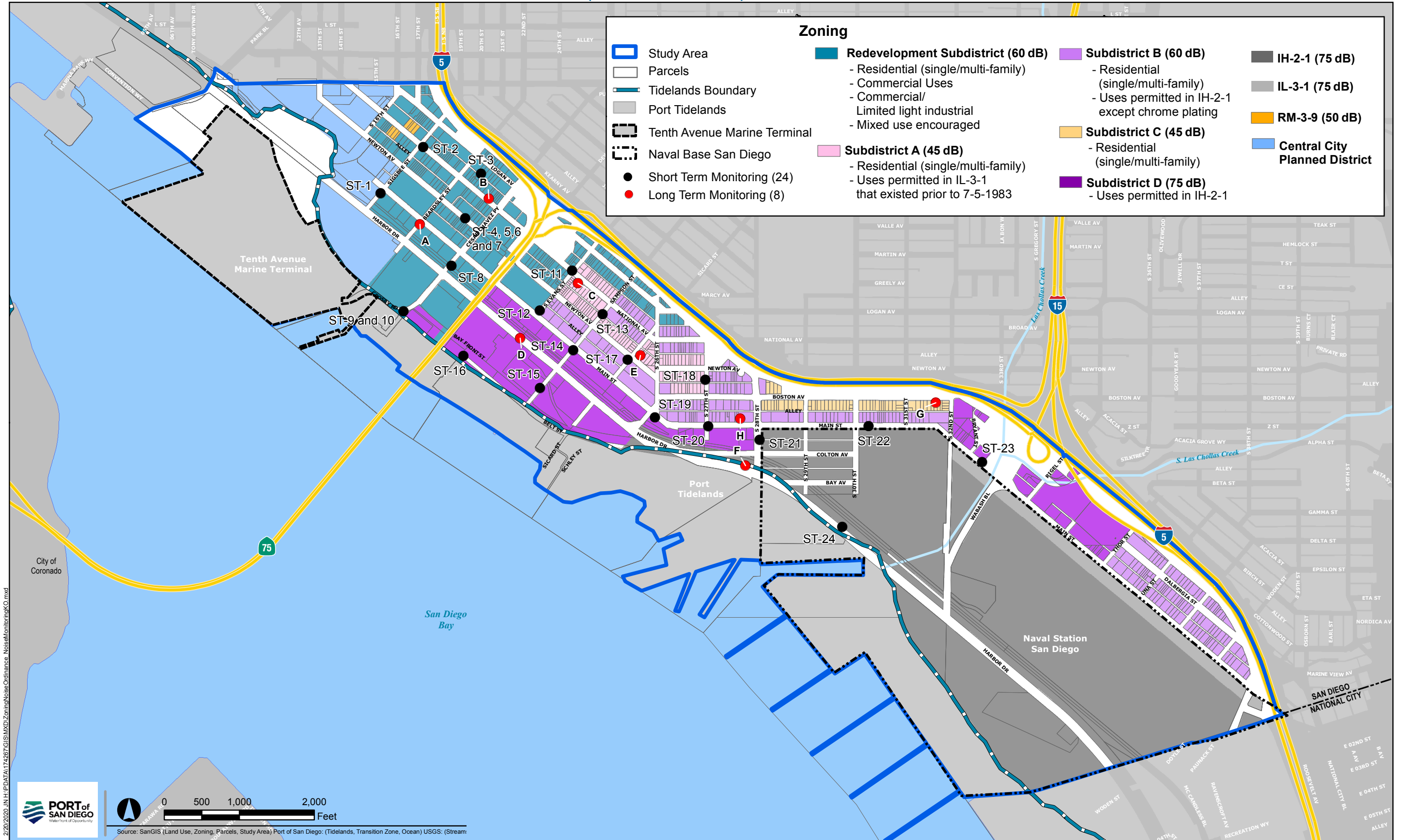
**TABLE 8: AVERAGE DATA (12 A.M. TO 6 A.M. MEASUREMENTS)
OCTOBER 25 TO NOVEMBER 24, 2019**

Location	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
Location A: Main and Beardsley	62.6	104.5	45.8	65.0	56.2	53.0
Location B: National and CCP	60.7	98.4	44.3	62.7	56.0	52.0
Location C: National and Evans	55.6	92.8	41.3	57.7	53.5	49.7
Location D: Harbor south of 75	68.1	93.1	52.5	71.8	61.3	58.5
Location E: Newton and Sicard	59.5	88.4	48.8	61.1	57.4	54.5
Location F: 28 th and Harbor Dr	70.9	113	51.5	73.2	63.7	59.3
Location G: Boston and 32 nd	58.6	77.4	44.9	60.7	58.4	56.3
Location H: Main and 28 th	60.8	95.7	50.0	63.0	58.5	55.5

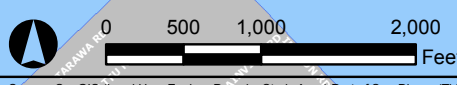
As can be seen in [Table 8](#), the average (L_{eq}) noise levels during both monitoring periods ranged from 56 to 71 dB throughout Barrio Logan. As indicated by the L_{10} data, 10 percent of the time the noise levels were found to be between 58 and 73 dB. The L_{10} indicator is a good representative of the fluctuation of traffic along adjacent roadways and associated traffic along the Coronado Bridge and I-5. Based on the L_{90} data, 90 percent of the time the noise levels are below 60 dB, which indicates the background ambient conditions from industrial sources and, to an extent, traffic in the distance. Therefore, the results indicate road and highway noises comprise much of the baseline noise in the community. The traffic and noise patterns are clearly noted and very consistent on hourly and daily bases. Significant short-term spikes of loud noises were noted in most areas to varying extents. Patterns of such noises indicate regular sources (trains, horns, trucks) and opportunities for intervention.

Several monitoring sites demonstrated notably and objectively loud average and patterns of frequent and very loud spikes in noise levels. It appears these regular and patterned noises are associated with heavy freight rail activity, as well as some activity at the shipyards. As noted earlier in [Figure 9, Location A \(Main & Beardsley\) 1-minute Intervals, November 18 to 24, 2019](#), and [Figure 10, Location A \(Main and Beardsley\) Hourly Intervals, November 18 to 24, 2019](#), such patterns of very loud spikes frequently occur during the midnight, 1:00 a.m., and 3:00 a.m. hours. These are attributed to freight rail activities in the nearby BNSF railyard and rail line. While the noises of the creation and movement of the trains themselves appear to be within the limits allowed by the FRA, the required blowing of the train horns could be eliminated with the creation of a quiet zone.

FIGURE 12. ZONING (NOISE ORDINANCE LIMITS) & NOISE MONITORING SITES



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Source: SanGIS (Land Use, Zoning, Parcels, Study Area) Port of San Diego: (Tidelands, Transition Zone, Ocean) USGS: (Stream)

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Table 9, Observed Noise Levels (Hourly Measurements) October 25 to November 24, 2019, is a summary of the observations based on both periods of nighttime noise monitoring at 8 locations⁶ (A-H) between the hours of midnight and 6:00 a.m. between October 25 and November 24, 2019.

**TABLE 9. OBSERVED NOISE LEVELS (HOURLY MEASUREMENTS)
OCTOBER 25 TO NOVEMBER 24, 2019**

Site		Average Noise Levels (Hourly Measurements) (dB)			
		Noise Ordinance Limit ¹	Typical 1-hour Averages	% > Noise Ordinance Limit	Spike Ranges ²
Location A is closest to the BNSF rail yard. It exhibits a large range in 1-min interval data. The pattern of very loud spikes suggests noises are from train and rail yard operations and local traffic. The location also has a quiet baseline (minimum) noise levels. The measurements exceeded the Noise Ordinance limits for stationary sources most of the time due allowable noise from mobile sources. (See Appendix 3 for measurements.)	Monitor ID A Nearest Cross Street Main @ Beardsley Zone BLPD-RDV	60	55-70	63%	70-87
Location B is at the central Barrio Logan business district two blocks west of I-5. It demonstrates a clear, consistent traffic pattern with relatively narrow noise ranges by hour and day with steady increases from 4 a.m. to 6 a.m. A large number of significant noise spikes increases the hourly averages. The minimum levels are relatively quiet. The measurements are mostly compliant with noise limits until the commuter traffic pattern increases beginning at 4:00 a.m. (See Appendix 3 for measurements.)	Monitor ID B Nearest Cross Street National @ Cesar Chavez Zone BLPD-RDV	60	55-69	41%	70-85
Location C is in a residential area and has the most consistent and narrow noise ranges. With few exceptions, it is almost all traffic noise with very few noise spikes. This site exhibited the quietest minimum and average nighttime noise levels. However, the measurements exceeded the applicable noise limits 100 percent of the time because the noise limit is 45 dBA. (See Appendix 3 for measurements.)	Monitor ID C Nearest Cross Street National @ Evans Zone BLPD-A	45	47-60	100%	60-86

⁶ Locations are approximate for privacy reasons.

**TABLE 9. OBSERVED NOISE LEVELS (HOURLY MEASUREMENTS)
OCTOBER 25 TO NOVEMBER 24, 2019, CONTINUED**

Site		Average Noise Levels (Hourly Measurements) (dB)			
		Noise Ordinance Limit ¹	Typical 1-hour Averages	% > Noise Ordinance Limit	Spike Ranges ²
<p>Location D is on Harbor Drive and has a very consistent pattern and wide range of noise levels that reflect local traffic as the primary source. The low noise levels are relatively elevated at 55 dB, and the maximum levels are generally less than 72 dB with frequent loud spikes associated with nearby rail and local truck traffic. The measurements are largely consistent with commuter traffic patterns as traffic and noise levels both show increases beginning at 4:00 a.m. The noise levels never exceeded the 75 dB Noise Ordinance limits. (See Appendix 3 for measurements.)</p>	<p>Monitor ID D</p> <p>Nearest Cross Street Harbor @ S. SR-75 North of Sampson</p> <p>Zone BLPD-D</p>	75	61-75	0%	60-86
<p>Location E is in a residential neighborhood adjacent to a warehouse. It exhibits a very narrow noise range (50-60 dB) between midnight and 4:00 a.m. with regular and frequent loud spikes throughout the night and subtle, but measurable, increases consistent with commuter traffic patterns beginning at 4:00 a.m. The source of the baseline noise appears to be traffic from the I-5 freeway and neighboring streets with spikes from less frequent local traffic and rail service and possibly operations at nearby warehouse and recycling facilities.³ The measurements exceeded the noise limits 100% of the time. (See Appendix 3 for measurements.)</p>	<p>Monitor ID E</p> <p>Nearest Cross Street Newton @ Sicard</p> <p>Zone BLPD-A</p>	45	53-66	100%	66-77
<p>Location F is on Harbor Drive near the entrance to NASSCO and has a loud and highly variable hourly noise range of 62-78 dB. The 1-minute intervals show an even greater variation and range with many very loud spikes throughout the night, suggesting a combination of local truck traffic, rail activities, and maritime operational noises. The measurements are largely compliant with the City Noise Ordinance. (See Appendix 3 for measurements.)</p>	<p>Monitor ID F</p> <p>Nearest Cross Street 28th @ Harbor</p> <p>Zone IH-2-1</p>	75	62-78	6%	78-94
<p>Location G is in a residential area adjacent to the I-5 freeway and documented the most narrow and consistent range of noises. The noise samples always exceeded the nighttime Noise Ordinance limit. The noise source is clearly traffic from the adjacent I-5 and thus, this monitor site was moved to another location (Site H) after the first week of monitoring to collect data from less obvious noise sources. (See Appendix 3 for measurements.)</p>	<p>Monitor ID G</p> <p>Nearest Cross Street Boston @ 32nd</p> <p>Zone BLPD-C</p>	45	54-65	100%	65-69

TABLE 9. AVERAGE OCTOBER NOISE LEVELS (24-HOUR MEASUREMENTS), CONTINUED

Site	Average Noise Levels (Hourly Measurements) (dB)			
	Noise Ordinance Limit ¹	Typical 1-hour Averages	% > Noise Ordinance Limit	Spike Ranges ²
<p>Location H is in an industrial/commercial area and was a noise monitoring site for the second phase of monitoring in November 2019. The noise data reflects primarily distant traffic and possible machine noises. The hourly and daily ranges are very narrow and consistent and steady between 54 and 64 dB. Noise spikes were relatively quiet and infrequent. The measurements exceeded the noise limits 42% of the time, but mostly during the 4:00-6:00 a.m. commuter traffic hours. (See Appendix 3 for measurements.)</p> <p>Monitor ID H Nearest 28th Cross Street @ Main Zone BLPD-D</p>	60	54-64	42%	65-75

1 Noise Ordinance limits (10:00 p.m. to 7:00 a.m.) are **applicable to stationary noise sources** and is based on hourly measurements.

2 Noise spikes are based on 1-minute interval measurements.

3 See Table 10. Short-term Noise Measurements, locations ST-17 and ST-18.

As noted in [Tables 8](#) and [9](#), the measured hourly noise levels exceeded the applicable Noise Ordinance late nighttime limits in all but one site, Location D, which has a 75-dB limit. All of the monitored locations in zones with the 45-dB residential limit exceeded the limit 100 percent of the time. In most cases, the noise in excess of the limits was attributed to rail-related sources (trains and warning horns) and traffic. As noted earlier, **these non-stationary or mobile sources are not subject to the Noise Ordinance limits.**

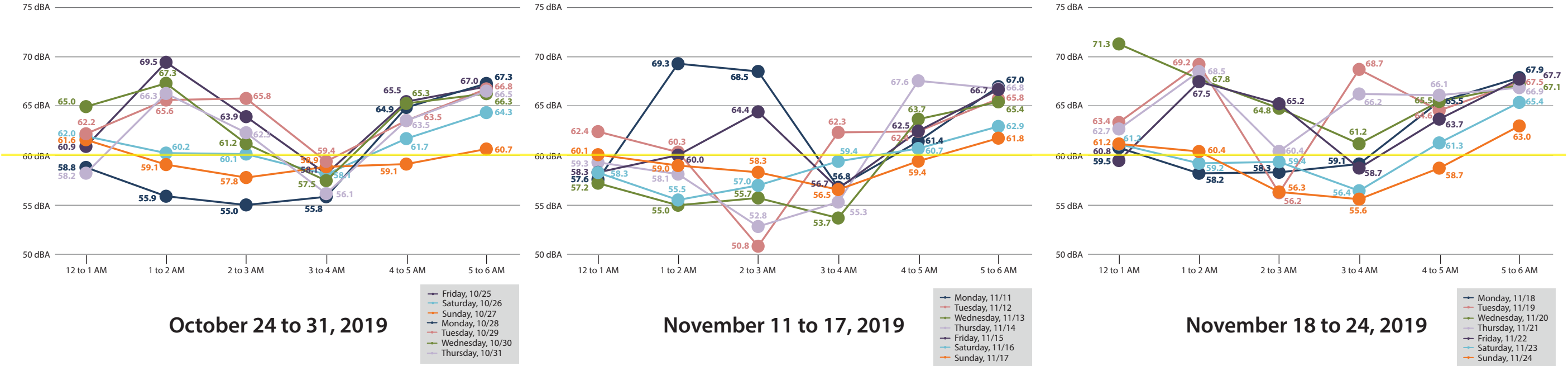
The long-term noise monitoring data collected was plotted in hourly (L_{eq}) and 1-minute intervals for each of the eight monitoring sites (A-H). On the next page, [Figure 13, Site A \(Main Street & Beardsley\) - Hourly and 1-Minute Interval Monitoring Results](#), illustrates the monitoring data for monitoring Site A. Figures for each of the 8 monitoring sites (A-H) are provided in [Appendix 3](#). The figures identify the zone in which each monitor was located as well as the applicable Noise Ordinance limit for stationary sources for reference.

As shown in [Tables 8](#) and [9](#), late nighttime noise levels in the community potentially exceed the applicable City Noise Ordinance thresholds due to the combination of traffic and industrial-related activities primarily associated with rail. It is also important to note that three of the eight monitors were located in a zone with a 45-dB noise limit. Monitoring suggests that it may not be possible to comply with a 45-dB limit in these areas given the traffic, trains, and other industrial uses that are allowed. After monitoring concluded, additional interviews, site inspections, and testing were conducted over the course of late November and December 2019 to observe, better understand, and record the sources. These additional noise measurements are described below.

FIGURE 13. SITE A (MAIN STREET & BEARDSLEY) - HOURLY AND 1-MINUTE INTERVAL MONITORING RESULTS

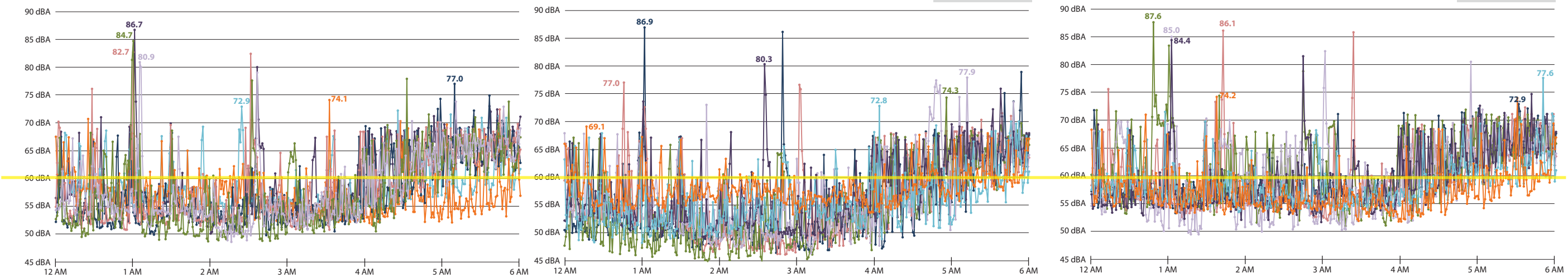
HOURLY
INTERVALS

60 dBA
Noise Ordinance
Limit for the BLPD –
Redevelopment Zone

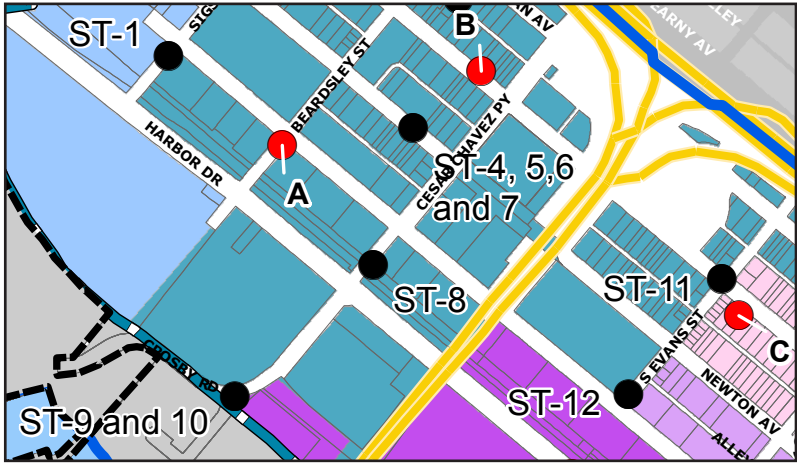


MINUTE
INTERVALS

60 dBA
Noise Ordinance
Limit for the BLPD –
Redevelopment Zone



Site A: Main and Beardsley



Location	Leq	Lmax	Lmin	L10	L50	L90
A: Main and Beardsley	62.6	104.5	45.8	65.0	56.2	53.0

Site	Average October Noise Levels (24-hour Measurements) (dB)			
	Noise Ordinance Limit¹	Typical 1-hour Averages	% > Noise Ordinance Limit	Spike Ranges²
Location A is closest to BNSF and MTS rail yards. It exhibits a large range in 1-min interval data. The pattern of very loud spikes suggests noises are from train and railyard operations and local traffic. The location also has a quiet baseline (minimum) noise levels. The measurements are mostly noncompliant with noise limits. (See Appendix 3 for measurements.) Monitor ID A Nearest Cross Street Main @ Beardsley Zone BLPD-RDV	60	55-70	63%	70-87

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5.2 SHORT-TERM NOISE MONITORING

Noise is cumulative from multiple sources; thus, it can be difficult to enforce compliance or assign responsibility to mitigate impacts. Additional noise monitoring locations were selected to supplement and better understand the data collected during the two phases of long-term monitoring throughout the Barrio Logan community. These observations looked at the minimum, maximum, and average levels combined with personal observations to better determine the location and source of multiple sources.

Twenty-four short-term noise measurements (ST-1 to ST-24) were taken at 20 measurement sites to establish the existing ambient noise environment in nearby neighborhoods. The measurements were taken on November 21, 22, and 23, 2019, between the hours of midnight and 6:00 a.m., using a Larson Davis Model LxT Type 1 sound level meter. Each measurement was conducted manually by a trained professional noise expert. The meter was mounted on a tripod with a wind screen to reduce the effects of wind-related interference. The short-term measurements were conducted at each site for approximately 15 minutes, with the exceptions of when a train or train horn was observed. Those measurements were only taken for approximately one minute to capture the noise characteristics of the train, as can be seen in the results for ST-5 and ST-6. A Larson Davis CAL200 calibrator was used to calibrate the meter for each measurement.

The 24 short-term monitoring locations are shown with the eight long-term monitoring locations in [Figure 12](#) on page 43. The results of the monitoring are shown in [Table 10](#) starting on the next page. Seven of the 24 short-term measurements (ST-5, 6, 8, 9, 11, 17, and 18) exceed the applicable Noise Ordinance limits for stationary sources. As noted with the measurements at the long-term monitoring sites, four of the seven were attributed to train activity at the time. One was attributed to background traffic noise. The measurements greater than the Noise Ordinance limits due to train and traffic noises do not violate the Noise Ordinance. Two measurements (ST-17 and ST-18) were attributed to mechanical equipment operation and active outdoor industrial operations including forklifts, loading of trucks, and processing of recyclable materials. Both were close to the zoning boundary and as a result, the applicable Noise Ordinance limit was the average of the two adjacent zones. In both these cases, the average was 52.5 dB from zones with 45-dB and 60-dB limits. It is noted that the measurements would have been compliant with the higher of the averaged zones. Further, it is possible the industrial operations may also be compliant with the Noise Ordinance if the measurements were taken at their property lines pursuant to the Noise Ordinance.

TABLE 10. SHORT-TERM NOISE MEASUREMENTS

Highlighted text indicates measurements and sites that exceeded the applicable Noise Ordinance limits.

Site and Summary of Results			Noise Measurements (dB)					
ST-1: The noise environment along Sigsbee was defined primarily by traffic along Harbor Boulevard and rail activities. Additionally, background mechanical/industrial noise was also present from waterfront industrial activities as can be seen in the L ₉₀ data. The measurements were compliant with noise limits.	Location:	Sigsbee	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic Noise	55.4	63.3	51.0	57.2	53.7	52.2
	Date & Time:	11/21/2019, 3:41 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-2: The noise environment at Sigsbee and National was defined primarily by local traffic. Additional sources of noise include HVAC noise from nearby commercial and industrial uses. The measurements were compliant with noise limits.	Location:	National North	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	52.1	55.7	50.2	52.9	51.8	50.5
	Date & Time:	11/21/2019, 3:56 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-3: The noise environment along Logan Avenue was defined by traffic along I-5 and background traffic noise along Coronado Bridge. There was also background noise from mechanical/industrial. The combination of the background noise and background traffic noise elevated the L ₉₀ data. The measurements were compliant with noise limits.	Location:	Logan	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	54.2	57.3	51.4	56.1	53.6	52.1
	Date & Time:	11/21/2019, 4:18 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-4: The noise environment along Logan Avenue was defined by traffic along I-5 and background traffic noise along Coronado Bridge. There was also background noise from mechanical/industrial. The combination of the background noise and background traffic noise elevated the L ₉₀ data. The measurements were compliant with noise limits.	Location:	Newton North	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic and Mechanical in Background	48.9	55.5	46.0	51.4	47.5	47.0
	Date & Time:	11/21/2019, 4:36 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60 dB		
			Adjacent Zone:			--		
			Arithmetic Mean:			60 dB		
ST-5: The noise environment included traffic along I-5 and background traffic noise along Coronado Bridge and rail activities as a train was approaching a crossing and the horn was sounded. The measurements were compliant with noise limits over 90 percent of the time.	Location:	Newton North	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Train in Background	60.2	73.2	46.6	63.5	49.0	47.3
	Date & Time:	11/21/2019, 4:52 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-6: The noise environment included traffic along I-5 and background traffic noise along Coronado Bridge and rail activities as a train was approaching the next crossing located slightly farther away and the horn was sounded. The measurements were compliant with noise limits over 90 percent of the time.	Location:	Newton North	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Train in Background	58.4	69.7	46.8	63.0	47.8	47.1
	Date & Time:	11/21/2019, 4:53 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		

TABLE 10, SHORT-TERM NOISE MEASUREMENTS, CONTINUED

Site and Summary of Results			Noise Measurements (dB)					
ST-7: The noise environment along Logan Avenue, after the train departed, was defined by traffic along I-5 and background traffic noise along Coronado Bridge. There was also background noise from mechanical/industrial. The combination of the background noise and background traffic noise elevated the L ₉₀ data. The measurements were compliant with noise limits.	Location:	Newton North	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic Noise	48.4	55.1	45.4	49.9	47.9	45.8
	Date & Time:	11/21/2019, 4:55 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-8: The noise environment was defined primarily by local traffic. Other sources included some aircraft noise and freight train grade crossing. The measurements exceeded the noise limits 50 percent of the time.	Location:	Cesar Chavez Parkway West	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Train in Background	59.7	64.4	53.6	62.3	60.1	54.6
	Date & Time:	11/22/2019, 12:52 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			--		
			Arithmetic Mean:			60		
ST-9: The primary source of noise at this location consisted entirely of a freight train crossing at Caesar Chavez Parkway. The measurements exceed the noise limits over 50 percent of the time.	Location:	Cesar Chavez Parkway West	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Freight Train	81.5	90.7	66.4	87.8	67.9	66.9
	Date & Time:	11/21/2019, 1:02 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			D (75)		
			Arithmetic Mean:			67.5		
ST-10: The noise environment, after the train departed, was defined by mechanical/industrial sources and background traffic along the Coronado Bridge. The measurements were compliant with noise limits.	Location:	Cesar Chavez Parkway West	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	57.3	58.6	56.2	57.7	57.2	56.9
	Date & Time:	11/22/2019, 1:04 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			D (75)		
			Arithmetic Mean:			67.5		
ST-11: The noise environment at this location was defined by traffic along I-5 and background traffic noise along Coronado Bridge. There was also background mechanical/industrial noise. The combination of these background noises elevated the L ₉₀ data. The measurements were compliant with noise limits over 90 percent of the time.	Location:	National and Evans	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic and Mechanical in Background	49.9	55.9	45.8	52.7	48.3	47.7
	Date & Time:	11/22/2019, 1:17 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			A (45)		
			Arithmetic Mean:			52.5		
ST-12: The noise environment at this location was defined by local traffic and primarily background noise from mechanical/industrial sources at the waterfront. The mechanical/industrial sources elevated the L ₉₀ data to be similar to the average noise levels. The measurements were compliant with noise limits.	Location:	Main and Evans	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	51.4	53.0	49.8	52.1	51.3	50.5
	Date & Time:	11/22/2019, 1:31 a.m.	Zone:			BLPD-R		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			B (60)		
			Arithmetic Mean:			60		
	Location:	Sampson	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	49.3	51.6	44.8	50.6	49.2	48.4
			Zone:			BLPD-A		

TABLE 10, SHORT-TERM NOISE MEASUREMENTS, CONTINUED

Site and Summary of Results			Noise Measurements (dB)					
ST-13: The noise environment at this location was defined by local traffic and primarily background noise from mechanical/industrial sources at the waterfront. The mechanical/industrial sources elevated the L ₉₀ data to be similar to the average noise levels. The measurements were compliant with noise limits.	Date & Time:	11/22/2019, 1:45 a.m.	Noise Ordinance Limit:			45		
			Adjacent Zone:			B (60)		
			Arithmetic Mean:			52.5		
ST-14: The noise environment at this location was defined by local traffic and primarily background noise from mechanical/industrial sources at the waterfront. The mechanical/industrial sources elevated the L ₉₀ data to be similar to the average noise levels. The measurements were compliant with noise limits.	Location:	Main & Sampson	Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	51.9	55.3	50.5	522.8	51.7	51.0
	Date & Time:	11/22/2019, 1:58 a.m.	Zone:			BLPD-D		
			Noise Ordinance Limit:			75		
			Adjacent Zone:			B (60)		
			Arithmetic Mean:			67.5		
ST-15: The noise environment located at Sampson and Belt consisted primarily of mechanical noise coming from the southwest at the waterfront operations located across Harbor Boulevard along with traffic noise from Harbor Boulevard. The measurements were compliant with noise limits.	Location:	Sampson West	Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	72.1	73.4	71.0	72.5	72.0	71.7
	Date & Time:	11/23/2019, 2:11 a.m.	Zone:			BLPD-D		
			Noise Ordinance Limit:			75		
			Adjacent Zone:			--		
			Arithmetic Mean:			75		
ST-16: The noise environment at Dewey consisted primarily of mechanical noise from a cooling tower and compressors located at CP Kelco. The measurements were compliant with noise limits over 90 percent of the time.	Location:	Dewey	Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic and Mechanical in Background	56.6	62.2	55.3	57.0	56.3	55.6
	Date & Time:	11/22/2019, 2:21 a.m.	Zone:			BLPD-D		
			Noise Ordinance Limit:			75		
			Adjacent Zone:			--		
			Arithmetic Mean:			75		
ST-17: The noise environment located at Sicard consisted primarily from traffic noise along I-5, plus nearby industrial noise from New Leaf and warehouse noise associated with the TQM Food Service company on Newton Avenue. The noise observed from the New Leaf building included mechanical equipment operation. At the time, operations at TQM Food Service included various loading operations, such as a forklift running and truck loading. Measurements exceeded the noise limits 100 percent of the time.	Location:	Sicard	Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Mechanical Noise	55.8	58.5	53.2	57.1	55.6	53.9
	Date & Time:	11/22/2019, 2:38 a.m.	Zone:			BLPD-B		
			Noise Ordinance Limit:			60		
			Adjacent Zone:			A (45)		
			Arithmetic Mean:			52.5		
ST-18: The noise environment located on 27 th Street consisted primarily of noise along I-5 as well as noise associated with the IMS recycling center. This included the moving, opening, and closing of trash containers as well as the processing of materials. The sound of material processing included the grinding and/or crushing of plastics and other sorted material. The measurements exceeded the noise limits over 100 percent of the time.	Location:	27 th	Leq	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise:	Traffic and Mechanical in Background	54.9	59.1	52.9	56.9	54.3	53.2
	Date & Time:	11/23/2019, 2:57 a.m.	Zone:			BLPD-A		
			Noise Ordinance Limit:			45		
			Adjacent Zone:			B (60)		
			Arithmetic Mean:			52.5		

TABLE 10, SHORT-TERM NOISE MEASUREMENTS, CONTINUED

Site and Summary of Results		Noise Measurements (dB)					
ST-19: The noise environment at 26 th street consisted primarily of nearby mechanical/industrial noise from Port tenants as well as background traffic from local roadways. The measurements were compliant with noise limits.	Location: 26 th	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise: Traffic and Mechanical in Background	53.2	55.0	49.8	53.9	53.2	52.2
	Date & Time: 11/23/2019, 3:15 a.m.	Zone:		BLPD-D			
		Noise Ordinance Limit:		75			
		Adjacent Zone:		B (60)			
		Arithmetic Mean:		67.5			
ST-20: The noise environment located at Main and 27 th consisted primarily of nearby mechanical/ industrial noise from Port tenants as well as activities associated with the recycling center. The IMS Recycling Center at 2697 Main Street included the moving, opening, and closing of trash containers as well as the processing of materials. The sound of material processing included the grinding and/or crushing of plastics and other sorted material. The measurements were compliant with noise limits.	Location: Main & 27 th	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise: Mechanical Noise and a Recycling Center	58.4	62.8	54.5	60.7	57.2	55.2
	Date & Time: 11/23/2019, 3:31 a.m.	Zone:		BLPD-D			
		Noise Ordinance Limit:		75			
		Adjacent Zone:		B (60)			
		Arithmetic Mean:		67.5			
ST-21: The noise environment located at 28 th Street consisted primarily of nearby mechanical/ industrial noise from Port tenants, as well as activities associated with the IMS Recycling Center at 2697 Main Street. Recycling center activities included the moving, opening, and closing of trash containers and materials processing (i.e., grinding and/or crushing of plastics and other sorted material). Additional noise sources included background noise from I-5. The measurements were compliant with noise limits.	Location: 28 th St near Main St	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise: Mechanical Noise and a Recycling Center	58.1	72.3	56.6	58.7	57.8	57.4
	Date & Time: 11/23/2019, 3:45 a.m.	Zone:		IH-2-1			
		Noise Ordinance Limit:		75			
		Adjacent Zone:		D (75)			
		Arithmetic Mean:		75			
ST-22: The noise environment located at 31 st Street included a combination of background mechanical/industrial noise as well as background noise from I-5. The measurements were compliant with noise limits.	Location: 31 st St, near Main St	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise: Traffic and Mechanical in Background	55.0	62.2	50.9	59.4	52.2	51.3
	Date & Time: 11/23/2019, 4:12 a.m.	Zone:		IH-2-1			
		Noise Ordinance Limit:		75			
		Adjacent Zone:		B (60)			
		Arithmetic Mean:		67.5			
ST-23: The noise environment at this location consisted primarily of background noise from I-5 and I-15. The measurements were compliant with noise limits.	Location: I-15, near Main St and Wabash Blvd	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
	Description of Noise: Traffic Noise	58.8	63.4	55.3	61.3	57.6	55.7
	Date & Time: 11/23/2019, 4:33 a.m.	Zone:		IH-2-1			
		Noise Ordinance Limit:		75			
		Adjacent Zone:		D (75)			
		Arithmetic Mean:		75			
	Location: Harbor South, between Bay Ave and Wabash Blvd	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
		69.9	72.8	63.6	70.7	69.7	69.2
		Zone:		IH-2-1			
		Noise Ordinance Limit:		75			

TABLE 10, SHORT-TERM NOISE MEASUREMENTS, CONTINUED

Site and Summary of Results			Noise Measurements (dB)	
ST-24: The noise environment located at Harbor South included nearby mechanical/industrial noise from Port tenants as well as traffic along Harbor Boulevard and the sound of a train horn in the distance. The measurements were compliant with noise limits.	Description of Noise:	Train in Background	Adjacent Zone:	--
	Date & Time:	11/23/2019, 5:01 a.m.	Arithmetic Mean:	75

6.0 Findings and Recommendations

6.1 FINDINGS

As discussed above, the Study determined rail operations and traffic represent the most significant nighttime noises in the Barrio Logan area. Heavy freight rail activities are restricted to the late nighttime hours due to the temporal separation requirements with passenger rail services that share the same tracks. Further, the nature of the freight train noises is inherent in the basic design of the rail car coupling system, which creates loud bangs, clanks, and screeching sounds as the cars are assembled into trains. The design of the cars is not likely or expected to change; however, FRA noise limits for such operations are high and do not appear to be exceeded.

Additionally, much of the baseline noise is generated by vehicular traffic on both local roads and the I-5 and SR-75 freeways. The freeway noise is regular and predictable with clear commuter patterns throughout the day and week. Local roadway traffic follows similar commuter patterns. In some ways, the local traffic has a more disruptive impact as the proximity and magnitude of the noise varies greatly, leading to relatively sudden spikes of noise with each passing vehicle versus the constant hiss or drone of the collective freeway traffic. Further, industrial operations along the working waterfront contribute to both the background ambient noise levels as well as momentary loud spikes that can be most disruptive, as demonstrated from short-term monitoring sites (ST-17 and ST-18).

Based on the data and discussion provided in [Sections 4.0](#) and [5.0](#) of the Study, the following summarizes the findings of existing noise conditions within Barrio Logan:

- During late night hours, most areas within Barrio Logan are in compliance with the applicable noise standards and policies most of the time, but also exceed those limits on a frequent and regular basis. The levels that exceeded the hourly limits of the Noise Ordinance resulted from permissible spikes from required train horns, rail operations, and local road and freeway traffic.
- Maritime and industrial operations appear to comply with the 75-dB hourly limit established by the City of San Diego Noise Ordinance.
- Mobile traffic noises generally comply with the 65-dB CNEL (24-hour weighted average) for residential areas.
- Intermittent, sudden, and significantly louder than ambient noises such as from horns and bells, and bangs and clanks directly from heavy freight cars and trains, create significant disturbances but are generally compliant with current FRA regulations.
- While compliant, some of the noise sources involve the use of industrial equipment and operations that may offer opportunities for reduction of noise over time. Operations are large scale and involve long life-cycle equipment that are expensive and time consuming to modify. Sudden and loud noise spikes from warning horns and movement of heavy components are not readily avoidable or mitigable, but other industrial equipment and operation sources have mitigation potential. If industrial uses

are able to transition to electric/battery powered equipment instead of diesel equipment, this may help lower the overall ambient noise levels in the community.

- Noise from multiple existing recycling operations in the project area (refer to [Figure 2, Existing Land Use, Zoning, Port Transition Zone](#) on page 13) can be improved through changes in hours of operation and possible enforcement of discretionary permit approvals and zoning use limitations.

6.2 RECOMMENDATIONS

The Study Team identified a series of recommended measures that may be implemented by the community to avoid, minimize, and/or mitigate disruptive nighttime noises in Barrio Logan. The best noise management practices prioritize reduction of noise at the source before measures are implemented to mitigate noise effects. The recommendations fall into four key categories: (A) physical improvements; (B) operational changes; (C) compliance with existing regulations, policies, and standards; and (D) best management practices and tools. Specific noise reduction measures are listed by category below. Further details are provided following the summarized list.

A. Physical Improvements to Reduce and Mitigate Noise Sources

- (1) Industrial equipment, building, and mechanical upgrades
- (2) Quiet zone and rail crossing improvements
- (3) Grade separation of rail and road crossings
- (4) Road improvements to create quiet streets and reduce speed and noise in appropriate places
- (5) Gates, fencing, and sound walls
- (6) Best practice building standards and improvements

B. Operational Changes in Local Industry and Businesses

- (1) Operational modifications

C. Compliance with Existing Regulations, Policies, and Standards

- (1) Improved enforcement of existing regulations

D. Best Management Practices and Tools

- (1) Amend policy and ordinances

A. Physical Improvements that Reduce and Mitigate Noise Sources

(1) Industrial Equipment, Building, and Mechanical Upgrades

- (a) Work with Port tenants and local industry within Barrio Logan to incorporate best management noise reduction features on existing and future improvements to buildings and operations (e.g., add soundproofing materials or acoustical louvers on buildings that contain noisy equipment, like compressors).

- (b) Incorporate, to the extent feasible and reasonable, noise shielding around noisy equipment (e.g., compressors, pumps, and vacuums) that operate during late night/early morning hours.

- (i) CP Kelco compressor building

Possible noise sources include the cooling towers located adjacent to Dewey Street and the building that houses the compressor units for the fermenter operations. Early in 2020, in response to coordination that occurred during the course of this Study, CP Kelco upgraded their equipment and building that houses the compressor units by installing acoustical louvers, mufflers to their air vents, and new door mechanisms to close the compressor building and mitigate the noise coming from the fermenter operations. CP Kelco is also looking to upgrade the facility in terms of ventilation and as a result of the Study, has added some additional features including acoustic baffling on the vent exhausts.

- (c) Pursue electrification of the cranes and other industrial equipment that meets the operational needs and regulatory requirements of the working waterfront and industrial activities within Barrio Logan to eliminate noise from diesel motors.
- (d) Ask MTS and BNSF to test and verify their train horns are within FRA specification of 96 to 110 dB. The City of San Diego, or any other group or organization or community representative, could request this testing to occur and could conduct its own measurements to determine if there is a possible violation.
- (e) Ask MTS and BNSF to test and verify their freight cars are not “defective” and are within FRA noise specifications (88 dB for cars in motion and 92 dB for cars during coupling/train assembly operations below 8 mph). Per FRA standards, any such defective equipment is to be immediately removed from service and repaired or replaced. MTS has confirmed that their coupling of light rail vehicles generally occurs at less than 1 mph and the generated noise is limited to several feet away. The City or community could commission independent testing to determine if there is a possible violation. The monitoring conducted with this study did not identify any measurements in excess of the FRA limits. However, the monitoring for this study was not designed to determine compliance of the train horn or railcar operations with the FRA standards. Such testing would need to follow specific protocols that need to be done independently.

(2) Quiet Zone and Rail Crossing Improvements

- (a) Create a quiet zone through Barrio Logan

Creation of a quiet zone through Barrio Logan would eliminate the required sounding of 96 to 110 dB train horns as they approach each of the seven MTS and five BNSF intersection crossings throughout the day and night, including the currently scheduled 53 MTS trolley trains through Barrio Logan between 10:00 p.m. and 7:00 a.m. on weekdays and an estimated six freight train trips between midnight and 4:00 a.m. There are excellent local and recent precedents for the establishment of quiet zones in San Diego, including the Downtown Quiet Zone between Park Boulevard and Laurel Street. Planning began in 2005; construction began in 2010;

and operations began in 2012. A new quiet zone is being studied for the adjacent Middletown-Old Town Quiet Zone area between Palm Street and Taylor Street.

The process to create a quiet zone involves obtaining support from the City of San Diego, preparation of technical feasibility analyses and cost projections, and coordination with NCTD, MTS, BNSF, and CPUC. The process and procedures are outlined in the *Guide to Establishing Quiet Zones* (see [Appendix 1](#)).

These improvements could be evaluated and discussed in the Barrio Logan Community Plan or pursued as an independent solution. It could be initiated by requests from residents to their elected representatives, including the City Council district representative (Moreno). Funding for the required studies would need to be obtained. Potential sources include the City General Fund, grants, or donations. The current Middletown-Old Town Quiet Zone study was funded by SANDAG at the request of the City of San Diego and the County of San Diego. The study assessed project feasibility, including conceptual plans that were developed, and included the improvements necessary to meet FRA requirements and conceptual cost estimates.

- (b) Replace and/or calibrate older existing crossing bells to the required 70-dB minimum. As noted in [Chapter 2, Regulatory Framework](#), regarding FRA, interviews with MTS noted that most of the older bells in the quiet zones established in San Diego have been measured in the 80 to 90 dB range. As part of the required improvements, many of the older bells were replaced with new replacement bells that have adjustable levels beginning at the minimum 70-dB level, thereby reducing the noise levels at each crossing. Older bells that are louder than required could be replaced as part of future Quiet Zone improvements, or independently, subject to the same quiet zone process explained above in the section on FRA regulations. Essentially, the City of San Diego could request the CPUC to approve bell replacement subject to demonstration that the crossings meet safety standards. Any community member or representative could request the City to initiate this process. Funding for the required feasibility and cost projection studies and physical improvements would need to be established. This could come from many sources, including the City General Fund, loans, grants or donations. Presumably, the City would fund these improvements in Barrio Logan in the same manner as was done for the two other Quiet Zones in San Diego.

(3) Grade Separation of Rail and Road Crossings

- (a) Create grade separation at crossings. Like the creation of quiet zones, grade separation of rail and road crossings would eliminate the required blowing of train horns. It would have the additional benefit of eliminating the need for crossing controls and warning bells. Grade separation of rail and roads is a recommended improvement in the Barrio Logan Capital Improvement Plan, but it is not funded. Similarly, grade separation is recommended in recently adopted community plans (e.g., Middletown and Old Town). SANDAG's current Regional Transportation Plan identifies grade separating the Trolley at 28th Street and 32nd Street as part of the Blue Line Rail Grade Separations project. The cost of such grade separations is in the tens to hundreds of millions of dollars per crossing, particularly for heavy freight

which has more restrictive design constraints for changes in grade. The design constraints, including sea level rise, room for bridges and ramps, and impact on access to businesses and homes, also appear to be very challenging. This is a major policy and capital decision that needs to be coordinated with the Barrio Logan Community Plan and the City's General Plan, as well as with SANDAG, MTS, BNSF, NCTD, Port tenants, and other local industries that use direct rail access.

(4) Road Improvements to Create Quiet Streets and Reduce Speed and Noise

- (a) Implement traffic-calming measures. Traffic-calming measures may be implemented to reduce travel speeds, thereby also reducing associated vehicle noise and vibration and improving pedestrian and bicycle safety. Traffic-calming improvements should be consistent with the Barrio Logan Community Plan Mobility Element, including City-adopted truck routes and restrictions. Typical improvements include narrower travel lanes, buffered or separated bicycle lanes, medians, street trees, separation between curb and sidewalks, and extension of curbs at street corners and pedestrian crossings. Together, these measures can improve bicyclist and pedestrian comfort and safety and provide strong visual cues and friction to vehicular traffic to reduce overall vehicular speed. In general, there is a 1-dB reduction for every reduction of 5 mph in vehicle speed.
- (b) Improve maintenance to eliminate rough surfaces that create truck and vehicle impact noises (e.g., pothole repair). This can reduce tire noise and banging of trailer doors. Residents are encouraged to use the City of San Diego's Get It Done! application (<https://www.sandiego.gov/get-it-done>) which makes reporting, requesting, and tracking such issues very easy and has helped the City address problems more quickly. More comprehensive and larger improvements are typically coordinated through the Community Planning Group requests and prioritization of the Capital Improvement Plan (CIP).
- (c) Use noise reduction surfacing such as asphalt, rubberized asphalt, and porous concrete on local roads. Asphalt is 3 to 4 dB quieter than concrete surfaces. Rubberized asphalt can reduce noise levels another 3 to 4 dB. Most areas in Barrio Logan are already asphalt paved except for Harbor Drive. Please note that the designated truck haul route (Harbor Drive, 28th Street, and 32nd Street) and other major thoroughfares may not be suitable for these treatments because of weight load requirements.
- (d) Work with the Navy to increase the height of the 32nd Street pedestrian bridge to accommodate special cargo trucks ("high, wide, and heavy") with a height over 13 feet, 6 inches on Harbor Drive and away from noise sensitive receptors within Barrio Logan.
- (e) Explore opportunities with the California Department of Transportation (Caltrans) to reconfigure the southbound I-5 on-ramp to help reduce traffic on Boston Avenue, as contemplated in the District's Harbor Drive Multimodal Corridor Study (January 2020) as improvement #69.

- (f) Support the Navy's Vesta Street Bridge project over Harbor Drive that would connect the wet and dry side of the Navy Base and help reduce Navy traffic on local roads.

(5) Gates, Fencing, and Sound Walls

Sound walls typically reduce noise levels 5 to 8 dB when they break the line of sight between the source and the receiver. If the wall height is increased, additional noise reductions are possible depending on the vertical and horizontal separation between the source and the receiver. Sound walls are more effective when installed near the source.

- (a) Upgrade open gates and/or fencing to solid gates/fencing to reduce noise (e.g., CP Kelco gate); refer to the photographs below for examples of sites that may benefit from solid fencing to reduce noise.

Examples of sites that would benefit from solid fencing to help reduce noise



South Bay Fishery.
National Ave. between Beardsley & CCP



TQM.
Newton and Sicard



IMS.
Boston, Between 27th and 28th

- (b) Evaluate and consider the installation of sound walls along railroad rights-of-ways; specifically, between 28th Street and the railyards where they would provide a barrier between the rail lines and residential properties. Refer to the photographs below for visual examples of sound walls installed to reduce potential noise effects of trains on adjacent land uses.

Photos of Train Noise Walls



Loire, France



Hong Kong



Slovenia



Denver

(6) Best Practice Building Standards and Improvements

The following are recommended best practices and standard conditions of approval for commercial and industrial projects. They should be considered as potential requirements (or conditions of approval) during approval processes at the City, Port, and FRA.

- (a) Enclose outdoor equipment, machines, and activities within a building to the maximum extent feasible.
- (b) Eliminate windows in buildings that would face toward noise-sensitive land uses adjacent to the facility. If windows are required to be located on the side of the facility facing noise-sensitive land uses, they should be the fixed type of windows with a Sound Transmission Class (STC) rating of at least 35. If the windows must be operable, they should be closed during nighttime activities.
- (c) Require exterior doors to be closed during nighttime activities.
- (d) Install sound barriers along tracks to help protect the adjacent noise-sensitive receivers.
- (e) All temporary and/or permanent mechanical equipment (compressors, pumps, generators, etc.) should be fully enclosed within a structure, unless it's operationally not feasible.
- (f) Any temporary and/or permanent outdoor mechanical equipment (compressors, pumps, generators, etc.) should be located on the far side of the facility away from adjacent noise-sensitive receivers, unless it's operationally not feasible. If this is not possible, such equipment should be located within noise enclosures to mitigate noise levels during operation.
- (g) Improve insulation and noise reduction of windows, doors, and walls of older noise-impacted dwellings and commercial businesses.
- (h) Incorporate forced-air ventilation systems to allow windows and doors to be closed.
- (i) Use double-paned or sound-rated windows with an STC rating or 30 or higher.
- (j) Incorporate sound-insulating exterior walls and roofs.
- (k) Use attic vents to minimize sound intrusion into structures.
- (l) Study air changer (vacuum) systems, i.e., investigate alternative equipment, containment options.



B. Operational Changes in Local Industry and Businesses

(1) Operational modifications

- (a) Work with local industry operators to address specific operational adjustments such as hours of operation or specific loud or disruptive equipment. For example, as noted in [Section 3.3, Industry Interviews and Documentation](#), and [Table 10, Short-term Noise Measurements](#), industrial activities, including the use of forklifts, trucks, and equipment, were observed between 2:00 a.m. and 3:00 a.m. at several businesses, including IMS Recycling at Main and 27th Street, New Leaf on Newton Avenue, and TQM Foods on Newton Avenue. These operations are outside of posted business hours for IMS (8:00 a.m. to 4:30 p.m.) and TQM Foods (6:00 a.m. to 4:00 p.m.) and may be in violation of the conditions of their use permits. New Leaf manufactures biodiesel from used cooking oil continuously, 24 hours a day.
- (b) Work with the Port and its tenants to electrify cranes and other industrial equipment, provided it can meet operational needs. BAE ship builders have converted to electrically powered cranes, which are very quiet and generally undetectable in comparison to ambient noise. Although only 9 of NASSCO's approximately 100 cranes are diesel powered, electrification of NASSCO's remaining diesel powered cranes would reduce this noise source that is otherwise impossible to screen and mitigate due to their elevation and the uninterrupted noise. This would help avoid potential noises during NASSCO's shift 3 (from midnight to 6:30 a.m.), which may occur with increased crane operations if ship repair activities increase. Electrification would also decrease air pollution.

C. Compliance with Existing Regulations, Policies, and Standards

(1) Improved compliance with existing regulations

- (a) Support the San Diego Police Department's aggressive enforcement of the designated truck routes and other truck traffic prohibitions, and work to ensure that these efforts continue.
- (b) Reduce vehicle speeds on local roadways. As noted above, every reduction of 5 mph in vehicle speed results in a 1 to 2 dB reduction.
- (c) Report Noise Ordinance violations such as early commercial or industrial site operations (nighttime noise complaints). (See [Section 2, Regulatory Framework, Local Policies, Standards and Regulations](#), for more information, including phone numbers, web addresses, and contacts.)
- (d) Work with the City to provide additional staff from the City of San Diego Code Enforcement division of the Development Services Department with specific responsibility for noise enforcement in the Barrio Logan community.
- (e) Work with the City of San Diego to add real-time recordings and locational data and reports of excessive noise violations to the Get It Done application (<https://www.sandiego.gov/get-it-done>).

D. Best Management Practices and Tools

(1) Amend policy and ordinances

Amend zoning, Community Plan, and/or the City Noise Ordinance to better address mixed-use zones and adjacency and compatibility issues.

(a) Possible revisions and considerations include:

- (i) Clarify and establish noise limits for mixed-use zones. The standards may vary based on the nature of the mixed-use zone but should recognize the prevalence of industrial uses, rail activity, and early morning traffic patterns.
- (ii) Require conditional use permits (CUP) to control the unique operational aspects of potentially disruptive commercial and industrial uses in mixed use zones. The CUP is used effectively in Downtown San Diego to create conditions of approval such as hours of operation, enclosure of equipment, and other performance standards. Ongoing compliance with the standards is required for the businesses to maintain operations. These standards are often more effective and more easily enforced than the Noise Ordinance. The approval process can provide a meaningful mechanism for negotiation and compromise between the business and the neighboring uses.
- (iii) Create standard conditions of approval for common types of uses and problems. These standards can be used as conditions for CUPs, or Neighborhood Development Permits, and even as minimum standards for as-of-right uses. In this manner, the approval process can be streamlined to help maintain and facilitate business development while protecting the sensitive receptors and uses in the mixed-use zones.

- (b) Consider implementing a transition zone of commercial uses between heavy industrial uses west of Harbor Drive and residential uses in the Barrio Logan community. It is noted that such a policy was included within Chapter 2 – Land Use Element of the 2013 Barrio Logan Community Plan (rescinded by referendum):

“In 2008, the San Diego Unified Port District adopted a Transition Zone Policy (BPC Policy 725). The purpose of the Policy is to protect the maritime and maritime-related jobs provided by the Port of San Diego and to protect existing operations and business governed by the Barrio Logan Community Plan or the Port Master Plan. It is also the intent of the Policy to minimize conflicts with incompatible uses and to provide a balance between needs of the Port District and the goals and objectives of the adjacent communities. The Transition Zone is intended to include uses that do not pose health risks to sensitive receptor land uses that are adjacent or proximate to the Port District’s industries. The Barrio Logan Community Plan implements the intent of the San Diego Unified Port District Transitional Zone (See Figures 2-6). Residential uses are prohibited adjacent to Harbor Drive or Main Street south of 28th Street. The Transition Area is intended provide a buffer comprised of buildings between the Heavy Industrial uses west of Harbor Drive and the community of Barrio Logan. The area will emphasize the use of high quality materials and design.” (LU-14)

- (c) Consider establishing a fund and accompanying program to improve local buildings to reduce noise emissions beyond the property or to fund improvements to local homes and businesses to better insulate themselves from external noise levels that cannot be readily reduced at the source, such as vehicular traffic noise. For example, in 1998 the Port began a sound insulation program, known as the Quieter Home Program, for the San Diego International Airport. It is a residential sound insulation program that implements the Federal Aviation Administration's (FAA) goal of reducing interior noise levels by at least five decibels. To achieve this goal, program participants may retrofit exterior doors and windows, install a ventilation system, and conduct other miscellaneous treatments. To date, 3,453 dwelling units in the communities of Loma Portal/Ocean Beach, Bankers Hill/Middletown, and Golden Hill/South Park completed improvements through the sound insulation program.

6.3 AFTERWARD

In November 2019, during the monitoring phase of the Noise Study, the Port received several complaints from two Barrio Logan residents and one Coronado resident. The complaints have described the noise as a very high-pitch, pulsating, whining sound that is audible around the clock. Although the noise monitoring conducted in October and November 2019 indicated that the night-time noise levels were generally within acceptable noise limits established by the City, this noise disturbance is an ongoing issue for some residents and appears to be a unique outlier. The Port's noise consultant has conducted multiple site visits as the result of the complaint but has been unable to pinpoint the source. As the Barrio Logan Nighttime Noise Study becomes finalized in April 2020, the investigation is ongoing. Port staff continues to work with its noise consultant and tenants, as well as City staff and local area residents, to determine the source so that options to mitigate the disturbance can be identified and implemented.

Acronyms and Abbreviations

ADT.....	Average Daily Traffic	L _{min}	Minimum Sound Level
BLPD.....	Barrio Logan Planned District	L _{xx}	Percentile-Exceeded Sound Level
BNSF.....	Burlington Northern Santa Fe	MIIF.....	Maritime Industrial Impact Fund
Caltrans.....	California Department of Transportation	mph.....	Miles per hour
CEQA.....	California Environmental Quality Act	MTS.....	Metropolitan Transit System
CFR.....	Code of Federal Regulations	NAC.....	Noise Abatement Criteria
CIP.....	Capital Improvement Plan	NCTD.....	North County Transit District
CNEL.....	Community Noise Equivalent Level	NEX.....	Navy Exchange
CPUC.....	California Public Utilities Commission	OSHA.....	Occupational Safety and Health Administration
CUP.....	Conditional Use Permit	SANDAG.....	San Diego Association of Governments
dB.....	Decibel	SDIV.....	San Diego and Imperial Valley Railroad
du/acre.....	Dwelling unit per acre	SPL.....	Sound Pressure Level
EPA.....	Environmental Protection Agency	SR-75.....	State Route 75 (Coronado Bridge)
FAA.....	Federal Aviation Administration	STC.....	Sound Transmission Class
FHWA.....	Federal Highway Administration	Study.....	Barrio Logan Nighttime Noise Study
FRA.....	Federal Railroad Administration	TAMT.....	10 th Avenue Marine Terminal
HII.....	Huntington Ingalls Industries	The Port.....	The San Diego Unified Port District
HVAC.....	Heating, ventilation, and air conditioning	Tidelands.....	Land within the mean high tide line
I-5.....	Interstate 5	UCSD.....	University of California at San Diego
km/hr.....	Kilometers per hour	VOC.....	volatile organic compound
L _{eq}	Equivalent Sound Level		
L _{max}	Maximum Sound Level		





Appendix 1.

Guide to Establishing Quiet Zones
(Appendix C to 49 CFR Chapter II
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the violation rate that was used to determine the effectiveness rate that was approved by FRA, the public authority can cease violation rate monitoring.

7. In the event that the violation rate over either of the next two calendar quarters are greater than the violation rate used to determine the effectiveness rate that was approved by FRA, the public authority may continue the quiet zone for a third calendar quarter. However, if the third calendar quarter violation rate is also greater than the rate used to determine the effectiveness rate that was approved by FRA, a new effectiveness rate must be calculated and the Quiet Zone Risk Index re-calculated using the new effectiveness rate. If the new Quiet Zone Risk Index exceeds the Risk Index With Horns and the Nationwide Significant Risk Threshold, the procedures for dealing with unacceptable effectiveness after establishment of a quiet zone should be followed.

APPENDIX C TO PART 222—GUIDE TO ESTABLISHING QUIET ZONES

Introduction

This Guide to Establishing Quiet Zones (Guide) is divided into five sections in order to address the variety of methods and conditions that affect the establishment of quiet zones under this rule.

Section I of the Guide provides an overview of the different ways in which a quiet zone may be established under this rule. This includes a brief discussion on the safety thresholds that must be attained in order for train horns to be silenced and the relative merits of each. It also includes the two general methods that may be used to reduce risk in the proposed quiet zone, and the different impacts that the methods have on the quiet zone implementation process. This section also discusses Partial (e.g. night time only quiet zones) and Intermediate Quiet Zones. An Intermediate Quiet Zone is one where horn restrictions were in place after October 9, 1996, but as of December 18, 2003.

Section II of the Guide provides information on establishing New Quiet Zones. A New Quiet Zone is one at which train horns are currently being sounded at crossings. The Public Authority Designation and Public Authority Application to FRA methods will be discussed in depth.

Section III of the Guide provides information on establishing Pre-Rule Quiet Zones. A Pre-Rule Quiet Zone is one where train horns were not routinely sounded as of October 9, 1996 and December 18, 2003. The differences between New and Pre-Rule Quiet Zones will be explained. Public Authority Designation and Public Authority Application to FRA methods also apply to Pre-Rule Quiet Zones.

Section IV of the Guide deals with the required notifications that must be provided

by public authorities when establishing both New and continuing Pre-Rule or Intermediate Quiet Zones.

Section V of the Guide provides examples of quiet zone implementation.

SECTION I—OVERVIEW

In order for a quiet zone to be qualified under this rule, it must be shown that the lack of the train horn does not present a significant risk with respect to loss of life or serious personal injury, or that the significant risk has been compensated for by other means. The rule provides four basic ways in which a quiet zone may be established. Creation of both New Quiet Zones and Pre-Rule Quiet Zones are based on the same general guidelines; however, there are a number of differences that will be noted in the discussion on Pre-Rule Quiet Zones.

A. Qualifying Conditions

(1) One of the following four conditions or scenarios must be met in order to show that the lack of the train horn does not present a significant risk, or that the significant risk has been compensated for by other means:

a. One or more SSMS as identified in appendix A are installed at each public crossing in the quiet zone; or

b. The Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold without implementation of additional safety measures at any crossings in the quiet zone; or

c. Additional safety measures are implemented at selected crossings resulting in the Quiet Zone Risk Index being reduced to a level equal to, or less than, the Nationwide Significant Risk Threshold; or

d. Additional safety measures are taken at selected crossings resulting in the Quiet Zone Risk Index being reduced to at least the level of the Risk Index With Horns (that is, the risk that would exist if train horns were sounded at every public crossing in the quiet zone).

(2) It is important to consider the implications of each approach before deciding which one to use. If a quiet zone is qualified based on reference to the Nationwide Significant Risk Threshold (i.e. the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold—see the second and third scenarios above), then an annual review will be done by FRA to determine if the Quiet Zone Risk Index remains equal to, or less than, the Nationwide Significant Risk Threshold. Since the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index may change from year to year, there is no guarantee that the quiet zone will remain qualified. The circumstances that cause the disqualification

may not be subject to the control of the public authority. For example, an overall national improvement in safety at gated crossings may cause the Nationwide Significant Risk Threshold to fall. This may cause the Quiet Zone Risk Index to become greater than the Nationwide Significant Risk Threshold. If the quiet zone is no longer qualified, then the public authority will have to take additional measures, and may incur additional costs that might not have been budgeted, to once again lower the Quiet Zone Risk Index to at least the Nationwide Significant Risk Threshold in order to retain the quiet zone. Therefore, while the initial cost to implement a quiet zone under the second or third scenario may be lower than the other options, these scenarios also carry a degree of uncertainty about the quiet zone's continued existence.

(3) The use of the first or fourth scenarios reduces the risk level to at least the level that would exist if train horns were sounding in the quiet zone. These methods may have higher initial costs because more safety measures may be necessary in order to achieve the needed risk reduction. Despite the possibility of greater initial costs, there are several benefits to these methods. The installation of SSMs at every crossing will provide the greatest safety benefit of any of the methods that may be used to initiate a quiet zone. With both of these methods (first and fourth scenarios), the public authority will never need to be concerned about the Nationwide Significant Risk Threshold, annual reviews of the Quiet Zone Risk Index, or failing to be qualified because the Quiet Zone Risk Index is higher than the Nationwide Significant Risk Threshold. Public authorities are strongly encouraged to carefully consider both the pros and cons of all of the methods and to choose the method that will best meet the needs of its citizens by providing a safer and quieter community.

(4) For the purposes of this Guide, the term "Risk Index with Horns" is used to represent the level of risk that would exist if train horns were sounded at every public crossing in the proposed quiet zone. If a public authority decides that it would like to fully compensate for the lack of a train horn and not install SSMs at each public crossing in the quiet zone, it must reduce the Quiet Zone Risk Index to a level that is equal to, or less than, the Risk Index with Horns. The Risk Index with Horns is similar to the Nationwide Significant Risk Threshold in that both are targets that must be reached in order to establish a quiet zone under the rule. Quiet zones that are established by reducing the Quiet Zone Risk Index to at least the level of the Nationwide Significant Risk Threshold will be reviewed annually by FRA to determine if they still qualify under the rule to retain the quiet zone. Quiet zones that are established by reducing the Quiet

Zone Risk Index to at least the level of the Risk Index with Horns will not be subject to annual reviews.

(5) The use of FRA's web-based Quiet Zone Calculator is recommended to aid in the decision making process (<http://www.fra.dot.gov/us/content/1337>). The Quiet Zone Calculator will allow the public authority to consider a variety of options in determining which SSMs make the most sense. It will also perform the necessary calculations used to determine the existing risk level and whether enough risk has been mitigated in order to create a quiet zone under this rule.

B. Risk Reduction Methods

FRA has established two general methods to reduce risk in order to have a quiet zone qualify under this rule. The method chosen impacts the manner in which the quiet zone is implemented.

1. *Public Authority Designation (SSMs)*—The Public Authority Designation method (§222.39(a)) involves the use of SSMs (see appendix A) at some or all crossings within the quiet zone. The use of only SSMs to reduce risk will allow a public authority to designate a quiet zone without approval from FRA. If the public authority installs SSMs at every crossing within the quiet zone, it need not demonstrate that they will reduce the risk sufficiently in order to qualify under the rule since FRA has already assessed the ability of the SSMs to reduce risk. In other words, the Quiet Zone Calculator does not need to be used. However, if only SSMs are installed within the quiet zone, but not at every crossing, the public authority must calculate that sufficient risk reduction will be accomplished by the SSMs. Once the improvements are made, the public authority must make the required notifications (which includes a copy of the report generated by the Quiet Zone Calculator showing that the risk in the quiet zone has been sufficiently reduced), and the quiet zone may be implemented. FRA does not need to approve the plan as it has already assessed the ability of the SSMs to reduce risk.

2. *Public Authority Application to FRA (ASMs)*—The Public Authority Application to FRA method (§222.39(b)) involves the use of ASMs (see appendix B). ASMs include modified SSMs that do not fully comply with the provisions found in appendix A (e.g., shorter than required traffic channelization devices), non-engineering ASMs (e.g., programmed law enforcement), and engineering ASMs (i.e., engineering improvements other than modified SSMs). If the use of ASMs (or a combination of ASMs and SSMs) is elected to reduce risk, then the public authority must provide a Notice of Intent and then apply to FRA for approval of the quiet zone. The application must contain sufficient data and analysis to confirm that the proposed ASMs do indeed provide the necessary risk

reduction. FRA will review the application and will issue a formal approval if it determines that risk is reduced to a level that is necessary in order to comply with the rule. Once FRA approval has been received and the safety measures fully implemented, the public authority would then provide a Notice of Quiet Zone Establishment and the quiet zone may be implemented. The use of non-engineering ASMs will require continued monitoring and analysis throughout the existence of the quiet zone to ensure that risk continues to be reduced.

3. *Calculating Risk Reduction*—The following should be noted when calculating risk reductions in association with the establishment of a quiet zone. This information pertains to both New Quiet Zones and Pre-Rule Quiet Zones and to the Public Authority Designation and Public Authority Application to FRA methods.

Crossing closures: If any public crossing within the quiet zone is proposed to be closed, include that crossing when calculating the Risk Index with Horns. The effectiveness of a closure is 1.0. However, be sure to increase the traffic counts at other crossings within the quiet zone and recalculate the risk indices for those crossings that will handle the traffic diverted from the closed crossing. It should be noted that crossing closures that are already in existence are not considered in the risk calculations.

Example: A proposed New Quiet Zone contains four crossings: A, B, C and D streets. A, B and D streets are equipped with flashing lights and gates. C Street is a passive crossbuck crossing with a traffic count of 400 vehicles per day. It is decided that C Street will be closed as part of the project. Compute the risk indices for all four streets. The calculation for C Street will utilize flashing lights and gates as the warning device. Calculate the Crossing Corridor Risk Index by averaging the risk indices for all four of the crossings. This value will also be the Risk Index with Horns since train horns are currently being sounded. To calculate the Quiet Zone Risk Index, first re-calculate the risk indices for B and D streets by increasing the traffic count for each crossing by 200. (Assume for this example that the public authority decided that the traffic from C Street would be equally divided between B and D streets.) Increase the risk indices for A, B and D streets by 66.8% and divide the sum of the three remaining crossings by four. This is the initial Quiet Zone Risk Index and accounts for the risk reduction caused by closing C Street.

Grade Separation: Grade separated crossings that were in existence before the creation of a quiet zone are not included in any of the calculations. However, any public crossings within the quiet zone that are proposed to be treated by grade separation

should be treated in the same manner as crossing closures. Highway traffic that may be diverted from other crossings within the quiet zone to the new grade separated crossing should be considered when computing the Quiet Zone Risk Index.

Example: A proposed New Quiet Zone contains four crossings: A, B, C and D streets. All streets are equipped with flashing lights and gates. C Street is a busy crossing with a traffic count of 25,000 vehicles per day. It is decided that C Street will be grade separated as part of the project and the existing at-grade crossing closed. Compute the risk indices for all four streets. Calculate the Crossing Corridor Risk Index, which will also be the Risk Index with Horns, by averaging the risk indices for all four of the crossings. To calculate the Quiet Zone Risk Index, first recalculate the risk indices for B and D streets by decreasing the traffic count for each crossing by 1,200. (The public authority decided that 2,400 motorists will decide to use the grade separation at C Street in order to avoid possible delays caused by passing trains.) Increase the risk indices for A, B and D streets by 66.8% and divide the sum of the three remaining crossings by four. This is the initial Quiet Zone Risk Index and accounts for the risk reduction caused by the grade separation at C Street.

Pre-Existing SSMs: Risk reduction credit may be taken by a public authority for a SSM that was previously implemented and is currently in place in the quiet zone. If an existing improvement meets the criteria for a SSM as provided in appendix A, the improvement is deemed a Pre-Existing SSM. Risk reduction credit is obtained by inflating the Risk Index With Horns to show what the risk would have been at the crossing if the pre-existing SSM had not been implemented. Crossing closures and grade separations that occurred prior to the implementation of the quiet zone are not Pre-Existing SSMs and do not receive any risk reduction credit.

Example 1. A proposed New Quiet Zone has one crossing that is equipped with flashing lights and gates and has medians 100 feet in length on both sides of the crossing. The medians conform to the requirements in appendix A and qualify as a Pre-Existing SSM. The risk index as calculated for the crossing is 10,000. To calculate the Risk Index With Horns for this crossing, you divide the risk index by difference between one and the effectiveness rate of the pre-existing SSM ($10,000 \div (1 - 0.75) = 40,000$). This value (40,000) would then be averaged in with the risk indices of the other crossings to determine the proposed quiet zone's Risk Index With Horns. To calculate the Quiet Zone Risk Index, the original risk index is increased by 66.8% to account for the additional risk attributed to the absence of the train horn ($10,000 \times 1.668 = 16,680$). This value (16,680) is then averaged

into the risk indices of the other crossings that have also been increased by 66.8%. The resulting average is the Quiet Zone Risk Index.

Example 2. A Pre-Rule Quiet Zone consisting of four crossings has one crossing that is equipped with flashing lights and gates and has medians 100 feet in length on both sides of the crossing. The medians conform to the requirements in appendix A and qualify as a Pre-Existing SSM. The risk index as calculated for the crossing is 20,000. To calculate the Risk Index With Horns for this crossing, first reduce the risk index by 40 percent to reflect the risk reduction that would be achieved if train horns were routinely sounded ($20,000 \times 0.6 = 12,000$). Next, divide the resulting risk index by difference between one and the effectiveness rate of the pre-existing SSM ($12,000 \div (1 - 0.75) = 48,000$). This value (48,000) would then be averaged with the adjusted risk indices of the other crossings to determine the pre-rule quiet zone's Risk Index With Horns. To calculate the Quiet Zone Risk Index, the original risk index (20,000) is then averaged into the risk original indices of the other crossings. The resulting average is the Quiet Zone Risk Index.

Pre-Existing Modified SSMs: Risk reduction credit may be taken by a public authority for a modified SSM that was previously implemented and is currently in place in the quiet zone. Modified SSMs are Alternative Safety Measures which must be approved by FRA. If an existing improvement is approved by FRA as a modified SSM as provided in appendix B, the improvement is deemed a Pre-Existing Modified SSM. Risk reduction credit is obtained by inflating the Risk Index With Horns to show what the risk would have been at the crossing if the pre-existing SSM had not been implemented. The effectiveness rate of the modified SSM will be determined by FRA. The public authority may provide information to FRA to be used in determining the effectiveness rate of the modified SSM. Once an effectiveness rate has been determined, follow the procedure previously discussed for Pre-Existing SSMs to determine the risk values that will be used in the quiet zone calculations.

Wayside Horns: Crossings with wayside horn installations will be treated as a one for one substitute for the train horn and are not to be included when calculating the Crossing Corridor Risk Index, the Risk Index with Horns or the Quiet Zone Risk Index.

Example: A proposed New Quiet Zone contains four crossings: A, B, C and D streets. All streets are equipped with flashing lights and gates. It is decided that C Street will have a wayside horn installed. Compute the risk indices for A, B and D streets. Since C Street is being treated with a wayside horn, it is not included in the calculation of risk.

Calculate the Crossing Corridor Risk Index by averaging the risk indices for A, B and D streets. This value is also the Risk Index with Horns. Increase the risk indices for A, B and D streets by 66.8% and average the results. This is the initial Quiet Zone Risk Index for the proposed quiet zone.

C. Partial Quiet Zones

A Partial Quiet Zone is a quiet zone in which locomotive horns are not routinely sounded at public crossings for a specified period of time each day. For example, a quiet zone during only the nighttime hours would be a partial quiet zone. Partial quiet zones may be either New or Pre-Rule and follow the same rules as 24 hour quiet zones. New Partial Quiet Zones must be in effect during the hours of 10 p.m. to 7 a.m. All New Partial Quiet Zones must comply with all of the requirements for New Quiet Zones. For example, all public grade crossings that are open during the time that horns are silenced must be equipped with flashing lights and gates that are equipped with constant warning time (where practical) and power out indicators. Risk is calculated in exactly the same manner as for New Quiet Zones. The Quiet Zone Risk Index is calculated for the entire 24-hour period, even though the train horn will only be silenced during the hours of 10 p.m. to 7 a.m.

A Pre-Rule Partial Quiet Zone is a partial quiet zone at which train horns were not sounding as of October 9, 1996 and on December 18, 2003. All of the regulations that pertain to Pre-Rule Quiet Zones also pertain to Pre-Rule Partial Quiet Zones. The Quiet Zone Risk Index is calculated for the entire 24-hour period for Pre-Rule Partial Quiet Zones, even though train horns are only silenced during the nighttime hours. Pre-Rule Partial Quiet Zones may qualify for automatic approval in the same manner as Pre-Rule Quiet Zones with one exception. If the Quiet Zone Risk Index is less than twice the National Significant Risk Threshold, and there have been no relevant collisions during the time period when train horns are silenced, then the Pre-Rule Partial Quiet Zone is automatically qualified. In other words, a relevant collision that occurred during the period of time that train horns were sounded will not disqualify a Pre-Rule Partial Quiet Zone that has a Quiet Zone Risk Index that is less than twice the National Significant Risk Index. Pre-Rule Partial Quiet Zones must provide the notification as required in § 222.43 in order to keep train horns silenced. A Pre-Rule Partial Quiet Zone may be converted to a 24 hour New Quiet Zone by complying with all of the New Quiet Zone regulations.

D. Intermediate Quiet Zones

An Intermediate Quiet Zone is one where horn restrictions were in place after October 9, 1996, but as of December 18, 2003 (the publication date of the Interim Final Rule). Intermediate Quiet Zones and Intermediate Partial Quiet Zones will be able to keep train horns silenced until June 24, 2006, provided notification is made per §222.43. This will enable public authority to have additional time to make the improvement necessary to come into compliance with the rule. Intermediate Quiet Zones must conform to all the requirements for New Quiet Zones by June 24, 2006. Other than having the horn silenced for an additional year, Intermediate Quiet Zones are treated exactly like New Quiet Zones.

SECTION II—NEW QUIET ZONES

FRA has established several approaches that may be taken in order to establish a New Quiet Zone under this rule. Please see the preceding discussions on “Qualifying Conditions” and “Risk Reduction Methods” to assist in the decision-making process on which approach to take. This following discussion provides the steps necessary to establish New Quiet Zones and includes both the Public Authority Designation and Public Authority Application to FRA methods. It must be remembered that in a New Quiet Zone all public crossings must be equipped with flashing lights and gates. The requirements are the same regardless of whether a 24-hour or partial quiet zone is being created.

A. Requirements for Both Public Authority Designation and Public Authority Application

The following steps are necessary when establishing a New Quiet Zone. This information pertains to both the Public Authority Designation and Public Authority Application to FRA methods.

1. The public authority must provide a written Notice of Intent (§222.43(a)(1) and §222.43(b)) to the railroads that operate over the proposed quiet zone, the State agency responsible for highway and road safety and the State agency responsible for grade crossing safety. The purpose of this Notice of Intent is to provide an opportunity for the railroads and the State agencies to provide comments and recommendations to the public authority as it is planning the quiet zone. They will have 60 days to provide these comments to the public authority. The quiet zone cannot be created unless the Notice of Intent has been provided. FRA encourages public authorities to provide the required Notice of Intent early in the quiet zone development process. The railroads and State agencies can provide an expertise that very well may not be present within the public authority. FRA believes that it will be very useful to include these organizations in the

planning process. For example, including railroads and State agencies in the inspections of the crossing will help ensure accurate Inventory information for the crossings. The railroad can provide information on whether the flashing lights and gates are equipped with constant warning time and power out indicators. Pedestrian crossings and private crossings with public access, industrial or commercial use that are within the quiet zone must have a diagnostic team review and be treated according to the team's recommendations. Railroads and the State agency responsible for grade crossing safety must be invited to the diagnostic team review. Note: Please see Section IV for details on the requirements of a Notice of Intent.

2. Determine all public, private and pedestrian at-grade crossings that will be included within the quiet zone. Also, determine any existing grade-separated crossings that fall within the quiet zone. Each crossing must be identified by the U.S. DOT Crossing Inventory number and street or highway name. If a crossing does not have a U.S. DOT Crossing Inventory number, then contact FRA's Office of Safety (202-493-6299) for assistance.

3. Ensure that the quiet zone will be at least one-half mile in length. (§222.35(a)(1)) If more than one New Quiet Zone or New Partial Quiet Zone will be created within a single political jurisdiction, ensure that each New Quiet Zone or New Partial Quiet Zone will be separated by at least one public highway-rail grade crossing. (§222.35(a)(1)(iii))

4. A complete and accurate Grade Crossing Inventory Form must be on file with FRA for all crossings (public, private and pedestrian) within the quiet zone. An inspection of each crossing in the proposed quiet zone should be performed and the Grade Crossing Inventory Forms updated, as necessary, to reflect the current conditions at each crossing.

5. Every public crossing within the quiet zone must be equipped with active warning devices comprising both flashing lights and gates. The warning devices must be equipped with power out indicators. Constant warning time circuitry is also required unless existing conditions would prevent the proper operation of the constant warning time circuitry. FRA recommends that these automatic warning devices also be equipped with at least one bell to provide an audible warning to pedestrians. If the warning devices are already equipped with a bell (or bells), the bells may not be removed or deactivated. The plans for the quiet zone may be made assuming that flashing lights and gates are at all public crossings; however the quiet zone may not be implemented until all public crossings are actually equipped with the flashing lights and gates. (§§222.35(b)(1) and 222.35(b)(2))

6. Private crossings must have cross-bucks and “STOP” signs on both approaches to the crossing. Private crossings with public access, industrial or commercial use must have a diagnostic team review and be treated according to the team’s recommendations. The public authority must invite the State agency responsible for grade crossing safety and all affected railroads to participate in the diagnostic review. (§§ 222.25(b) and (c))

7. Each highway approach to every public and private crossing must have an advance warning sign (in accordance with the MUTCD) that advises motorists that train horns are not sounded at the crossing, unless the public or private crossing is equipped with a wayside horn. (§ 222.35(c))

8. Each pedestrian crossing must be reviewed by a diagnostic team and equipped or treated in accordance with the recommendation of the diagnostic team. The public authority must invite the State agency responsible for grade crossing safety and all affected railroads to participate in the diagnostic review. At a minimum, each approach to every pedestrian crossing must be equipped with a sign that conforms to the MUTCD and advises pedestrians that train horns are not sounded at the crossing. (§ 222.27)

B. New Quiet Zones—Public Authority Designation

Once again it should be remembered that all public crossings must be equipped with automatic warning devices consisting of flashing lights and gates in accordance with § 222.35(b). In addition, one of the following conditions must be met in order for a public authority to designate a new quiet zone without FRA approval:

a. One or more SSMs as identified in appendix A are installed at *each* public crossing in the quiet zone (§ 222.39(a)(1)); or

b. The Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold without SSMs installed at any crossings in the quiet zone (§ 222.39(a)(2)(i)); or

c. SSMs are installed at selected crossings, resulting in the Quiet Zone Risk Index being reduced to a level equal to, or less than, the Nationwide Significant Risk Threshold (§ 222.39(a)(2)(ii)); or

d. SSMs are installed at selected crossings, resulting in the Quiet Zone Risk Index being reduced to a level of risk that would exist if the horn were sounded at every crossing in the quiet zone (i.e., the Risk Index with Horns) (§ 222.39(a)(3)).

Steps necessary to establish a New Quiet Zone using the Public Authority Application to FRA method:

1. If one or more SSMs as identified in appendix A are installed at each public crossing in the quiet zone, the requirements for a public authority designation quiet zone will

have been met. It is not necessary for the same SSM to be used at each crossing. However, before any improvements are implemented, the public authority must provide a Notice of Intent, which will trigger a 60-day comment period. During the 60-day comment period, railroads operating within the proposed quiet zone and State agencies responsible for grade crossing, highway and road safety may submit comments on the proposed quiet zone improvements to the public authority. Once the necessary improvements have been installed, Notice of Quiet Zone Establishment shall be provided and the quiet zone implemented in accordance with the rule. If SSMs are not installed at each public crossing, proceed on to Step 2 and use the risk reduction method.

2. To begin, calculate the risk index for each public crossing within the quiet zone (See appendix D. FRA’s web-based Quiet Zone Calculator may be used to do this calculation). If flashing lights and gates have to be installed at any public crossings, calculate the risk indices for such crossings as if lights and gates were installed. (NOTE: Flashing lights and gates must be installed prior to initiation of the quiet zone.) If the Inventory record does not reflect the actual conditions at the crossing, be sure to use the conditions that currently exist when calculating the risk index. Note: Private crossings and pedestrian crossings are not included when computing the risk for the proposed quiet zone.

3. The Crossing Corridor Risk Index is then calculated by averaging the risk index for each public crossing within the proposed quiet zone. Since train horns are routinely being sounded for crossings in the proposed quiet zone, this value is also the Risk Index with Horns.

4. In order to calculate the initial Quiet Zone Risk Index, first adjust the risk index at each public crossing to account for the increased risk due to the absence of the train horn. The absence of the horn is reflected by an increased risk index of 66.8% at gated crossings. The initial Quiet Zone Risk Index is then calculated by averaging the increased risk index for each public crossing within the proposed quiet zone. At this point the Quiet Zone Risk Index will equal the Risk Index with Horns multiplied by 1.668.

5. Compare the Quiet Zone Risk Index to the Nationwide Significant Risk Threshold. If the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold, then the public authority may decide to designate a quiet zone and provide the Notice of Intent, followed by the Notice of Quiet Zone Establishment. With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone rises above the Nationwide Significant Risk Threshold, FRA

will notify the Public Authority so that appropriate measures can be taken. (See § 222.51(a)).

6. If the Quiet Zone Risk Index is greater than the Nationwide Significant Risk Threshold, then select an appropriate SSM for a crossing. Reduce the inflated risk index calculated in Step 4 for that crossing by the effectiveness rate of the chosen SSM. (See appendix A for the effectiveness rates for the various SSMs). Recalculate the Quiet Zone Risk Index by averaging the revised inflated risk index with the inflated risk indices for the other public crossings. If this new Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold, the quiet zone would qualify for public authority designation. If the Quiet Zone Risk Index is still higher than the Nationwide Significant Risk Threshold, treat another public crossing with an appropriate SSM and repeat the process until the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold. Once this result is obtained, the quiet zone will qualify for establishment by public authority designation. Early in the quiet zone development process, a Notice of Intent should be provided by the public authority, which will trigger a 60-day comment period. During this 60-day comment period, railroads operating within the proposed quiet zone and State agencies responsible for grade crossing, highway and road safety may provide comments on the proposed quiet zone improvements described in the Notice of Intent. Once all the necessary safety improvements have been implemented, Notice of Quiet Zone Establishment must be provided. With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone rises above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that appropriate measures can be taken. (See § 222.51(a)).

7. If the public authority wishes to reduce the risk of the quiet zone to the level of risk that would exist if the horn were sounded at every crossing within the quiet zone, the public authority should calculate the initial Quiet Zone Risk Index as in Step 4. The objective is to now reduce the Quiet Zone Risk Index to the level of the Risk Index with Horns by adding SSMs at the crossings. The difference between the Quiet Zone Risk Index and the Risk Index with Horns is the amount of risk that will have to be reduced in order to fully compensate for lack of the train horn. The use of the Quiet Zone Calculator will aid in determining which SSMs may be used to reduce the risk sufficiently. Follow the procedure stated in Step 6, except that the Quiet Zone Risk Index must be equal to, or less than, the Risk Index with Horns instead of the Nationwide Significant

Risk Threshold. Once this risk level is attained, the quiet zone will qualify for establishment by public authority designation. Early in the quiet zone development process, a Notice of Intent should be provided by the public authority, which will trigger a 60-day comment period. During this 60-day comment period, railroads operating within the proposed quiet zone and State agencies responsible for grade crossing, highway and road safety may provide comments on the proposed quiet zone improvements described in the Notice of Intent. Once all the necessary safety improvements have been implemented, Notice of Quiet Zone Establishment must be provided. One important distinction with this option is that the public authority will never need to be concerned with the Nationwide Significant Risk Threshold or the Quiet Zone Risk Index. The rule's intent is to make the quiet zone as safe as if the train horns were sounding. If this is accomplished, the public authority may designate the crossings as a quiet zone and need not be concerned with possible fluctuations in the Nationwide Significant Risk Threshold or annual risk reviews.

C. New Quiet Zones—Public Authority Application to FRA

A public authority must apply to FRA for approval of a quiet zone under three conditions. First, if any of the SSMs selected for the quiet zone do not fully conform to the design standards set forth in appendix A. These are referred to as modified SSMs in appendix B. Second, when programmed law enforcement, public education and awareness programs, or photo enforcement is used to reduce risk in the quiet zone, these are referred to as non-engineering ASMs in appendix B. It should be remembered that non-engineering ASMs will require periodic monitoring as long as the quiet zone is in existence. Third, when engineering ASMs are used to reduce risk. Please see appendix B for detailed explanations of ASMs and the periodic monitoring of non-engineering ASMs.

The public authority is strongly encouraged to submit the application to FRA for review and comment before the appendix B treatments are initiated. This will enable FRA to provide comments on the proposed ASMs to help guide the application process. If non-engineering ASMs or engineering ASMs are proposed, the public authority also may wish to confirm with FRA that the methodology it plans to use to determine the effectiveness rates of the proposed ASMs is appropriate. A quiet zone that utilizes a combination of SSMs from appendix A and ASMs from appendix B must make a Public Authority Application to FRA. A complete and thoroughly documented application will help to expedite the approval process.

The following discussion is meant to provide guidance on the steps necessary to establish a new quiet zone using the Public Authority Application to FRA method. Once again it should be remembered that all public crossings must be equipped with automatic warning devices consisting of flashing lights and gates in accordance with § 222.35(b).

1. Gather the information previously mentioned in the section on “Requirements for both Public Authority Designation and Public Authority Application.”

2. Calculate the risk index for each public crossing as directed in Step 2—Public Authority Designation.

3. Calculate the Crossing Corridor Risk Index, which is also the Risk Index with Horns, as directed in Step 3—Public Authority Designation.

4. Calculate the initial Quiet Zone Risk Index as directed in Step 4—Public Authority Designation.

5. Begin to reduce the Quiet Zone Risk Index through the use of ASMs and SSMS. Follow the procedure provided in Step 6—Public Authority Designation until the Quiet Zone Risk Index has been reduced to equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns. (Remember that the public authority may choose which level of risk reduction is the most appropriate for its community.) Effectiveness rates for ASMs should be provided as follows:

a. Modified SSMS—Estimates of effectiveness for modified SSMS may be based upon adjustments from the effectiveness rates provided in appendix A or from actual field data derived from the crossing sites. The application must provide an estimated effectiveness rate and the rationale for the estimate.

b. Non-engineering ASMS—Effectiveness rates are to be calculated in accordance with the provisions of appendix B, paragraph II B.

c. Engineering ASMS—Effectiveness rates are to be calculated in accordance with the provisions of appendix B, paragraph III B.

6. Once it has been determined through analysis that the Quiet Zone Risk Index will be reduced to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns, the public authority must provide a Notice of Intent. The mailing of the Notice of Intent will trigger a 60-day comment period, during which railroads operating within the proposed quiet zone and State agencies responsible for grade crossing, highway and road safety may provide comments on the proposed quiet zone improvements. After reviewing any comments received, the public authority may make application to FRA for a quiet zone under § 222.39(b). FRA will review the application to determine the appropriateness of the proposed effectiveness

rates, and whether or not the proposed application demonstrates that the quiet zone meets the requirements of the rule. When submitting the application to FRA for approval, the application must contain the following (§ 222.39(b)(1)):

a. Sufficient detail concerning the present safety measures at all crossings within the proposed quiet zone. This includes current and accurate crossing inventory forms for each public, private, and pedestrian grade crossing.

b. Detailed information on the safety improvements that are proposed to be implemented at public, private and pedestrian grade crossings within the proposed quiet zone.

c. Membership and recommendations of the diagnostic team (if any) that reviewed the proposed quiet zone.

d. Statement of efforts taken to address comments submitted by affected railroads, the State agency responsible for grade crossing safety, and the State agency responsible for highway and road safety, including a list of any objections raised by the railroads or State agencies.

e. A commitment to implement the proposed safety measures.

f. Demonstrate through data and analysis that the proposed measures will reduce the Quiet Zone Risk Index to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns.

g. A copy of the application must be provided to: All railroads operating over the public highway-rail grade crossings within the quiet zone; the highway or traffic control or law enforcement authority having jurisdiction over vehicular traffic at grade crossings within the quiet zone; the landowner having control over any private crossings within the quiet zone; the State agency responsible for highway and road safety; the State agency responsible for grade crossing safety; and the Associate Administrator. (§ 222.39(b)(3))

7. Upon receiving written approval from FRA of the quiet zone application, the public authority may then provide the Notice of Quiet Zone Establishment and implement the quiet zone. If the quiet zone is qualified by reducing the Quiet Zone Risk Index to a level at, or below, the Nationwide Significant Risk Threshold, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone rises above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that appropriate measures can be taken. (See § 222.51(a))

NOTE: The provisions stated above for crossing closures, grade separations, wayside horns, pre-existing SSMS and pre-existing

modified SSMS apply for Public Authority Application to FRA as well.

SECTION III—PRE-RULE QUIET ZONES

Pre-Rule Quiet Zones are treated slightly differently from New Quiet Zones in the rule. This is a reflection of the statutory requirement to “take into account the interest of communities that have in effect restrictions on the sounding of a locomotive horn at highway-rail grade crossings. * * *” (49 U.S.C. 20153(i)) It also recognizes the historical experience of train horns not being sounded at Pre-Rule Quiet Zones.

Overview

Pre-Rule Quiet Zones that are not established by automatic approval (see discussion that follows) must meet the same requirements as New Quiet Zones as provided in §222.39. In other words, risk must be reduced through the use of SSMS or ASMS so that the Quiet Zone Risk Index for the quiet zone has been reduced to either the risk level which would exist if locomotive horns sounded at all crossings in the quiet zone (*i.e.* the Risk Index with Horns) or to a risk level equal to, or less than, the Nationwide Significant Risk Threshold. There are four differences in the requirements between Pre-Rule Quiet Zones and New Quiet Zones that must be noted.

(1) First, since train horns have not been routinely sounded in the Pre-Rule Quiet Zone, it is not necessary to increase the risk indices of the public crossings to reflect the additional risk caused by the lack of a train horn. Since the train horn has already been silenced, the added risk caused by the lack of a horn is reflected in the actual collision history at the crossings. Collision history is an important part in the calculation of the severity risk indices. In other words, the Quiet Zone Risk Index is calculated by averaging the existing risk index for each public crossing without the need to increase the risk index by 66.8%. For Pre-Rule Quiet Zones, the Crossing Corridor Risk Index and the initial Quiet Zone Risk Index have the same value.

(2) Second, since train horns have been silenced at the crossings, it will be necessary to mathematically determine what the risk level would have been at the crossings if train horns had been routinely sounded. These revised risk levels then will be used to calculate the Risk Index with Horns. This calculation is necessary to determine how much risk must be eliminated in order to compensate for the lack of the train horn. This will allow the public authority to have the choice to reduce the risk to at least the level of the Nationwide Significant Risk Threshold or to fully compensate for the lack of the train horn.

To calculate the Risk Index with Horns, the first step is to divide the existing sever-

ity risk index for each crossing by the appropriate value as shown in Table 1. This process eliminates the risk that was caused by the absence of train horns. The table takes into account that the train horn has been found to produce different levels of effectiveness in preventing collisions depending on the type of warning device at the crossing. (Note: FRA’s web-based Quiet Zone Calculator will perform this computation automatically for Pre-Rule Quiet Zones.) The Risk Index with Horns is the average of the revised risk indices. The difference between the calculated Risk Index with Horns and the Quiet Zone Risk Index is the amount of risk that would have to be reduced in order to fully compensate for the lack of train horns.

TABLE 1—RISK INDEX DIVISOR VALUES

	Passive	Flashing lights	Lights & gates
U.S.	1.749	1.309	1.668

(3) The third difference is that credit is given for the risk reduction that is brought about through the upgrading of the warning devices at public crossings (§222.35(b)(3)). For New Quiet Zones, all crossings must be equipped with automatic warning devices consisting of flashing lights and gates. Crossings without gates must have gates installed. The severity risk index for that crossing is then calculated to establish the risk index that is used in the Risk Index with Horns. The Risk Index with Horns is then increased by 66.8% to adjust for the lack of the train horn. The adjusted figure is the initial Quiet Zone Risk Index. There is no credit received for the risk reduction that is attributable to warning device upgrades in New Quiet Zones.

For Pre-Rule Quiet Zones, the Risk Index with Horns is calculated from the initial risk indices which use the warning devices that are currently installed. If a public authority elects to upgrade an existing warning device as part of its quiet zone plan, the accident prediction value for that crossing will be recalculated based on the upgraded warning device. (Once again, FRA’s web-based Quiet Zone Calculator can do the actual computation.) The new accident prediction value is then used in the severity risk index formula to determine the risk index for the crossing. This adjusted risk index is then used to compute the new Quiet Zone Risk Index. This computation allows the risk reduction attributed to the warning device upgrades to be used in establishing a quiet zone.

(4) The fourth difference is that Pre-Rule Quiet Zones have different minimum requirements under §222.35. A Pre-Rule Quiet Zone may be less than one-half mile in length if that was its length as of October 9,

1996 (§222.35(a)(2)). A Pre-Rule Quiet Zone does not have to have automatic warning devices consisting of flashing lights and gates at every public crossing (§222.35(b)(3)). The existing crossing safety warning systems in place as of December 18, 2003 may be retained but cannot be downgraded. It also is not necessary for the automatic warning devices to be equipped with constant warning time devices or power out indicators; however, when the warning devices are upgraded, constant warning time and power out indicators will be required if reasonably practical (§222.35(b)(3)). Advance warning signs that notify the motorist that train horns are not sounded do not have to be installed on each approach to public, private, and pedestrian grade crossings within the quiet zone until June 24, 2008. (§§222.27(d) and 222.35(c)) Similarly, STOP signs and crossbucks do not have to be installed on each approach to private crossings within the quiet zone until June 24, 2008. (§222.25(c)).

A. Requirements for Both Public Authority Designation and Public Authority Application—Pre-Rule Quiet Zones

The following is necessary when establishing a Pre-Rule Quiet Zone. This information pertains to Automatic Approval, the Public Authority Designation and Public Authority Application to FRA methods.

1. Determine all public, private and pedestrian at-grade crossings that will be included within the quiet zone. Also determine any existing grade separated crossings that fall within the quiet zone. Each crossing must be identified by the U.S. DOT Crossing Inventory number and street name. If a crossing does not have a U.S. DOT crossing number, then contact FRA for assistance.

2. Document the length of the quiet zone. It is not necessary that the quiet zone be at least one-half mile in length. Pre-Rule Quiet Zones may be shorter than one-half mile. However, the addition of a new crossing that is not a part of an existing Pre-Rule Quiet Zone to a quiet zone nullifies its pre-rule status, and the resulting New Quiet Zone must be at least one-half mile. The deletion of a crossing from a Pre-Rule Quiet Zone (except through closure or grade separation) must result in a quiet zone that is at least one-half mile in length. It is the intent of the rule to allow adjacent Pre-Rule Quiet Zones to be combined into one large pre-rule quiet zone if the respective public authorities desire to do so. (§222.35(a)(2))

3. A complete and accurate Grade Crossing Inventory Form must be on file with FRA for all crossings (public, private and pedestrian) within the quiet zone. An inspection of each crossing in the proposed quiet zone should be performed and the Grade Crossing Inventory Forms updated, as necessary, to reflect the current conditions at each crossing.

4. Pre-Rule Quiet Zones must retain, and may upgrade, the existing grade crossing safety warning systems. Unlike New Quiet Zones, it is not necessary that every public crossing within a Pre-Rule Quiet Zone be equipped with active warning devices comprising both flashing lights and gates. Existing warning devices need not be equipped with power out indicators and constant warning time circuitry. If warning devices are upgraded to flashing lights, or flashing lights and gates, the upgraded equipment must include, as is required for New Quiet Zones, power out indicators and constant warning time devices (if reasonably practical). (§222.35(b)(3))

5. By June 24, 2008, private crossings must have cross-bucks and “STOP” signs on both approaches to the crossing. (§222.25(c))

6. By June 24, 2008, each approach to a public, private, and pedestrian crossing must be equipped with an advance warning sign that conforms to the MUTCD and advises pedestrians and motorists that train horns are not sounded at the crossing. (§§222.27(d), 222.35(c))

7. It will be necessary for the public authority to provide a Notice of Quiet Zone Continuation in order to prevent the resumption of locomotive horn sounding when the rule becomes effective. A detailed discussion of the requirements of §222.43(c) is provided in Section IV of this appendix. The Notice of Quiet Zone Continuation must be provided to the appropriate parties by all Pre-Rule Quiet Zones that have not established quiet zones by automatic approval. This should be done no later than June 3, 2005 to ensure that train horns will not start being sounded on June 24, 2005. A Pre-Rule Quiet Zone may provide a Notice of Quiet Zone Continuation before it has determined whether or not it qualifies for automatic approval. Once it has been determined that the Pre-Rule Quiet Zone will be established by automatic approval, the Public Authority must provide the Notice of Quiet Zone Establishment. This must be accomplished no later than December 24, 2005. If the Pre-Rule Quiet Zone will not be established by automatic approval, the Notice of Quiet Zone Continuation will enable the train horns to be silenced until June 24, 2008. (Please refer to §222.41(c) for more information.)

B. Pre-Rule Quiet Zones—Automatic Approval

In order for a Pre-Rule Quiet Zone to be established under this rule (§222.41(a)), one of the following conditions must be met:

- a. One or more SSMS as identified in appendix A are installed at *each* public crossing in the quiet zone;
- b. The Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold;
- c. The Quiet Zone Risk Index is above the Nationwide Significant Risk Threshold but

less than twice the Nationwide Significant Risk Threshold and there have been no relevant collisions at any public grade crossing within the quiet zone for the preceding five years; or

d. The Quiet Zone Risk Index is equal to, or less than, the Risk Index With Horns.

Additionally, the Pre-Rule Quiet Zone must be in compliance with the minimum requirements for quiet zones (§ 222.35) and the notification requirements in § 222.43.

The following discussion is meant to provide guidance on the steps necessary to determine if a Pre-Rule Quiet Zone qualifies for automatic approval.

1. All of the items listed in *Requirements for Both Public Authority Designation and Public Authority Application—Pre-Rule Quiet Zones* previously mentioned are to be accomplished. Remember that a Pre-Rule Quiet Zone may be less than one-half mile in length if that was its length as of October 9, 1996. Also, a Pre-Rule Quiet Zone does not have to have automatic warning devices consisting of flashing lights and gates at every public crossing.

2. If one or more SSMs as identified in appendix A are installed at each public crossing in the quiet zone, the quiet zone qualifies and the public authority may provide the Notice of Quiet Zone Establishment. If the Pre-Rule Quiet Zone does not qualify by this step, proceed on to the next step.

3. Calculate the risk index for each public crossing within the quiet zone (See appendix D.) Be sure that the risk index is calculated using the formula appropriate for the type of warning device that is actually installed at the crossing. Unlike New Quiet Zones, it is not necessary to calculate the risk index using flashing lights and gates as the warning device at every public crossing. (FRA's web-based Quiet Zone Calculator may be used to simplify the calculation process). If the Inventory record does not reflect the actual conditions at the crossing, be sure to use the conditions that currently exist when calculating the risk index.

4. The Quiet Zone Risk Index is then calculated by averaging the risk index for each public crossing within the proposed quiet zone. (Note: The initial Quiet Zone Risk Index and the Crossing Corridor Risk Index are the same for Pre-Rule Quiet Zones.)

5. Compare the Quiet Zone Risk Index to the Nationwide Significant Risk Threshold. If the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold, then the quiet zone qualifies, and the public authority may provide the Notice of Quiet Zone Establishment. With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk. If the Quiet Zone Risk Index for the quiet zone is found to be above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that

appropriate measures can be taken (See § 222.51(b)). If the Pre-Rule Quiet Zone is not established by this step, proceed on to the next step.

6. If the Quiet Zone Risk Index is above the Nationwide Significant Risk Threshold but less than twice the Nationwide Significant Risk Threshold and there have been no relevant collisions at any public grade crossing within the quiet zone for the preceding five years, then the quiet zone qualifies for automatic approval. However, in order to qualify on this basis, the public authority must provide a Notice of Quiet Zone Establishment by December 24, 2005. (Note: A relevant collision means a collision at a highway-rail grade crossing between a train and a motor vehicle, excluding the following: a collision resulting from an activation failure of an active grade crossing warning system; a collision in which there is no driver in the motor vehicle; or a collision where the highway vehicle struck the side of the train beyond the fourth locomotive unit or rail car.) With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk. If the Quiet Zone Risk Index for the quiet zone is above two times the Nationwide Significant Risk Threshold, or a relevant collision has occurred during the preceding year, FRA will notify the public authority so that appropriate measures can be taken (See § 222.51(b)).

If the Pre-Rule Quiet Zone is not established by automatic approval, continuation of the quiet zone may require implementation of SSMs or ASMs to reduce the Quiet Zone Risk Index for the quiet zone to a risk level equal to, or below, either the risk level which would exist if locomotive horns sounded at all crossings in the quiet zone (*i.e.* the Risk Index with Horns) or the Nationwide Significant Risk Threshold. This is the same methodology used to create New Quiet Zones with the exception of the four differences previously noted. A review of the previous discussion on the two methods used to establish quiet zones may prove helpful in determining which would be the most beneficial to use for a particular Pre-Rule Quiet Zone.

C. Pre-Rule Quiet Zones—Public Authority Designation

The following discussion is meant to provide guidance on the steps necessary to establish a Pre-Rule Quiet Zone using the Public Authority Designation method.

1. The public authority must provide a Notice of Intent (§§ 222.43(a)(1) and 222.43(b)) to the railroads that operate within the proposed quiet zone, the State agency responsible for highway and road safety and the State agency responsible for grade crossing safety. This notice must be mailed by February 24, 2008, in order to continue existing locomotive horn restrictions beyond June 24, 2008 without interruption. The purpose of

this Notice of Intent is to provide an opportunity for the railroads and the State agencies to provide comments and recommendations to the public authority as it is planning the quiet zone. They will have 60 days to provide these comments to the public authority. The Notice of Intent must be provided, if new SSMs or ASMs will be implemented within the quiet zone. FRA encourages public authorities to provide the required Notice of Intent early in the quiet zone development process. The railroads and State agencies can provide an expertise that very well may not be present within the public authority. FRA believes that it will be very useful to include these organizations in the planning process. For example, including them in the inspections of the crossing will help ensure accurate Inventory information for the crossings. Note: Please see Section IV for details on the requirements of a Notice of Intent.

2. All of the items listed in “Requirements for Both Public Authority Designation and Public Authority Application—Pre-Rule Quiet Zones” previously mentioned are to be accomplished. Remember that a Pre-Rule Quiet Zone may be less than one-half mile in length if that was its length as of October 9, 1996. Also, a Pre-Rule Quiet Zone does not have to have automatic warning devices consisting of flashing lights and gates at every public crossing.

3. Calculate the risk index for each public crossing within the quiet zone as in Step 3—Pre-Rule Quiet Zones—Automatic Approval.

4. The Crossing Corridor Risk Index is then calculated by averaging the risk index for each public crossing within the proposed quiet zone. Since train horns are not being sounded for crossings, this value is actually the initial Quiet Zone Risk Index.

5. Calculate Risk Index with Horns by the following:

a. For each public crossing, divide the risk index that was calculated in Step 2 by the appropriate value in Table 1. This produces the risk index that would have existed had the train horn been sounded.

b. Average these reduced risk indices together. The resulting average is the Risk Index with Horns.

6. Begin to reduce the Quiet Zone Risk Index through the use of SSMs or by upgrading existing warning devices. Follow the procedure provided in Step 6—Public Authority Designation until the Quiet Zone Risk Index has been reduced to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns. A public authority may elect to upgrade an existing warning device as part of its Pre-Rule Quiet Zone plan. When upgrading a warning device, the accident prediction value for that crossing must be re-calculated for the new warning device. Determine the new risk index for the upgraded crossing by using the

new accident prediction value in the severity risk index formula. This new risk index is then used to compute the new Quiet Zone Risk Index. (Remember that FRA’s web-based Quiet Zone Calculator will be able to do the actual computations.) Once the Quiet Zone Risk Index has been reduced to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns, the quiet zone may be established by the Public Authority Designation method, and the public authority may provide the Notice of Quiet Zone Establishment once all the necessary improvements have been installed. If the quiet zone is established by reducing the Quiet Zone Risk Index to a risk level equal to, or less than, the Nationwide Significant Risk Threshold, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone rises above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that appropriate measures can be taken (See § 222.51(b)).

7. If the Pre-Rule Quiet Zone will not be established before June 24, 2008, the public authority must file a detailed plan for quiet zone improvements with the Associate Administrator by June 24, 2008. By providing a Notice of Intent (see Step 1 above) and a detailed plan for quiet zone improvements, existing locomotive horn restrictions may continue until June 24, 2010. (If a comprehensive State-wide implementation plan and funding commitment are also provided and safety improvements are initiated within at least one Pre-Rule Quiet Zone or Pre-Rule Partial Quiet Zone, existing locomotive horn restrictions may continue until June 24, 2013.) (See § 222.41(c) for more information.)

NOTE: The provisions stated above for crossing closures, grade separations, wayside horns, pre-existing SSMs and pre-existing modified SSMs apply for Public Authority Application to FRA as well.

D. Pre-Rule Quiet Zones—Public Authority Application to FRA

The following discussion is meant to provide guidance on the steps necessary to establish a Pre-Rule Quiet Zone using the Public Authority Application to FRA method.

1. The public authority must provide a Notice of Intent (§§ 222.43(a)(1) and 222.43(b)) to the railroads that operate within the proposed quiet zone, the State agency responsible for highway and road safety and the State agency responsible for grade crossing safety. This notice must be mailed by February 24, 2008, in order to continue existing locomotive horn restrictions beyond June 24, 2008 without interruption. The purpose of

this Notice of Intent is to provide an opportunity for the railroads and the State agencies to provide comments and recommendations to the public authority as it is planning the quiet zone. They will have 60 days to provide these comments to the public authority. The Notice of Intent must be provided, if new SSMs or ASMs will be implemented within the quiet zone. FRA encourages public authorities to provide the required Notice of Intent early in the quiet zone development process. The railroads and State agencies can provide an expertise that very well may not be present within the public authority. FRA believes that it will be very useful to include these organizations in the planning process. For example, including them in the inspections of the crossing will help ensure accurate Inventory information for the crossings. Note: Please see Section IV for details on the requirements of a Notice of Detailed Plan.

2. All of the items listed in "Requirements for both Public Authority Designation and Public Authority Application—Pre-Rule Quiet Zones" previously mentioned are to be accomplished. Remember that a Pre-Rule Quiet Zone may be less than one-half mile in length if that was its length as of October 9, 1996. Also, a Pre-Rule Quiet Zone does not have to have automatic warning devices consisting of flashing lights and gates at every public crossing.

3. Calculate the risk index for each public crossing within the quiet zone (See appendix D. FRA's web-based Quiet Zone Calculator may be used to simplify the calculation process). If the Inventory record does not reflect the actual conditions at the crossing, be sure to use the conditions that currently exist when calculating the risk index.

4. The Crossing Corridor Risk Index is then calculated by averaging the risk index for each public crossing within the proposed quiet zone. Since train horns are not being sounded for crossings, this value is actually the initial Quiet Zone Risk Index.

5. Calculate Risk Index with Horns by the following:

a. For each public crossing, divide its risk index that was calculated in Step 2 by the appropriate value in Table 1. This produces the risk index that would have existed had the train horn been sounded.

b. Average these reduced risk indices together. The resulting average is the Risk Index with Horns.

6. Begin to reduce the Quiet Zone Risk Index through the use of ASMs and/or SSMs. Follow the procedure provided in Step 6—New Quiet Zones Public Authority Designation—until the Quiet Zone Risk Index has been reduced to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns. A public authority may elect to upgrade an existing warning device as part of its Pre-Rule

Quiet Zone plan. When upgrading a warning device, the accident prediction value for that crossing must be re-calculated for the new warning device. Determine the new risk index for the upgraded crossing by using the new accident prediction value in the severity risk index formula. (Remember that FRA's web-based quiet zone risk calculator will be able to do the actual computations.) This new risk index is then used to compute the new Quiet Zone Risk Index. Effectiveness rates for ASMs should be provided as follows:

a. Modified SSMs—Estimates of effectiveness for modified SSMs may be based upon adjustments from the benchmark levels provided in appendix A or from actual field data derived from the crossing sites. The application must provide an estimated effectiveness rate and the rationale for the estimate.

b. Non-engineering ASMs—Effectiveness rates are to be calculated in accordance with the provisions of appendix B, section II B.

c. Engineering ASMs—Effectiveness rates are to be calculated in accordance with the provisions of appendix B, section III B.

7. Once it has been determined through analysis that the Quiet Zone Risk Index will be reduced to a level equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns, the public authority may make application to FRA for a quiet zone under § 222.39(b). FRA will review the application to determine the appropriateness of the proposed effectiveness rates, and whether or not the proposed application demonstrates that the quiet zone meets the requirements of the rule. When submitting the application to FRA for approval, it should be remembered that the application must contain the following (§ 222.39(b)(1)):

a. Sufficient detail concerning the present safety measures at all crossings within the proposed quiet zone to enable the Associate Administrator to evaluate their effectiveness. This includes current and accurate crossing Inventory forms for each public, private and pedestrian grade crossing.

b. Detailed information on the safety improvements, including upgraded warning devices that are proposed to be implemented at public, private, and pedestrian grade crossings within the proposed quiet zone.

c. Membership and recommendations of the diagnostic team (if any) that reviewed the proposed quiet zone.

d. Statement of efforts taken to address comments submitted by affected railroads, the State agency responsible for grade crossing safety, and the State agency responsible for highway and road safety, including a list of any objections raised by the railroads or State agencies.

e. A commitment to implement the proposed safety measures.

f. Demonstrate through data and analysis that the proposed measures will reduce the

Quiet Zone Risk Index to a level at, or below, either the Nationwide Significant Risk Threshold or the Risk Index with Horns.

g. A copy of the application must be provided to all railroads operating over the public highway-rail grade crossings within the quiet zone; the highway or traffic control or law enforcement authority having jurisdiction over vehicular traffic at grade crossings within the quiet zone; the landowner having control over any private crossings within the quiet zone; the State agency responsible for highway and road safety; the State agency responsible for grade crossing safety; and the Associate Administrator. (§ 222.39(b)(3))

8. Upon receiving written approval from FRA of the quiet zone application, the public authority may then provide the Notice of Quiet Zone Establishment and implement the quiet zone. If the quiet zone is established by reducing the Quiet Zone Risk Index to a level equal to, or less than, the Nationwide Significant Risk Threshold, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk. If the Quiet Zone Risk Index for the quiet zone is above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that appropriate measures can be taken (See § 222.51(b)).

NOTE: The provisions stated above for crossing closures, grade separations, wayside horns, pre-existing SSMs and pre-existing modified SSMs apply for Public Authority Application to FRA as well.

SECTION IV—REQUIRED NOTIFICATIONS

A. Introduction

The public authority is responsible for providing notification to parties that will be affected by the quiet zone. There are several different types of notifications and a public authority may have to make more than one notification during the entire process of complying with the regulation. The notification process is to ensure that interested parties are made aware in a timely manner of the establishment or continuation of quiet zones. It will also provide an opportunity for State agencies and affected railroads to provide input to the public authority during the development of quiet zones. Specific information is to be provided so that the crossings in the quiet zone can be identified. Providing the appropriate notification is important because once the rule becomes effective, railroads will be obligated to sound train horns when approaching all public crossings unless notified in accordance with the rule that a New Quiet Zone has been established or that a Pre-Rule or Intermediate Quiet Zone is being continued.

B. Notice of Intent—§ 222.43(b)

The purpose of the Notice of Intent is to provide notice to the railroads and State agencies that the public authority is planning on creating a New Quiet Zone or implementing new SSMs or ASMs within a Pre-Rule Quiet Zone. The Notice of Intent provides an opportunity for the railroad and the State agencies to give input to the public authority during the quiet zone development process. The State agencies and railroads will be given sixty days to provide information and comments to the public agency.

The Notice of Intent must be provided under the following circumstances:

1. A New Quiet Zone or New Partial Quiet Zone is under consideration.

2. An Intermediate Quiet Zone or Intermediate Partial Quiet Zone that will be converted into a New Quiet Zone or New Partial Quiet Zone. Please note that Notice of Intent must be mailed by April 3, 2006, in order prevent the resumption of locomotive horn sounding on June 24, 2006.

3. The implementation of SSMs or ASMs within a Pre-Rule Quiet Zone or Pre-Rule Partial Quiet Zone is under consideration. Please note that Notice of Intent must be mailed by February 24, 2008, in order to continue existing restrictions on locomotive horn sounding beyond June 24, 2008 without interruption. Each public authority that is creating a New Quiet Zone must provide written notice, by certified mail, return receipt requested, to the following:

1. All railroads operating within the proposed quiet zone
2. State agency responsible for highway and road safety
3. State agency responsible for grade crossing safety

The Notice of Intent must contain the following information:

1. A list of each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossings within the proposed quiet zone. The crossings are to be identified by both the U.S. DOT Crossing Inventory Number and the street or highway name.
2. A statement of the time period within which the restrictions would be in effect on the routine sounding of train horns (*i.e.*, 24 hours or from 10 p.m. to 7 a.m.).
3. A brief explanation of the public authority's tentative plans for implementing improvements within the proposed quiet zone.
4. The name and title of the person who will act as the point of contact during the quiet zone development process and how that person can be contacted.
5. A list of the names and addresses of each party that will receive a copy of the Notice of Intent.

The parties that receive the Notice of Intent will be able to submit information or comments to the public authority for 60 days. The public authority will not be able to establish the quiet zone during the 60 day comment period unless each railroad and State agency that receives the Notice of Intent provides either written comments to the public authority or a written statement waiving its right to provide comments on the Notice of Intent. The public authority must provide an affirmation in the Notice of Quiet Zone Establishment that each of the required parties was provided the Notice of Intent and the date it was mailed. If the quiet zone is being established within 60 days of the mailing of the Notice of Intent, the public authority also must affirm each of the parties have provided written comments or waived its right to provide comments on the Notice of Intent.

*C. Notice of Quiet Zone Continuation—
§ 222.43(c)*

The purpose of the Notice of Quiet Zone Continuation is to provide a means for the public authority to formally advise affected parties that an existing quiet zone is being continued after the effective date of the rule. All Pre-Rule, Pre-Rule Partial, Intermediate and Intermediate Partial Quiet Zones must provide this Notice of Quiet Zone Continuation no later than June 3, 2005 to ensure that train horns are not sounded at public crossings when the rule becomes effective on June 24, 2005. This will enable railroads to properly comply with the requirements of the Final Rule.

Each public authority that is continuing an existing Pre-Rule, Pre-Rule Partial, Intermediate and Intermediate Partial Quiet Zone must provide written notice, by certified mail, return receipt requested, to the following:

1. All railroads operating over the public highway-rail grade crossings within the quiet zone;
2. The highway or traffic control or law enforcement authority having jurisdiction over vehicular traffic at grade crossings within the quiet zone;
3. The landowner having control over any private crossings within the quiet zone;
4. The State agency responsible for highway and road safety;
5. The State agency responsible for grade crossing safety; and
6. The Associate Administrator.

The Notice of Quiet Zone Continuation must contain the following information:

1. A list of each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossing within the quiet zone, identified by both U.S. DOT National Highway-Rail Grade Crossing Inventory Number and street or highway name.

2. A specific reference to the regulatory provision that provides the basis for quiet zone continuation, citing as appropriate, § 222.41 or 222.42.

3. A statement of the time period within which restrictions on the routine sounding of the locomotive horn will be imposed (i.e., 24 hours or nighttime hours only.)

4. An accurate and complete Grade Crossing Inventory Form for each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossing within the quiet zone that reflects conditions currently existing at the crossing.

5. The name and title of the person responsible for monitoring compliance with the requirements of this part and the manner in which that person can be contacted.

6. A list of the names and addresses of each party that will receive the Notice of Quiet Zone Continuation.

7. A statement signed by the chief executive officer of each public authority participating in the continuation of the quiet zone, in which the chief executive officer certifies that the information submitted by the public authority is accurate and complete to the best of his/her knowledge and belief.

Public authorities should remember that this notice is required to ensure that train horns will remain silent. Even if a public authority has not been able to determine whether its Pre-Rule or Pre-Rule Partial Quiet Zone qualifies for automatic approval under the rule, it should issue a Notice of Quiet Zone Continuation to keep the train horns silent after the effective date of the rule.

*E. Notice of Quiet Zone Establishment—
§ 222.43(d)*

The purpose of the Notice of Quiet Zone Establishment is to provide a means for the public authority to formally advise affected parties that a quiet zone is being established. Notice of Quiet Zone Establishment must be provided under the following circumstances:

1. A New Quiet Zone or New Partial Quiet Zone is being created.
2. A Pre-Rule Quiet Zone or a Pre-Rule Partial Quiet Zone that qualifies for automatic approval under the rule is being established.
3. An Intermediate Quiet Zone or Intermediate Partial Quiet Zone that is creating a New Quiet Zone under the rule. Please note that Notice of Quiet Zone Establishment must be provided by June 3, 2006, in order to prevent the resumption of locomotive horn sounding on June 24, 2006.
4. A Pre-Rule Quiet Zone or a Pre-Rule Partial Quiet Zone that was not established by automatic approval and has since implemented improvements to establish a quiet zone in accordance to the rule.

Each public authority that is establishing a quiet zone under the above circumstances must provide written notice, by certified mail, return receipt requested, to the following:

1. All railroads operating over the public highway-rail grade crossings within the quiet zone;
2. The highway or traffic control or law enforcement authority having jurisdiction over vehicular traffic at grade crossings within the quiet zone;
3. The landowner having control over any private crossings within the quiet zone;
4. The State agency responsible for highway and road safety;
5. The State agency responsible for grade crossing safety; and
6. The Associate Administrator.

The Notice of Quiet Establishment must contain the following information:

1. A list of each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossing within the quiet zone, identified by both U.S. DOT National Highway-Rail Grade Crossing Inventory Number and street or highway name.

2. A specific reference to the regulatory provision that provides the basis for quiet zone establishment, citing as appropriate, § 222.39(a)(1), 222.39(a)(2)(i), 222.39(a)(2)(ii), 222.39(a)(3), 222.39(b), 222.41(a)(1)(i), 222.41(a)(1)(ii), 222.41(a)(1)(iii), 222.41(a)(1)(iv), 222.41(b)(1)(i), 222.41(b)(1)(ii), 222.41(b)(1)(iii), or 222.41(b)(1)(iv).

(a) If the Notice of Quiet Establishment contains a specific reference to § 222.39(a)(2)(i), 222.39(a)(2)(ii), 222.39(a)(3), 222.41(a)(1)(ii), 222.41(a)(1)(iii), 222.41(a)(1)(iv), 222.41(b)(1)(ii), 222.41(b)(1)(iii), or 222.41(b)(1)(iv), it shall include a copy of the FRA web page that contains the quiet zone data upon which the public authority is relying.

(b) If the Notice of Quiet Establishment contains a specific reference to § 222.39(b), it shall include a copy of FRA's notification of approval.

3. If a diagnostic team review was required under § 222.25 (private crossings) or § 222.27 (pedestrian crossings), the Notice of Quiet Establishment shall include a statement affirming that the State agency responsible for grade crossing safety and all affected railroads were provided an opportunity to participate in the diagnostic team review. The Notice of Quiet Establishment shall also include a list of recommendations made by the diagnostic team.

4. A statement of the time period within which restrictions on the routine sounding of the locomotive horn will be imposed (i.e., 24 hours or from 10 p.m. until 7 a.m.)

5. An accurate and complete Grade Crossing Inventory Form for each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossing with-

in the quiet zone that reflects the conditions existing at the crossing before any new SSMs or ASMs were implemented.

6. An accurate, complete and current Grade Crossing Inventory Form for each public highway-rail grade crossing, private highway-rail grade crossing, and pedestrian crossing within the quiet zone that reflects SSMs and ASMs in place upon establishment of the quiet zone. SSMs and ASMs that cannot be fully described on the Inventory Form shall be separately described.

7. If the public authority was required to provide a Notice of Intent:

(a) The Notice of Quiet Zone Establishment shall contain a statement affirming that the Notice of Intent was provided in accordance with the rule. This statement shall also state the date on which the Notice of Intent was mailed.

(b) If the Notice of Quiet Zone Establishment will be mailed less than 60 days after the date on which the Notice of Intent was mailed, the Notice of Quiet Zone Establishment shall also contain a written statement affirming that comments and/or written waiver statements have been received from each railroad operating over public grade crossings within the proposed quiet zone, the State agency responsible for grade crossing safety, and the State agency responsible for highway and road safety.

8. The name and title of the person responsible for monitoring compliance with the requirements of this part and the manner in which that person can be contacted.

9. A list of the names and addresses of each party that is receiving a copy of the Notice of Quiet Establishment.

10. A statement signed by the chief executive officer of each public authority participating in the establishment of the quiet zone, in which the chief executive officer shall certify that the information submitted by the public authority is accurate and complete to the best of his/her knowledge and belief.

SECTION V—EXAMPLES OF QUIET ZONE IMPLEMENTATIONS

Example 1—New Quiet Zone

- (a) A public authority wishes to create a New Quiet Zone over four public crossings. All of the crossings are equipped with flashing lights and gates, and the length of the quiet zone is 0.75 mile. There are no private crossings within the proposed zone.

- (b) The tables that follow show the street name in the first column, and the existing risk index for each crossing with the horn sounding ("Crossing Risk Index w/ Horns") in the second. The third column, "Crossing Risk Index w/o Horns", is the risk index for each crossing after it has been inflated by 66.8% to account for the lack of train horns.

The fourth column, “SSM Eff”, is the effectiveness of the SSM at the crossing. A zero indicates that no SSM has been applied. The last column, “Crossing Risk Index w/o Horns Plus SSM”, is the inflated risk index for the crossing after being reduced by the implementation of the SSM. At the bottom of the table are two values. The first is the Risk Index with Horns (“RIWH”) which represents the average initial amount of risk in the proposed quiet zone with the train horn sounding. The second is the Quiet Zone Risk Index (“QZRI”), which is the average risk in the proposed quiet zone taking into consideration the increased risk caused by the lack

of train horns and the reductions in risk attributable to the installation of SSMs. For this example it is assumed that the Nationwide Significant Risk Threshold is 17,030. In order for the proposed quiet zone to qualify under the rule, the Quiet Zone Risk Index must be reduced to a level at, or below, the Nationwide Significant Risk Threshold (17,030) or the Risk Index with Horns.

(c) Table 2 shows the existing conditions in the proposed quiet zone. SSMs have not yet been installed. The Risk Index with Horns for the proposed quiet zone is 11,250. The Quiet Zone Risk Index without any SSMs is 18,765.

TABLE 2

Street	Crossing risk index w/horns	Crossing risk index w/o horns	SSM EFF	Crossing risk index w/o horns plus SSM
A	12000	20016	0	20016
B	10000	16680	0	16680
C	8000	13344	0	13344
D	15000	25020	0	25020
	RIWH .....	.....	.....	QZRI
	11250	.....	.....	18765

(d) The public authority decides to install traffic channelization devices at D Street. Reducing the risk at the crossing that has the highest severity risk index will provide the greatest reduction in risk. The effectiveness of traffic channelization devices is 0.75. Table 3 shows the changes in the proposed

quiet zone corridor that would occur when traffic channelization devices are installed at D Street. The Quiet Zone Risk Index has been reduced to 14,073.75. This reduction in risk would qualify the quiet zone as the risk has been reduced lower than the Nationwide Significant Risk Threshold which is 17,030.

TABLE 3

Street	Crossing risk index w/horns	Crossing risk index w/o horns	SSM EFF	Crossing risk index w/o horns plus SSM
A	12000	20016	0	20016
B	10000	16680	0	16680
C	8000	13344	0	13344
D	15000	25020	0.75	6255
	RIWH .....	.....	.....	QZRI
	11250	.....	.....	14073.75

(e) The public authority realizes that reducing the Quiet Zone Risk Index to a level below the Nationwide Significant Risk Threshold will result in an annual re-calculation of the Quiet Zone Risk Index and comparison to the Nationwide Significant Risk Threshold. As the Quiet Zone Risk Index is close to the Nationwide Significant Risk Threshold (14,074 to 17,030), there is a reasonable chance that the Quiet Zone Risk Index may some day exceed the Nationwide Significant Risk Threshold. This would result in the quiet zone no longer being qualified and additional steps would have to be taken to keep the quiet zone. Therefore, the

public authority decides to reduce the risk further by the use of traffic channelization devices at A Street. Table 4 shows the results of this change. The Quiet Zone Risk Index is now 10,320.75 which is less than the Risk Index with Horns of 11,250. The quiet zone now qualifies by fully compensating for the loss of train horns and will not have to undergo annual reviews of the Quiet Zone Risk Index.

TABLE 4

Street	Crossing risk index w/horns	Crossing risk index w/o horns	SSM EFF	Crossing risk index w/o horns plus SSM
A	12000	20016	0.75	5004
B	10000	16680	0	16680
C	8000	13344	0	13344
D	15000	25020	0.75	6255
	RIWH	.....	.....	QZRI
	11250	.....	.....	10320.75

Example 2—Pre-Rule Quiet Zone

(a) A public authority wishes to qualify a Pre-Rule Quiet Zone which did not meet the requirements for Automatic Approval because the Quiet Zone Risk Index is greater than twice the Nationwide Significant Risk Threshold. There are four public crossings in the Pre-Rule Quiet Zone. Three of the crossings are equipped with flashing lights and gates, and the fourth (Z Street) is passively signed with a STOP sign. The length of the quiet zone is 0.6 mile, and there are no private crossings within the proposed zone.

(b) The tables that follow are very similar to the tables in Example 1. The street name is shown in the first column, and the existing risk index for each crossing (“Crossing Risk Index w/o Horns”) in the second. This is a change from the first example because the risk is calculated without train horns sounding because of the existing ban on whistles. The third column, “Crossing Risk Index w/ Horns”, is the risk index for each crossing after it has been adjusted to reflect what the risk would have been had train horns been sounding. This is mathematically done by dividing the existing risk index for the three gated crossing by 1.668. The risk at the passive crossing at Z Street is divided by 1.749. (See the above discussion in “Pre-Rule Quiet Zones—Establishment Overview” for more information.) The fourth column, “SSM Eff”, is the effectiveness of the SSM at the

crossing. A zero indicates that no SSM has been applied. The last column, “Crossing Risk Index w/o Horns Plus SSM”, is the risk index without horns for the crossing after being reduced for the implementation of the SSM. At the bottom of the table are two values. The first is the Risk Index with Horns (RIWH), which represents the average initial amount of risk in the proposed quiet zone with the train horn sounding. The second is the Quiet Zone Risk Index (“QZRI”), which is the average risk in the proposed quiet zone taking into consideration the increased risk caused by the lack of train horns and reductions in risk attributable to the installation of SSMs. Once again it is assumed that the Nationwide Significant Risk Threshold is 17,030. The Quiet Zone Risk Index must be reduced to either the Nationwide Significant Risk Threshold (17,030) or to the Risk Index with Horns in order to qualify under the rule.

(c) Table 5 shows the existing conditions in the proposed quiet zone. SSMs have not yet been installed. The Risk Index with Horns for the proposed quiet zone is 18,705.83. The Quiet Zone Risk Index without any SSMs is 31,375. Since the Nationwide Significant Risk Threshold is less than the calculated Risk Index with Horns, the public authority’s goal will be to reduce the risk to at least value of the Risk Index with Horns. This will qualify the Pre-Rule Quiet Zone under the rule.

TABLE 5

Street	Crossing risk index w/o horns	Crossing risk index w/ horns	SSM EFF	Crossing risk index w/o horns plus SSM
W	35,000	20,983.21	0	35,000
X	42,000	25,179.86	0	42,000
Y	33,500	20,083.93	0	33,500
Z	15,000	8,576.33	0	15,000
	RIWH	.....	.....	QZRI
	18,705.83	.....	.....	31,375

(d) The Z Street crossing is scheduled to have flashing lights and gates installed as part of the state’s highway-rail grade crossing safety improvement plan (Section 130).

While this upgrade is not directly a part of the plan to authorize a quiet zone, the public authority may take credit for the risk reduction achieved by the improvement from a

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passive STOP sign crossing to a crossing equipped with flashing lights and gates. Unlike New Quiet Zones, upgrades to warning devices in Pre-Rule Quiet Zones do contribute to the risk reduction necessary to

qualify under the rule. Table 6 shows the quiet zone corridor after including the warning device upgrade at Z Street. The Quiet Zone Risk Index has been reduced to 29,500.

TABLE 6

Street	Crossing risk index w/o horns	Crossing risk index w/ horns	SSM EFF	Crossing risk index w/o horns plus SSM
W	35,000	20,983.21	0	35,000
X	42,000	25,179.86	0	42,000
Y	33,500	20,083.93	0	33,500
Z	7,500	8,576.33	0	7,500
	RIWH .....	.....	.....	QZRI
	18,705.83	.....	.....	29,500

(e) The public authority elects to install four-quadrant gates without vehicle presence detection at X Street. As shown in Table 7,

this reduces the Quiet Zone Risk Index to 20,890. This risk reduction is not sufficient to qualify as quiet zone under the rule.

TABLE 7

Street	Crossing risk index w/o horns	Crossing risk index w/ horns	SSM EFF	Crossing risk index w/o horns plus SSM
W	35,000	20,983.21	0	35,000
X	42,000	25,179.86	0.82	7,560
Y	33,500	20,083.93	0	33,500
Z	7,500	8,576.33	0	7,500
	RIWH .....	.....	.....	QZRI
	18,705.83	.....	.....	20,890

(f) The public authority next decides to use traffic channelization devices at W Street. Table 8 shows that the Quiet Zone Risk Index is now reduced to 14,327.5. This risk re-

duction fully compensates for the loss of the train horn as it is less than the Risk Index with Horns. The quiet zone is qualified under the rule.

TABLE 8

Street	Crossing risk index w/o horns	Crossing risk index w/ horns	SSM EFF	Crossing risk index w/o horns plus SSM
W	35000	20983.21	0.75	8750
X	42000	25179.86	0.82	7560
Y	33500	20083.93	0	33500
Z	7500	8576.33	0	7500
	RIWH .....	.....	.....	QZRI
	18705.83	.....	.....	14327.5

APPENDIX D TO PART 222—DETERMINING RISK LEVELS

INTRODUCTION

The Nationwide Significant Risk Threshold, the Crossing Corridor Risk Index, and the Quiet Zone Risk Index are all measures of collision risk at public highway-rail grade crossings that are weighted by the severity

of the associated casualties. Each crossing can be assigned a risk index.

(a) The *Nationwide Significant Risk Threshold* represents the average severity weighted collision risk for all public highway-rail grade crossings equipped with lights and gates nationwide where train horns are routinely sounded. FRA developed this index to serve as a threshold of permissible risk for quiet zones established under this rule.

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Appendix 2.

Community Survey: Questionnaire and Results



Port of San Diego's Barrio Logan Nighttime Noise Survey



**PORT of
SAN DIEGO**
Waterfront of Opportunity

Date & Time Observed:



m/d/yy



hh:mm

Where were you when you heard this sound?

*

San Diego Unified Port District, SanGIS, Bureau of Land Management, Esri, HERE, Garmin, INCREM... Powered by [Esri](#)

Lat: 32.69522 Lon: -117.14333



Which direction does the noise seem to be coming from?

☐ North

☐ East

☐ South

☐ West

Please identify or describe the location or direction of the noise, if possible.

What did it sound like?

☐ Bang

☐ Clank

☐ Rattle

☐ Screech

Please describe in more detail.

255 //

How would you describe it?

255 //

How loud was it?

☐ Not very loud or noticeable compared to regular background noise

☐ Easily noticeable compared to regular background noise

☐ Very noticeable compared to regular background noise

☐ Very loud compared to regular background noise

How long did it last?

☐ A few Seconds

☐ Under a minute

☐ One to five minutes

☐ Five to ten minutes

☐ Longer than ten minutes

Please describe in more detail.

255 //

What was the sound pattern?

☐ Repetitive

☐ Constant

☐ Irregular

Please describe in more detail.

255 //

Have you heard this noise before?

☐ Yes

☐ No

How did the noise affect you or others?

☐ Startled

☐ Woke you or others in your household from sleep/Couldn't sleep

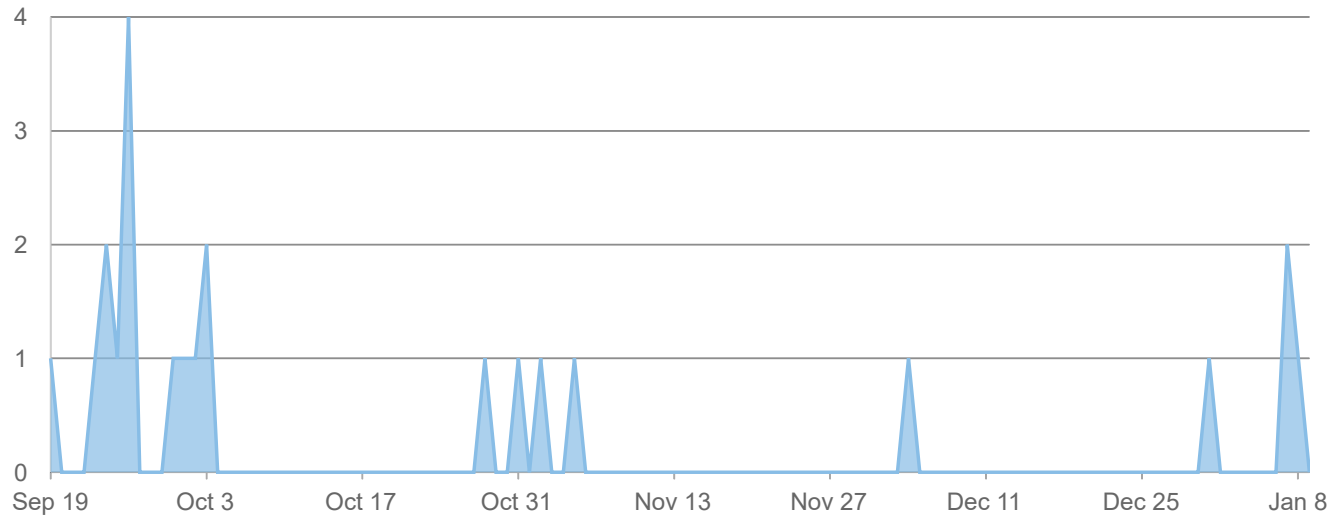
☐ Distracted or hard to hear conversation

☐ Other - please describe

Additional thoughts and comments?

Port of San Diego's Barrio Logan Nighttime Noise Survey

Date & Time Observed:



Date/Time	Count
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Date/Time	Count
Sep 19, 2019, 12:00:00 AM - Sep 20, 2019, 12:00:00 AM	1
Sep 23, 2019, 12:00:00 AM - Sep 24, 2019, 12:00:00 AM	1
Sep 24, 2019, 12:00:00 AM - Sep 25, 2019, 12:00:00 AM	2
Sep 25, 2019, 12:00:00 AM - Sep 26, 2019, 12:00:00 AM	1
Sep 26, 2019, 12:00:00 AM - Sep 27, 2019, 12:00:00 AM	4
Sep 30, 2019, 12:00:00 AM - Oct 1, 2019, 12:00:00 AM	1
Oct 1, 2019, 12:00:00 AM - Oct 2, 2019, 12:00:00 AM	1
Oct 2, 2019, 12:00:00 AM - Oct 3, 2019, 12:00:00 AM	1
Oct 3, 2019, 12:00:00 AM - Oct 4, 2019, 12:00:00 AM	2
Oct 28, 2019, 12:00:00 AM - Oct 29, 2019, 12:00:00 AM	1
Oct 31, 2019, 12:00:00 AM - Nov 1, 2019, 12:00:00 AM	1
Nov 2, 2019, 12:00:00 AM - Nov 3, 2019, 12:00:00 AM	1
Nov 5, 2019, 12:00:00 AM - Nov 6, 2019, 12:00:00 AM	1
Dec 5, 2019, 12:00:00 AM - Dec 6, 2019, 12:00:00 AM	1
Jan 1, 2020, 12:00:00 AM - Jan 2, 2020, 12:00:00 AM	1
Jan 8, 2020, 12:00:00 AM - Jan 9, 2020, 12:00:00 AM	2

Answered: 22 Skipped: 21

Which direction does the noise seem to be coming from?



Answers	Count	Percentage
North	6	13.95%
East	1	2.33%
South	18	41.86%
West	13	30.23%

Answered: 38 Skipped: 5

Please identify or describe the location or direction of the noise, if possible.



Response	Count

Response	Count
Train every AM, adjacent to the interstate. Industrial train horn, gen. noise.	1
ship horns from the port as well as traffic	1
train horns	1
Constant ringing noise... solid sound doesnt break just keeps on and on	1
Feels like the west but also very low end so hard to tell.	1
Its from boats.	1
Large semi trucks parking on the street, knocked down electric poles	1
Noises from military helicopters flying to and from the base	1
the sirens at night as well as freeway noises	1
in the neighborhood	1
shooting it's very constant think its military since it's so repetitive	1
Noises from the homeless people living along 16th Street	1
Above my apartments, to the north and west along the Coronado Bridge and the 5 freeway	1
Noises from cars and people East and west along imperial Ave	1
gun sounds at night as well as train horns	1
it comes from the freeway	1
Not certain	1
Along 14th Street, by all the homeless encampments. Occurs almost every night , starts at 8PM when I get home	1
Loud cars zooming past at night, often racing. Lots of young kids playing in the streets. Parties and night and loud music blasting	1
Train horn	1
It seems to be coming from the direction of the shipyards	1
I'm pretty confident that it is coming from the ship yard.	1
The waterfront/shipyards. The direction of the ocean.	1
Train tracks.	1
General vicinity, along 30th street. Night closures.	1
Train yard.	1

Response	Count
On the 5 freeway north bound	1
Train horns.	1
Coming from the shipyard	1
Noise comes from train yard, out South West from my house	1
Cars, homeless people arguing, and motorcycles.	1
It was coming from the waterfront.	1
I'm guessing it's coming from the shipyard.	1
My window faces west so all noises appear to come from the west	1
Traffic from streets, around homes, every direction.	1
Navy helicopters that fly until 10 pm every weeknight. Navy jet and helicopter noise also needs to be studied	1
Coming from the waterfront maritime industries Very loud high pitched beeping for hours similar to forklift sound, incessant low pitched droning sound sound like a very large engine, metal clanging very loudly intermittently also for hours	1
The noise is loud bells, Chime like. They seem over the years to be coming from down by Nasco shipyards or they may be related to military. I have heard them at my residence for the entire eleven years I have lived here.	1
nearby the Cesar Chavez park, by the rail road track	1
Noise from the freeway, I5 mostly	1
	0

Answered: 40 Skipped: 3

Sound Effect	Frequency
Bang	11
Clank	6
Rattle	5
Screech	11

Answered: 33 Skipped: 10

[illegible]6/20

Response	Count
It's a low end rumble that goes for 20 minutes or more then stops briefly before starting again. It's audible in the early evening also and seems to go at least until after midnight.	1
It's a bell chime, like a grandfather clock. It happens every couple of hours. Sounds far away.	1
Loud machines	1
horns	1
sirens	1
I think its military shooting guns not sure but very loud bangs	1
Motorcycles & racing cars.	1
Gen. traffic noises, cars & horns. Bounce off bldgs, old infrastructure, sheet metal and no sound proofing.	1
Car noises, constant hum over the freeway	1
gun sounds	1
Loud helicopters flying fairly low, too close to the residences	1
the freeway can be loud at night	1
3:30 AM work hours, boat noises, horn.	1
Trailer semis are not allowed to drive by residential areas. Often parked on street and driving by at night.	1
Jet and helicopter noise.	1
Homeless people moving their stuff around and screams or fights (verbal)	1
No movement noise, just horn, loud and obnoxious.	1
Train horn.	1
Train horn. Sometimes one toot or many toot's	1
Sounds of cars zooming by, including large trailers. Car horns every once and a while	1
Regular noise.	1
Very loud mechanical sounds surround the area all night long. It's like you're living inside a dryer. It's loud even with all of my windows closed.	1
Train horns. It's the safety horn that honks twice in a pattern. I looked it up.	1
Loud speaker noises, portable speakers and car stereos	1
Construction noises, big rig, drilling.	1

Response	Count
All night long a machine is running which affects my ability to sleep.	1
Loud horns and moving locomotive noises as trains shift position and park at the yard	1
There is a constant machine noise every night that I can hear inside my house with the windows and doors shut. It sounds like a large electric motor. It's more of a loud humming sound.	1
Train horns, excessive and extremely loud early in the morning	1
Metal noises, horn/siren type noises along with general banging.	1
Loud high pitched beeping similar to forklift sound, low pitched droning large engine sound constant, heavy metal banging and clanging	1
Car horns and loud car stereos	1
It's a whining whirring noise	1
Loud horn (industrial train)	1
It's a loud a** horn.	1
Loud bangs on the doors of my apartment building, loud arguments between people outside	1
the train every morning sounds off its horn	1
Loud bells, chimes. In what seems like a short tune	1
Like a soft school bell that's rung at break time and never ends. It is a regular persistent occurrence at least 5 nights per week.	1
	0

Answered: 39 Skipped: 4

How would you describe it?

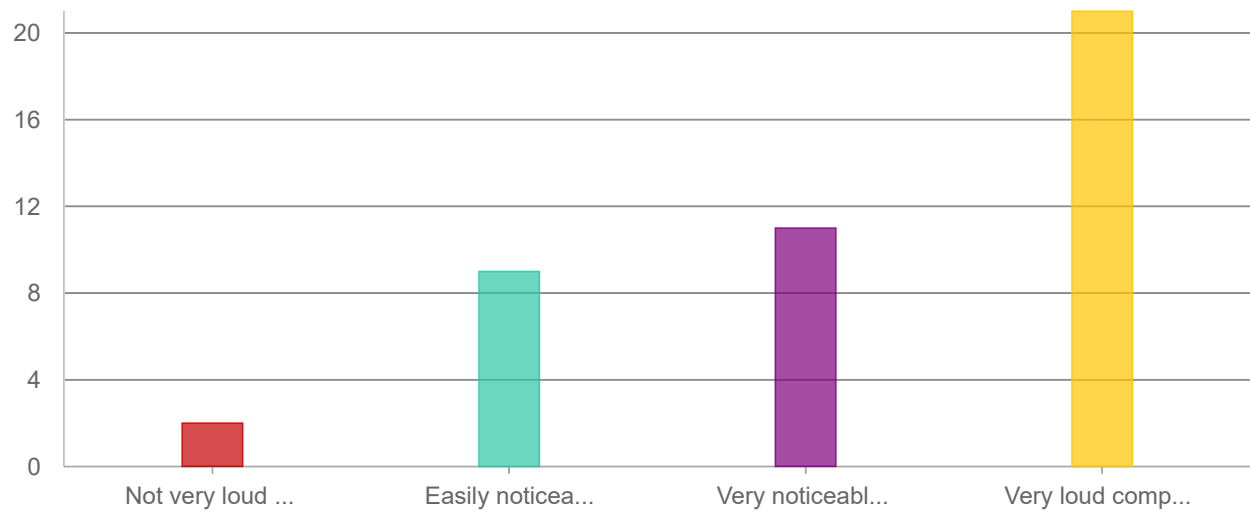
The word cloud requires at least 20 answers to show.

Response	Count
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Response	Count
loud	1
Loud bells. Chime like. In what seems like a short tune.	1
The noise is a constant hum.	1
LOUD!!!!!!	1
Mound machines grinding	1
Exactly as I did above. Sounded like banging/clanking of work happening. Siren/horn sounds were repetitive.	1
Unreasonable	1
like an extremely loud running generator or compressor	1
loud and annoying	1
accidents and loud honks	1
very loud and scary	1
It's very loud and persistent. Every single night. Extremely disrupting	1
At 1:30 AM I would describe it as an utter nuisance! Loud, constant for hours starting around 11:00 PM. Impossible to sleep!!!	1
Loud music while I'm trying to sleep	1
Annoying and constant	1
Loud irritating horns	1
	0

Answered: 16 Skipped: 27

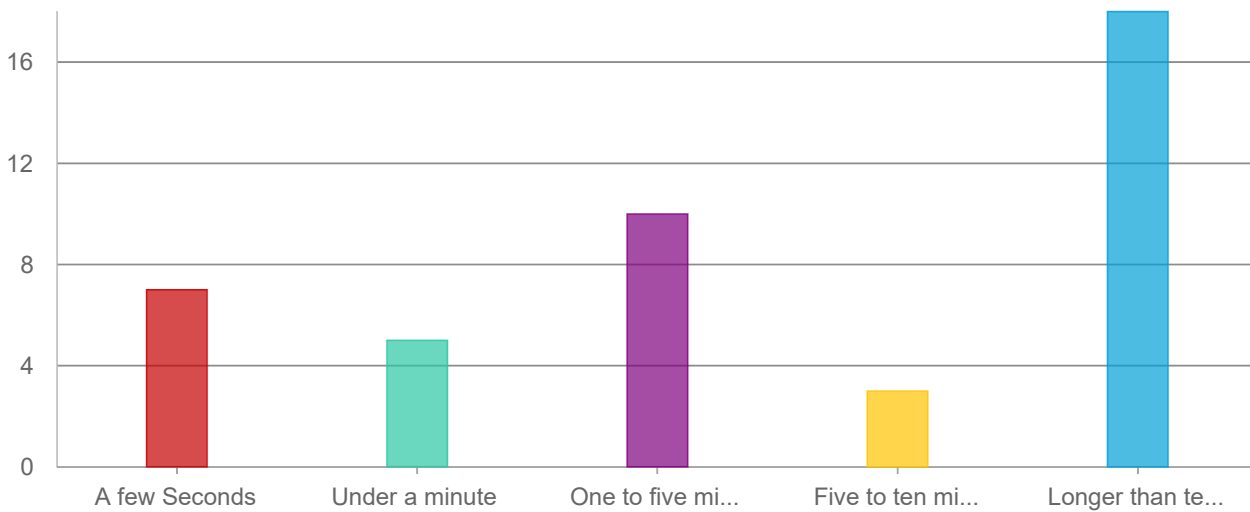
How loud was it?



Answers	Count	Percentage
Not very loud or noticeable compared to regular background noise	2	4.65%
Easily noticeable compared to regular background noise	9	20.93%
Very noticeable compared to regular background noise	11	25.58%
Very loud compared to regular background noise	21	48.84%

Answered: 43 Skipped: 0

How long did it last?



Answers	Count	Percentage
---------	-------	------------

Answered: 43 Skipped: 0

11/20

Response	Count
All night long	1
I hear it in the evenings and that's ok but at 3 am many times it's woken me up from sleep.	1
Until the wee hours of the a.m.	1
Inconsistent horn blaring for more than 10 minutes.	1
The train horns vary greatly. Some nights far worse than others	1
It goes on for hours every night.	1
How ever long it takes for the cars and people to pass by, few Seconds	1
Naval North Island air traffic creates noise problems for all cities along the bay.	1
Constant traffic all night long	1
Loud machines fixing the road. It could have been a different date. I don't recall exactly.	1
hear lots of train sounds and gun blasts	1
loud horn	1
Semi caught lines above and knocked down infrastructure	1
Noises last upwards of 15-30 mins while train cars are being parked	1
All night long. Annoying!	1
Happens repeatedly but only for a few seconds at s time	1
Sounds from boats.	1
These sounds have been lasting for hours, many nights in a row. I have to use earplugs to block it out.	1
Arguments and conversations usually last more than an hour	1
I only hear it st night when home is quiet. Not to say the noise isn't happening during the day when it's noisier due to car noise, e tc. From my location I cannot tell where the noise is coming from.	1
there are loud why are there no retaining walls on the freeways New York has them	1
At least 3-4 hours past 2:00 AM	1
Train horns Right around 230am, last above 30 mins	1
	0

Answered: 31 Skipped: 12

A bar chart with three bars representing different word patterns. The y-axis is labeled from 0 to 20 in increments of 4. The x-axis has three categories: Repetitive, Constant, and Irregular. The Repetitive bar is red and reaches the value 20. The Constant bar is teal and reaches the value 15. The Irregular bar is purple and reaches the value 8.

Pattern	Count
Repetitive	20
Constant	15
Irregular	8

Answers	Count	Percentage
Repetitive	20	46.51%
Constant	15	34.88%
Irregular	8	18.60%

Answered: 43 Skipped: 0

[illegible]

Response	Count
Revvng of cars and motorcycles causing others alarms to go off.	1

Response	Count
it happens and then it goes away	1
Every once in a while.	1
LOUD!!!	1
Each time it repeats two honks of different durations. Seems like line with federal safety regulations. Glad it's safe but it's terrible for getting sleep.	1
police related	1
Repetitive horns,	1
Randomly but mostly at night, 8-9pm.	1
About 5. sec, horn.	1
They occur at different hours in the early morning. Sometimes they repeat once.	1
lots of loud whistles from boats and card	1
Constant loud whirring like a generator.	1
Inconsistent horn blaring for more than 10 minutes.	1
Cars driving by constantly	1
Random hours semis drive by	1
Non stop whirring whining high pitched and constant	1
Humming, buzzing as if work is being done at night	1
Single horn, everyday.	1
long horn sound	1
Construction activity.	1
Train horn.	1
Random as people pass by	1
The varying sounds are all of the above: Repetitive, Constant, and irregular!!!	1
Every night, homeless people are bothering residents and continue to knock on doors and windows	1
Random	1
	0

Answered: 25 Skipped: 18

A bar chart with a vertical y-axis representing percentages from 0 to 40 in increments of 5. The x-axis has two categories: 'Yes' and 'No'. The 'Yes' bar is red and reaches the 40 mark. The 'No' bar is teal and reaches the 2 mark.

Response	Percentage
Yes	40%
No	2%

Answered: 42 Skipped: 1

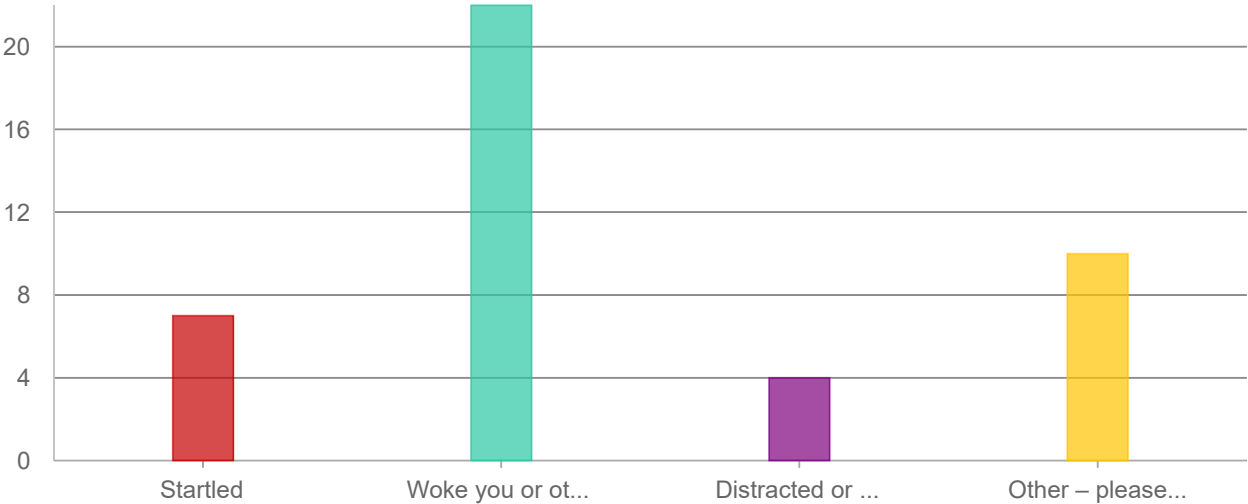
[illegible]15/20

Response	Count
every week for many years	1
Very often, every night but at random times. From 8PM to about 2am	1
Every night	1
Every night through the morning	1
Have heard it for several weeks at least	1
Nightly.	1
Every day!!!!	1
Almost nightly. 5 days	1
Daily, every night	1
I have lived here 11 years and I here it all week long in the evening and early morning hours. Even though it goes on all the time.	1
Every night.	1
Most nights for a couple months.	1
regularly	1
Most recently Fo the last week or so but previously since I moved to the area 7 years ago for 5 years then it reduced for a year n ow its worse than before.	1
Daily.	1
Every couple of hours, every day.	1
At least 3 days a week, usually on Fridays and weekends	1
Every night	1
Weekends mostly.	1
Wed., weekly.	1
Most days	1
The sound is always the same.	1
every other day	1
Not sure, maybe 4-5 times a month.	1
Every night around 230am	1

Response	Count
very often	1
Most nights	1
Sporadically.	1
Once a week	1
every night	1
3-4 weeks now. Most nights. I don't notice it during the day.	1
often at night.	1
Weekends.	1
Most weekday nights	1
at least 4 times a week	1
	0

Answered: 37 Skipped: 6

How did the noise affect you or others?



Answers	Count	Percentage
---------	-------	------------

Answers	Count	Percentage
Startled	7	16.28%
Woke you or others in your household from sleep/Couldn't sleep	22	51.16%
Distracted or hard to hear conversation	4	9.30%
Other – please describe	10	23.26%

Answered: 43 Skipped: 0

Please describe

The word cloud requires at least 20 answers to show.

Response	Count
No affect.	2
Used to it, comes with the community, choose to live here.	1
White noise	1
I wear earplugs now, used to the noise.	1
No affect, people complain but it's just normal background noise	1
Consistent noise makes it harder to fall asleep	1
Not bothered, used to it.	1
It's very distracting. Disturbs my sleep. Makes it hard to enjoy being outside on my patio. This noise should be eradicated as soon as possible	1
The noise is constant. It's very annoying.	1
	0

Answered: 10 Skipped: 33

Additional thoughts and comments?



Response	Count
Answers translated from Spanish.	2
Rattles my home, flying way to low. Very abrupt noises catch you off guard	1
Loud noises keep family from sleeping at night. It's almost become background noises since we're becoming used to it	1
Bar next to church.	1
I'm not sure why the engineers need to toot there horns so much as the train work is taking place in the train yard. Its not like the re is a major street crossing the tracks anywhere. Seems like an easy problem to cure. I sure wish it would go away.	1
It is appalling that this ongoing disturbance is permitted near a residential community where residents work every day and childr en go to school. I am aware of the low achievement scores in local schools and I am also aware of the impact that sound has	1
South of imperial tends to be a lot more quiet. More gentrified so less issues going on. Where I used to live off Imperial Ave, ther e was always something going on	1
I know there is talk of the noise pollution in Barrio Logan but it's here also.	1
It is really loud and maddening. It's so loud that I can still hear it with all of my windows closed and the tv on. I had to put in earpl ugs to drown it out and be able to fall asleep.	1
Semis need to respect new ordinance, should not be allowed to drive through my neighborhood	1
more patrolling	1
Very disruptive & early affects mood, cant go back to sleep.	1
See above comments. The Navy needs to be involved with all noise, safety, and traffic studies since they impact several commu nities in San Diego.	1

Response	Count
Extremely distracting and hard to fall asleep. It's like it's in the walls of my home. Earplugs don't work since it's so low end. A fan doesn't help much either for the same reason.	1
it happens every night what can the port actually do?	1
Wake ups my kids and deprives me of my sleep, especially now that I'm older. It's harder to go back to sleep	1
Disrupts family.	1
Please make this sound stop.	1
Need to do something about the homeless situation	1
Point the horns towards Coronado. Stop pointing them at brown people.	1
Its not fair to the people here that have to work through the night or work heavy jobs and get woken up by.	1
Very scary to hear in the middle of the night. Only been living here for about 1 year but this area needs more police patrols.	1
Lots of road work. Constant sounds of Cars can even hear the trolley horn Living by the freeway sucks.	1
Please do something about this.	1
This is messed up.	1
What is it?	1
Annoying, can't keep peace of mind. Need more enforcement. SDPD recently shut down a house known for late parties next door	1
there is no parking on Sampson doesnt the military have their own parking.	1
	0

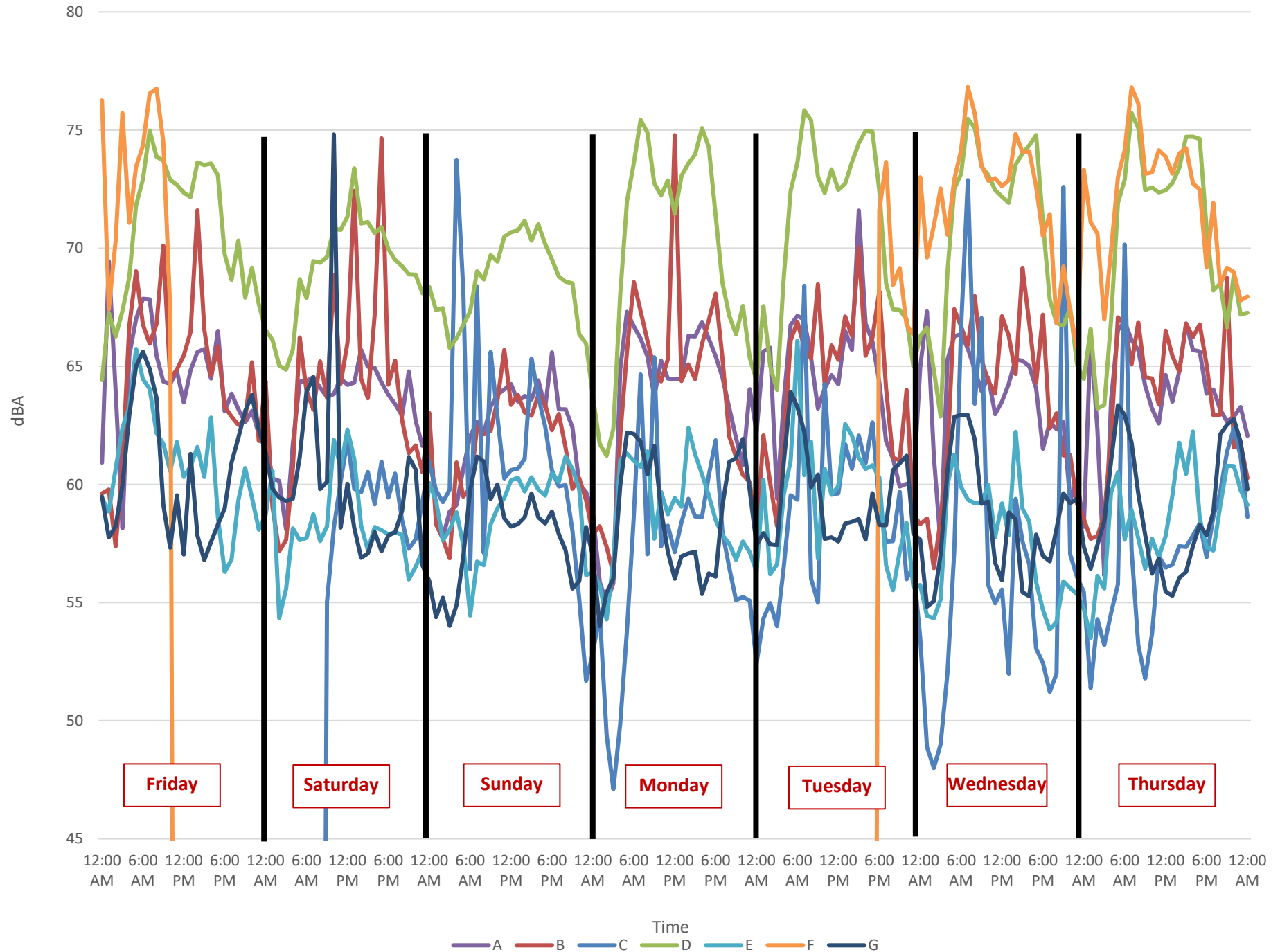
Answered: 29 Skipped: 14



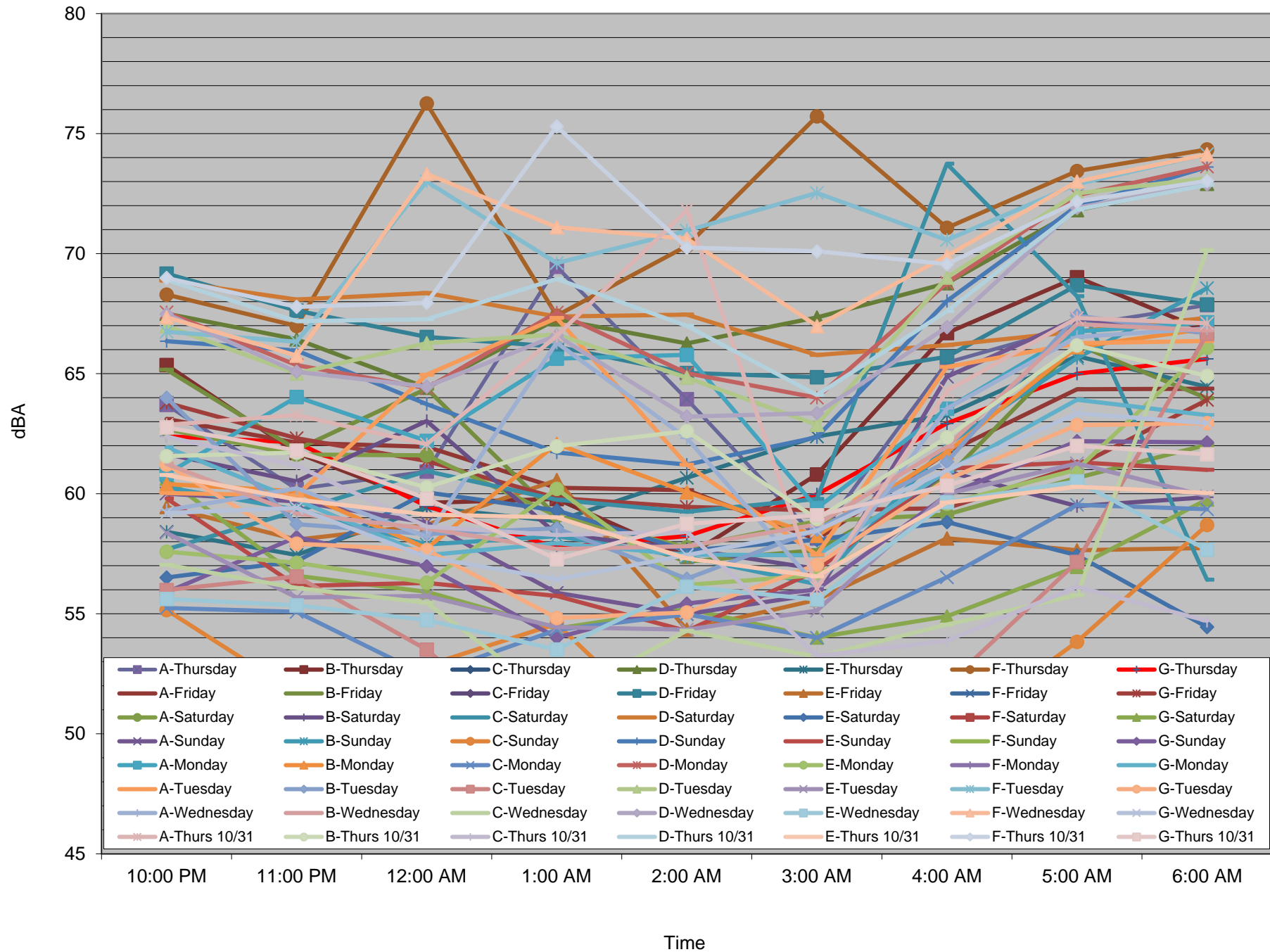
Appendix 3. Noise Monitoring Results



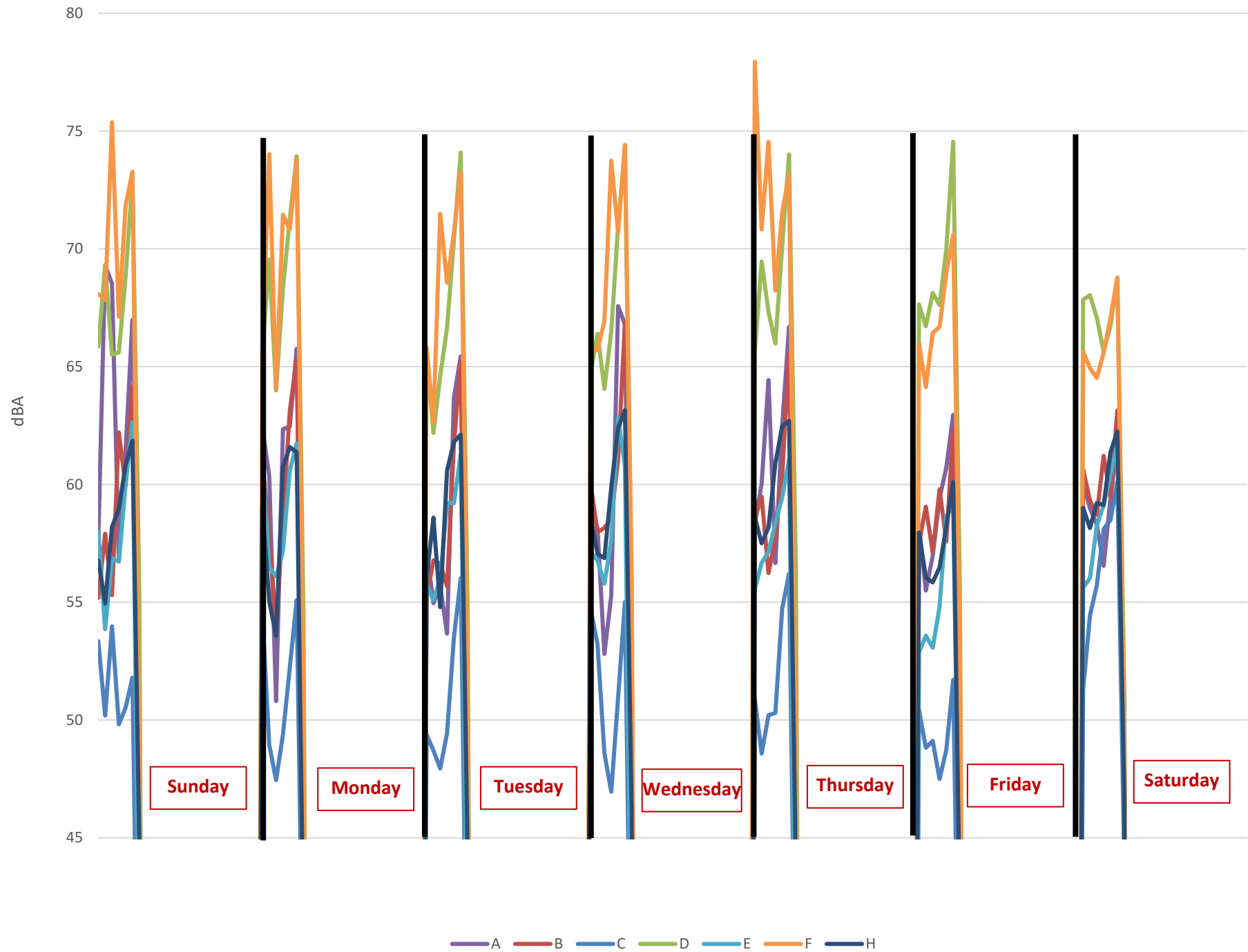
Barrio Logan Noise - 10/25/19 to 10/31/19 - Hourly Intervals



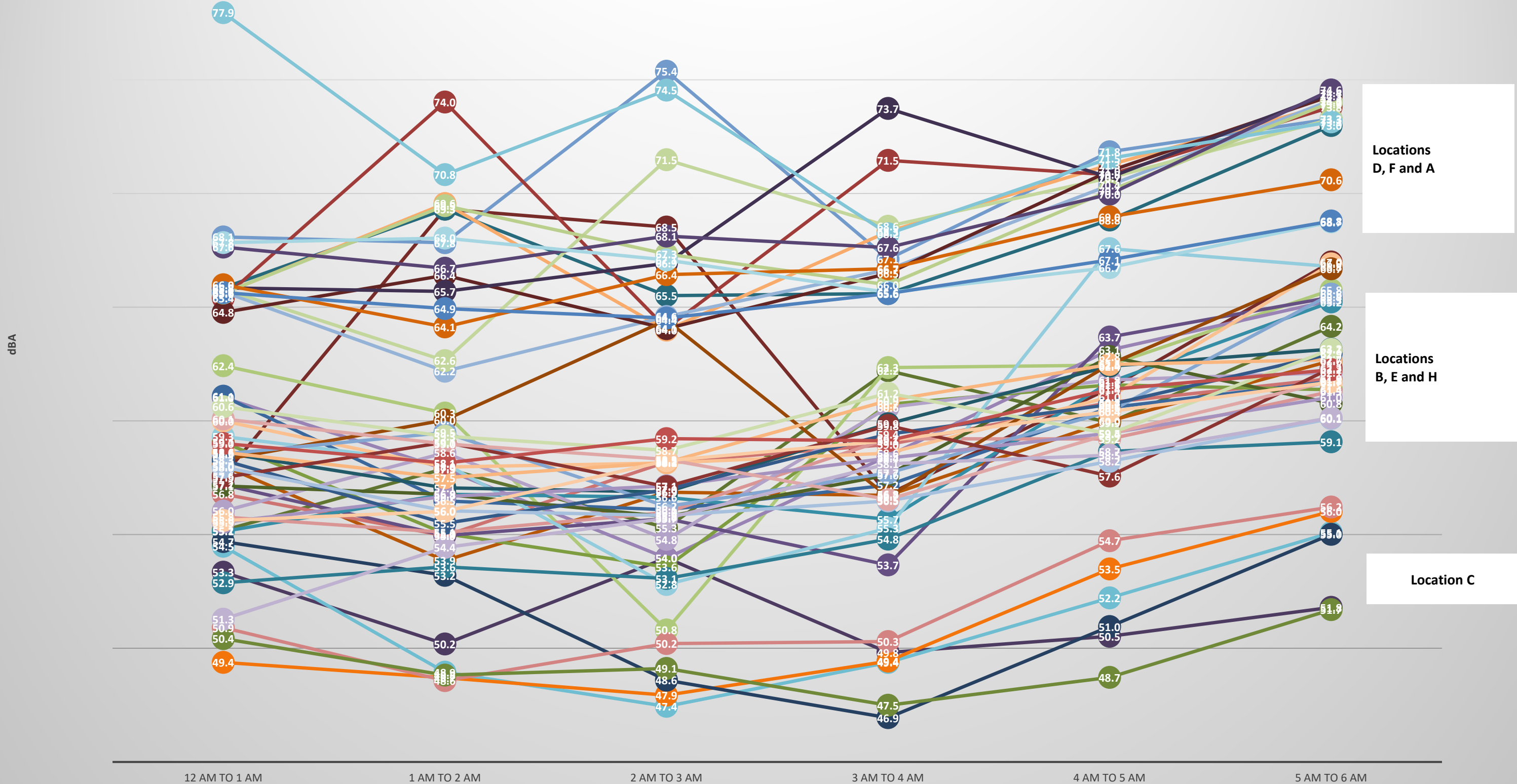
Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals



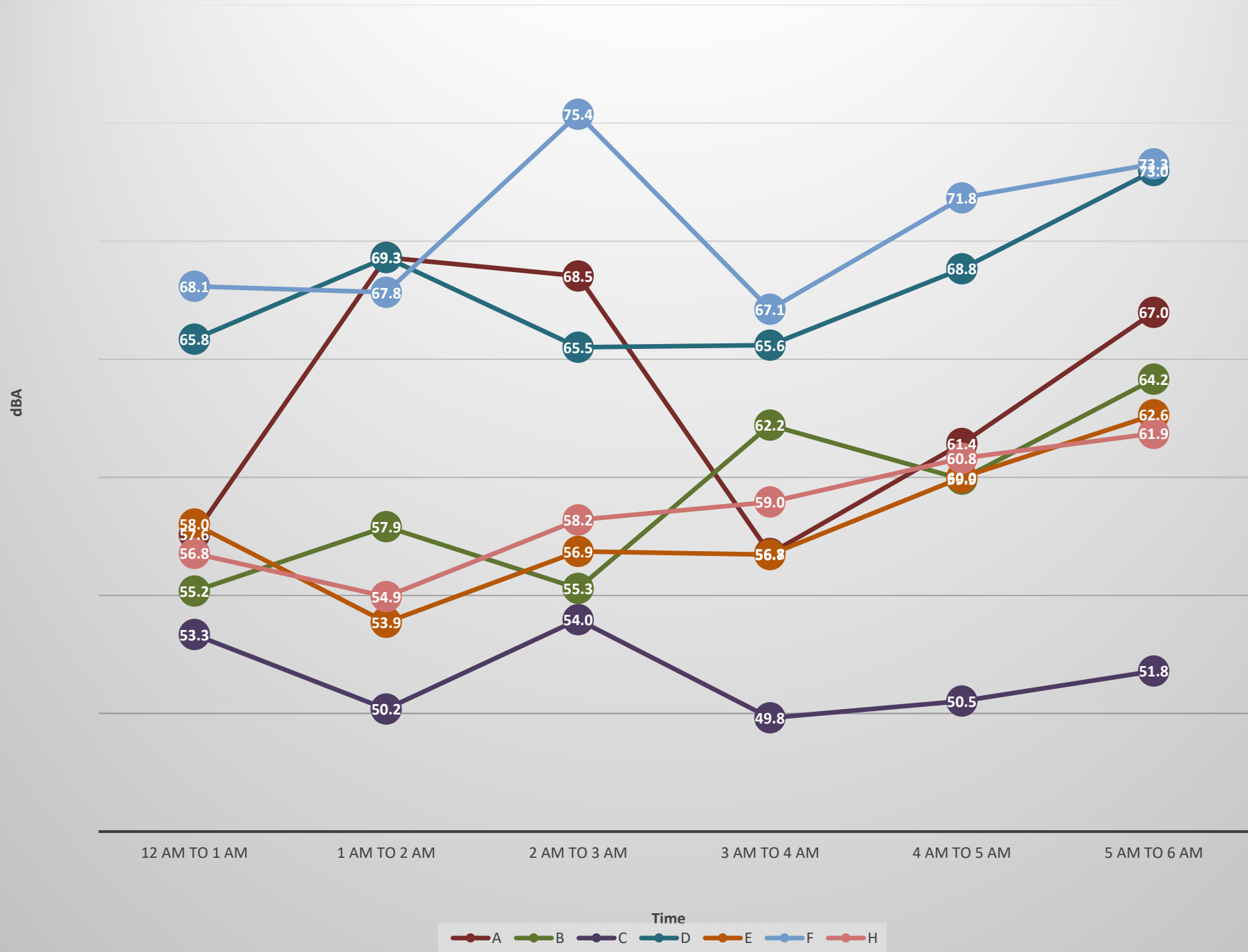
Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals



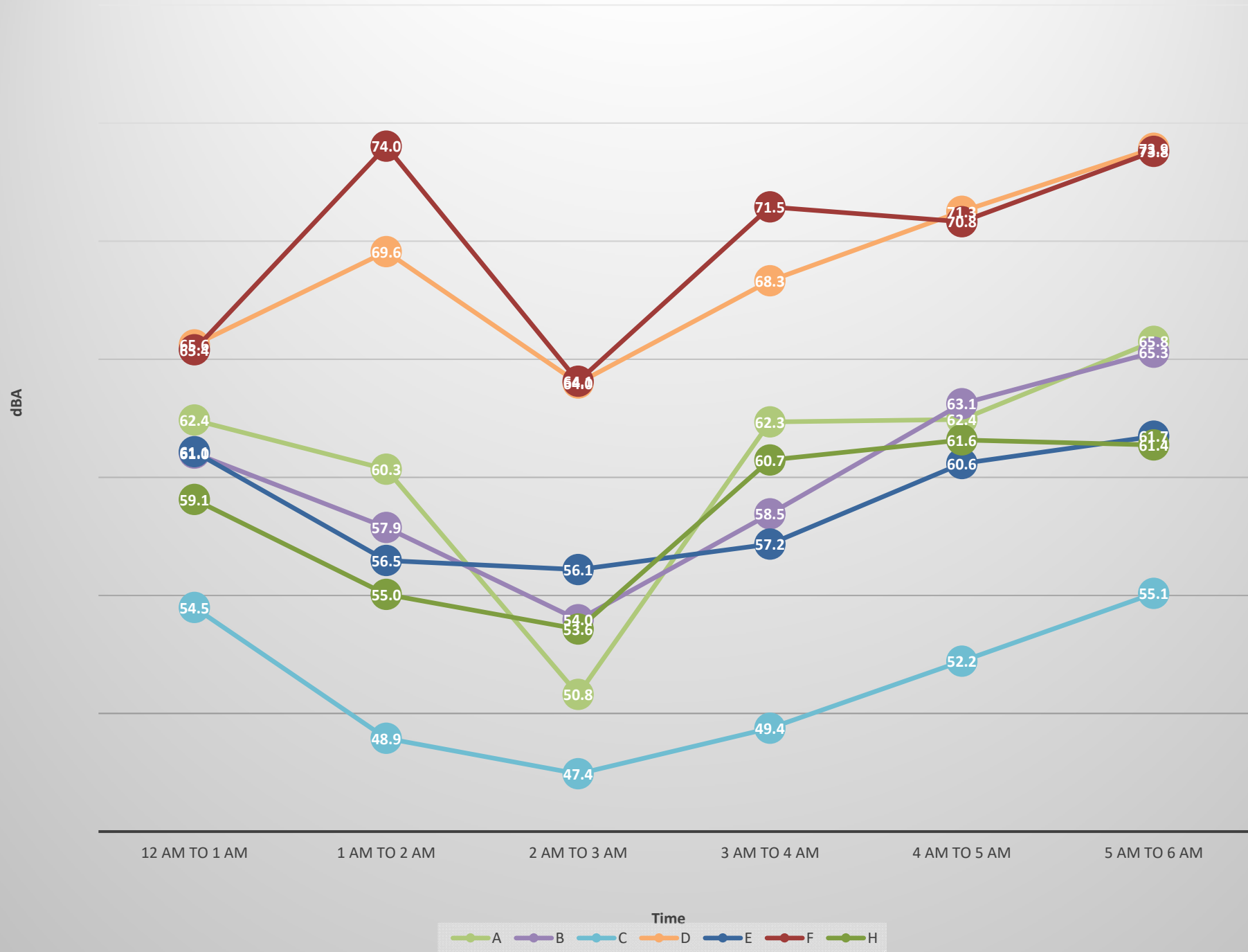
Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals



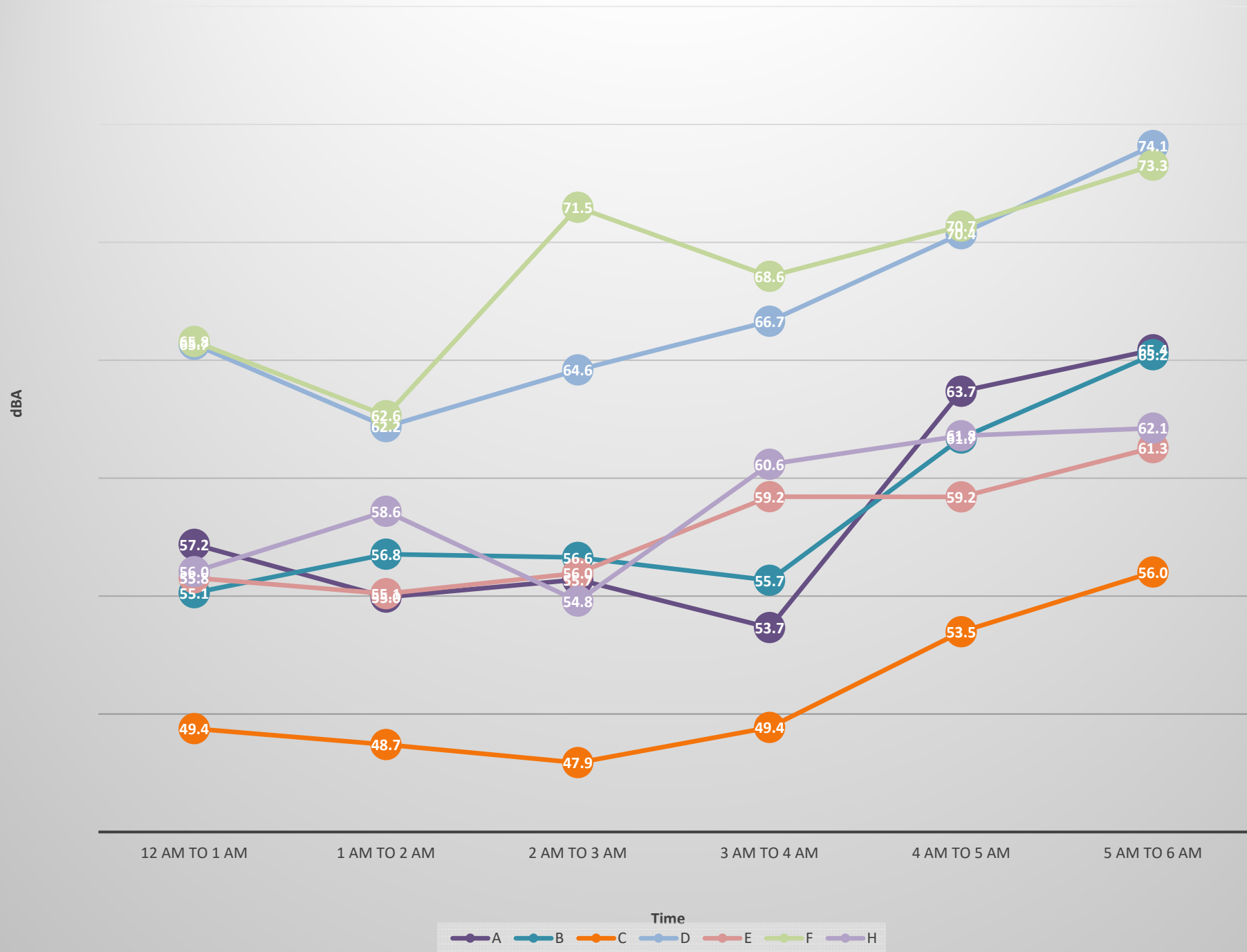
Barrio Logan Nighttime Noise - 11/11/19 Monday



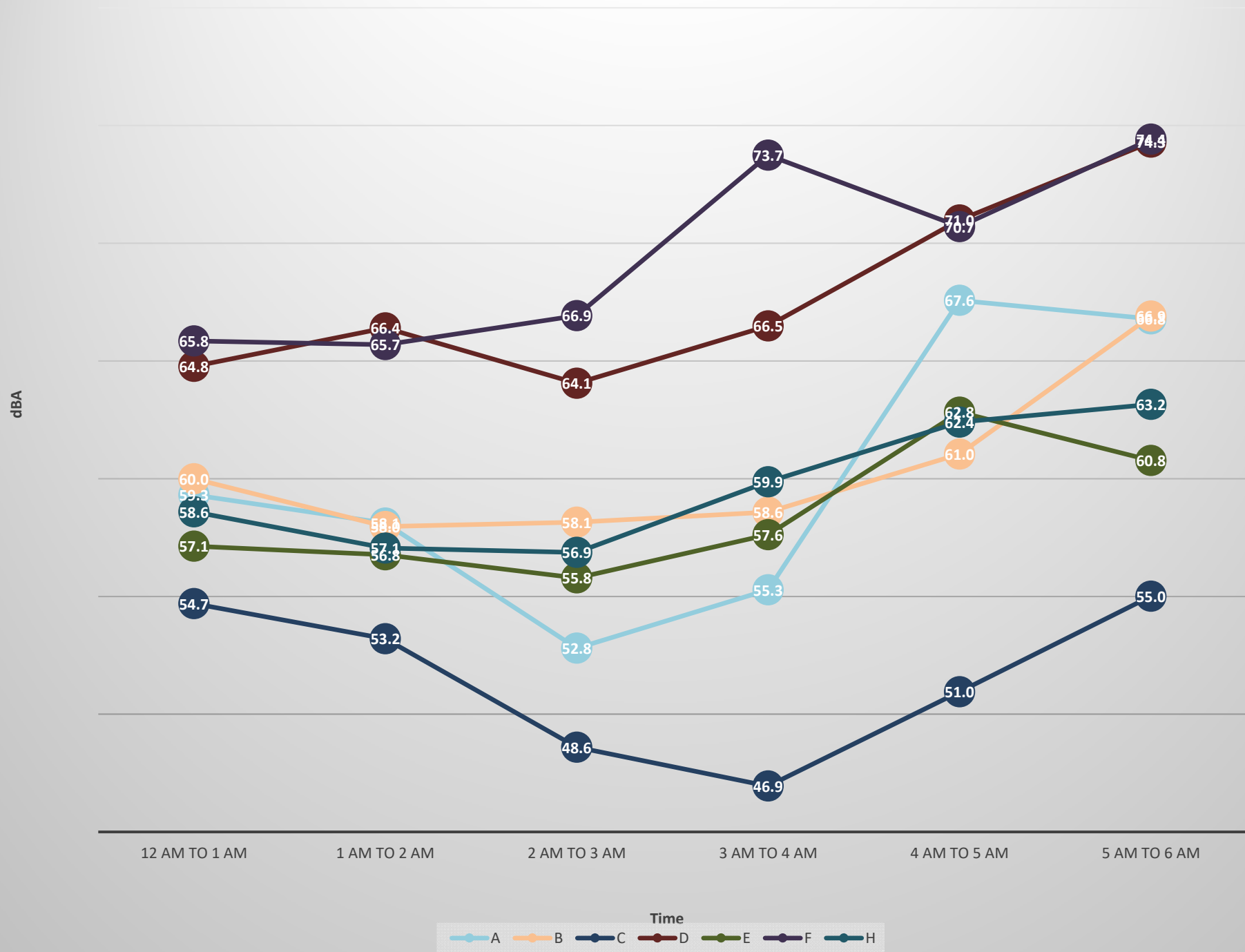
Barrio Logan Nighttime Noise - 11/12/19 Tuesday



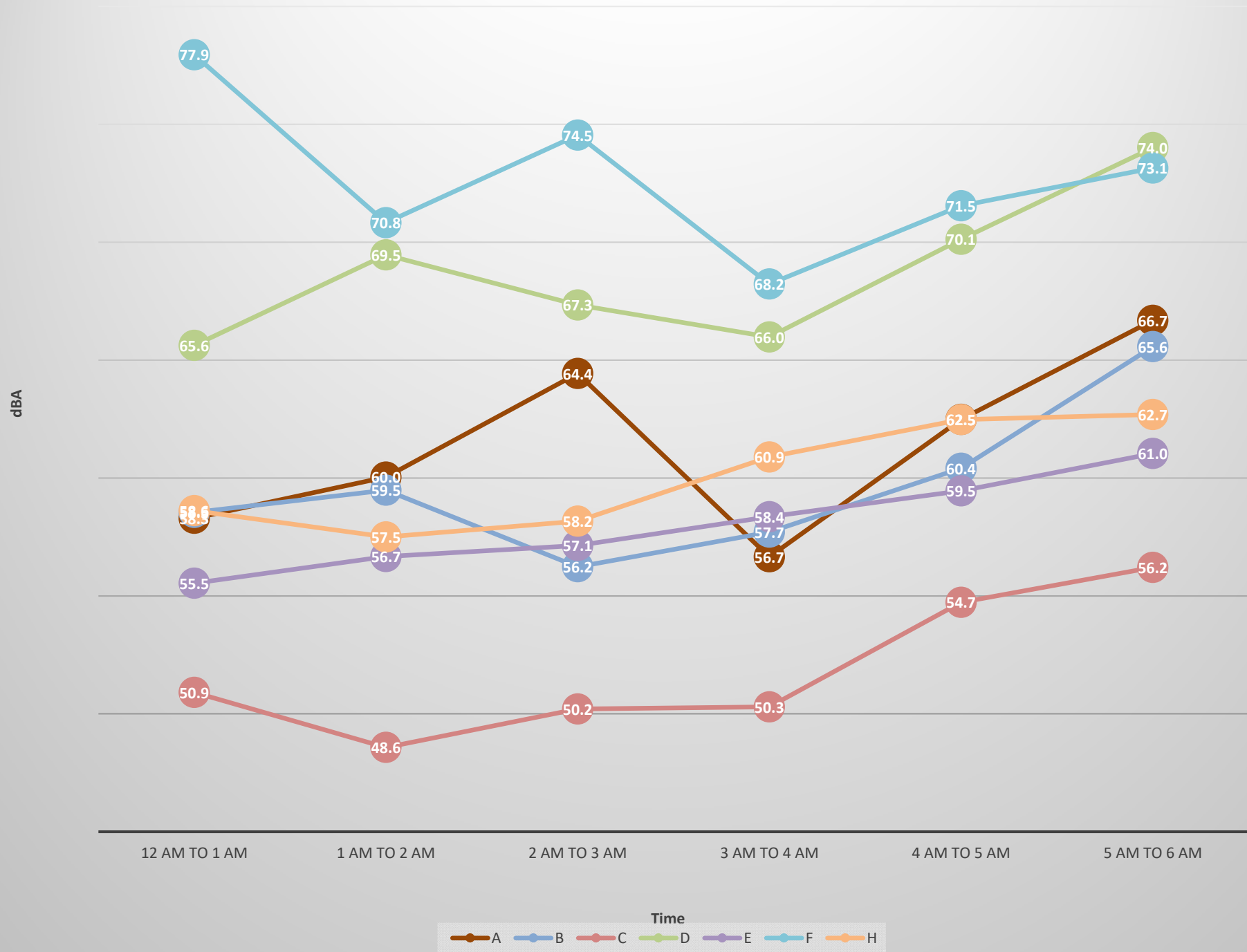
Barrio Logan Nighttime Noise - 11/13/19 Wednesday



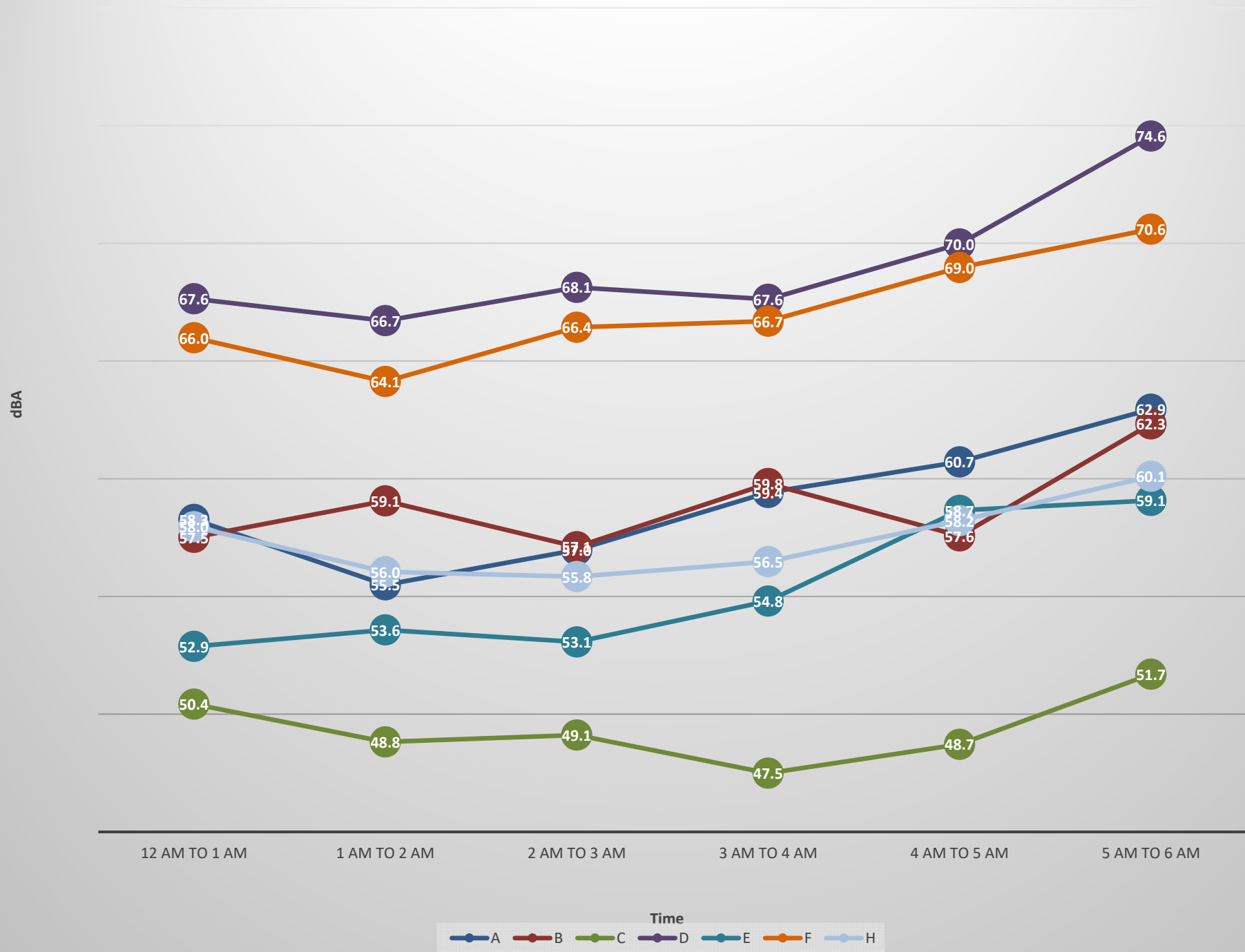
Barrio Logan Nighttime Noise - 11/14/19 Thursday



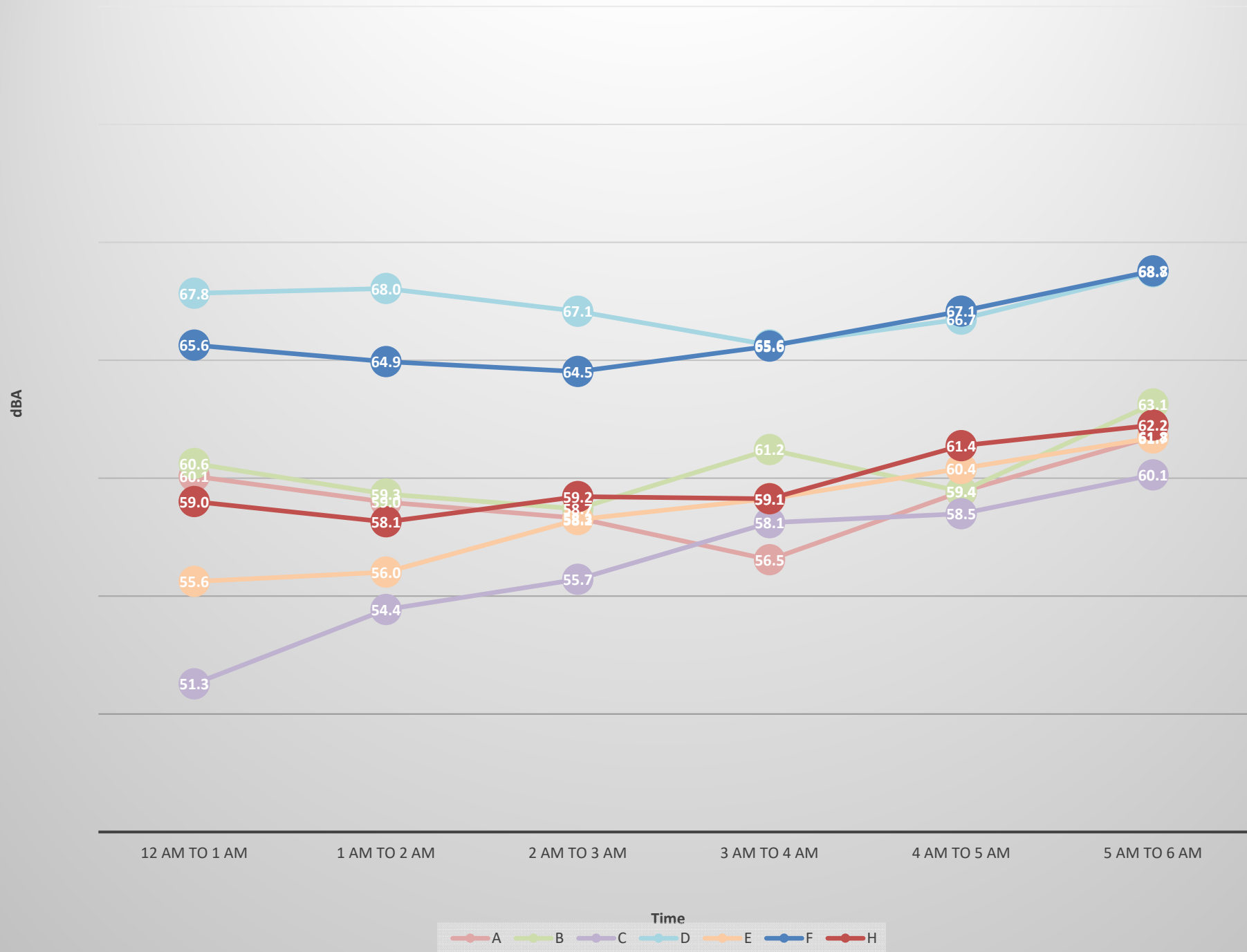
Barrio Logan Nighttime Noise - 11/15/19 Friday



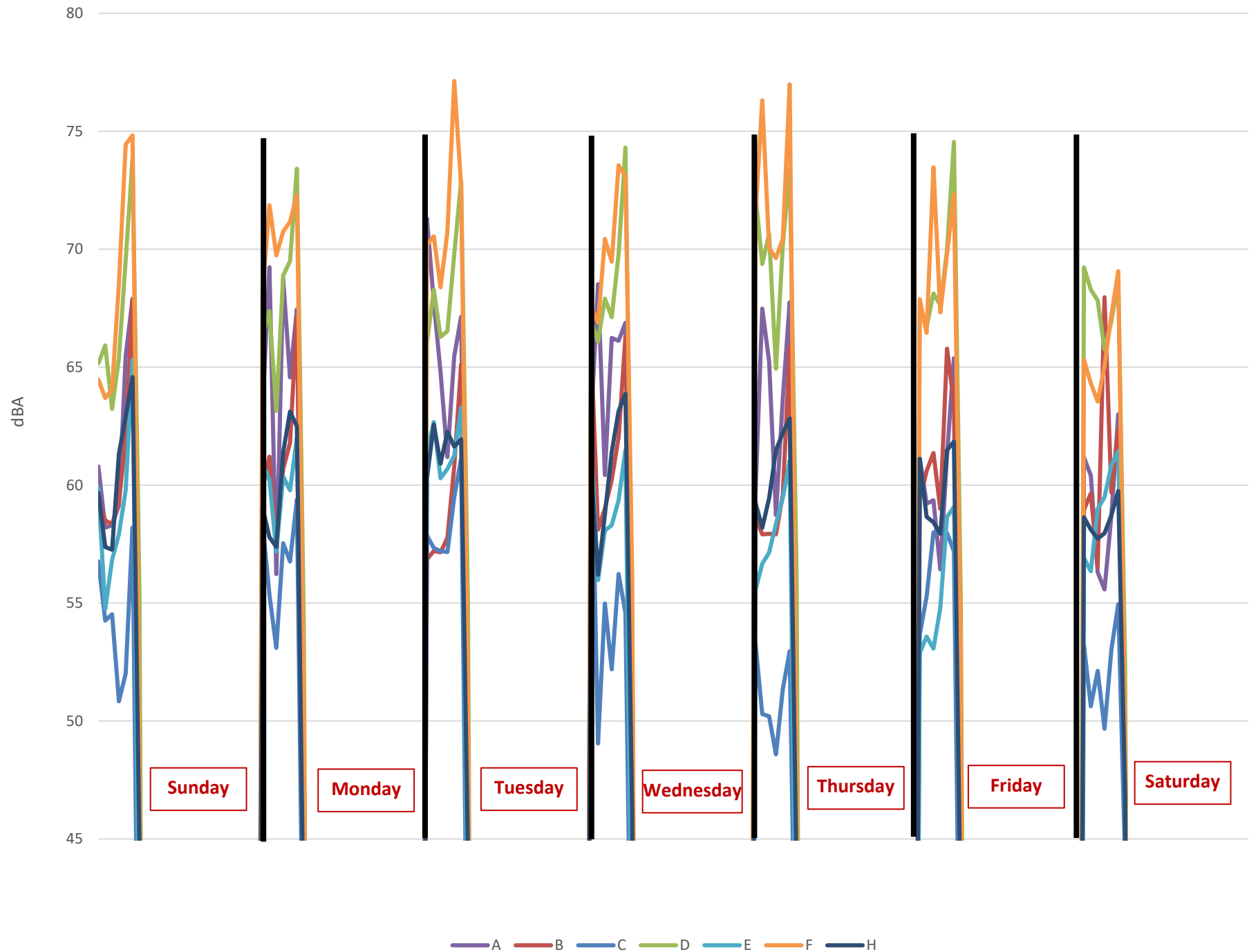
Barrio Logan Nighttime Noise - 11/16/19 Saturday



Barrio Logan Nighttime Noise - 11/17/19 Sunday

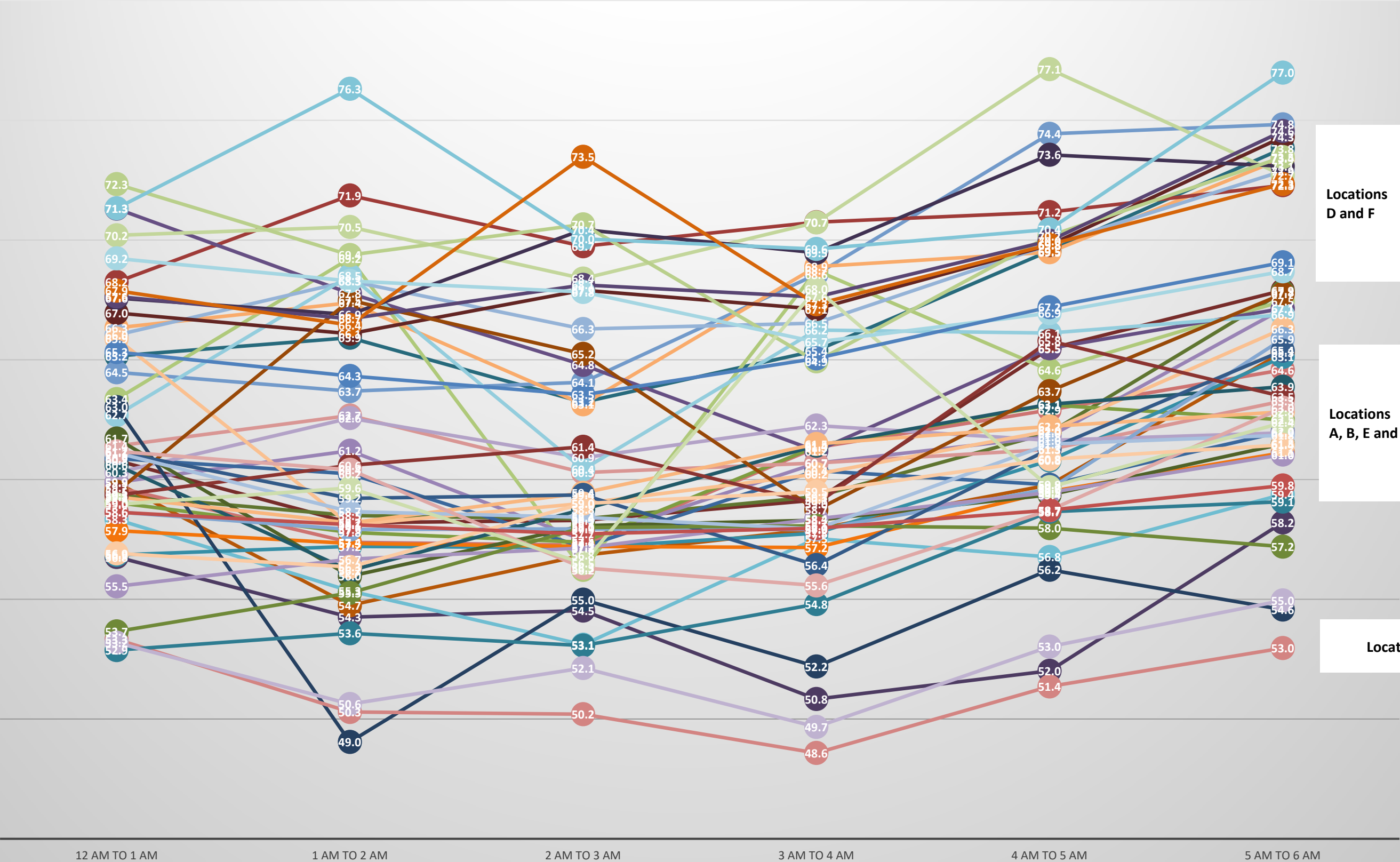


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals



Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

dBa



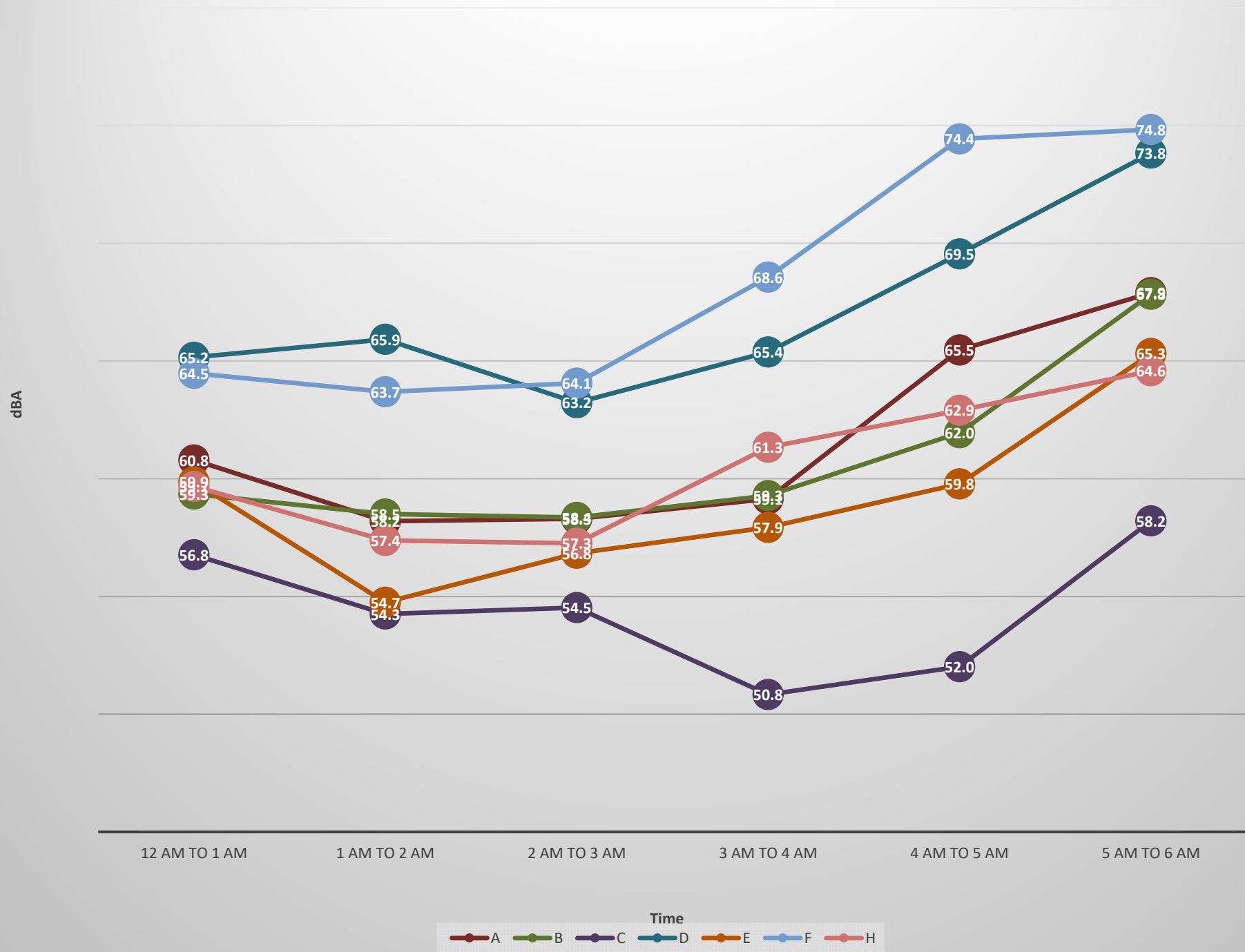
Locations
D and F

Locations
A, B, E and H

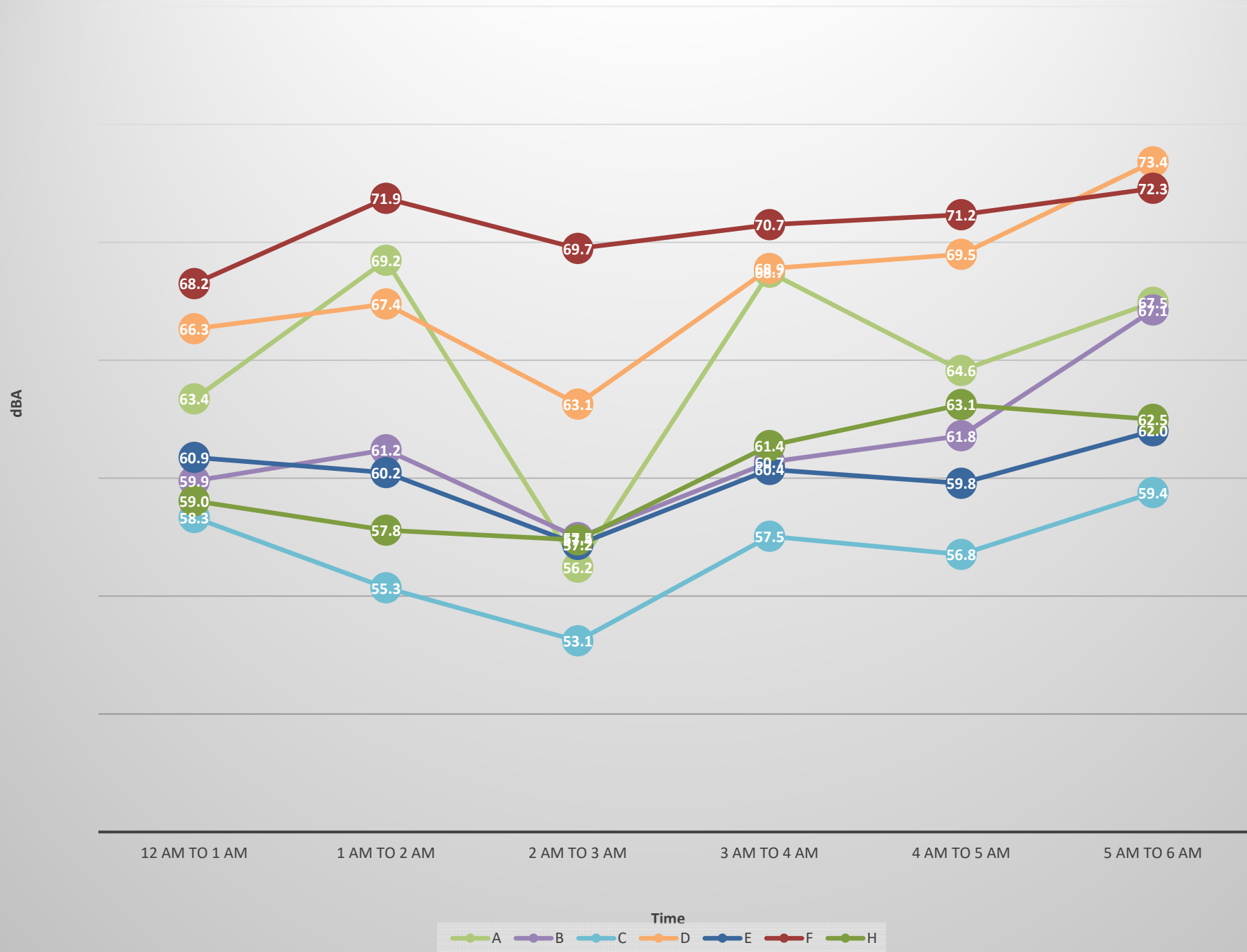
Location C

Time

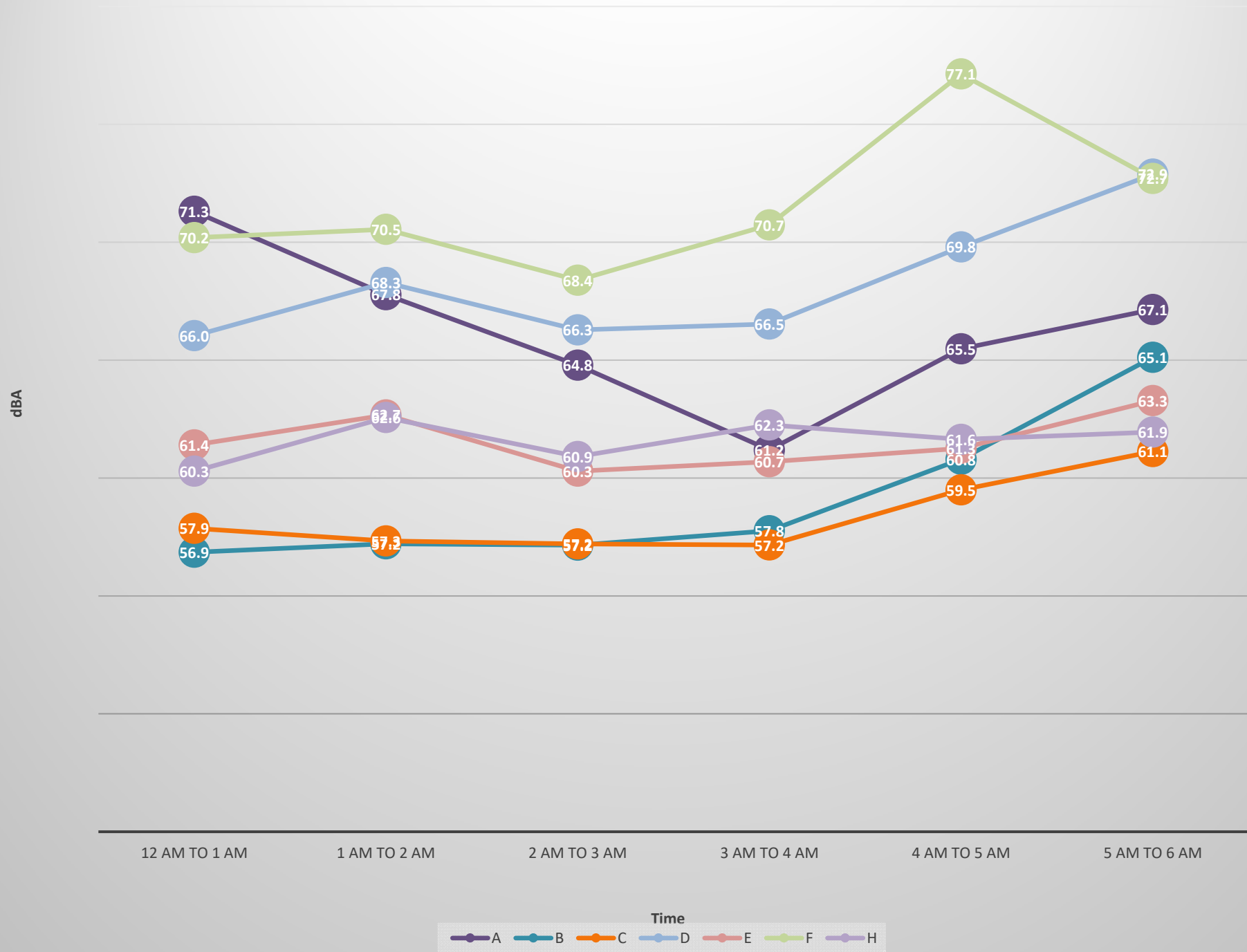
Barrio Logan Nighttime Noise - 11/18/19 Monday



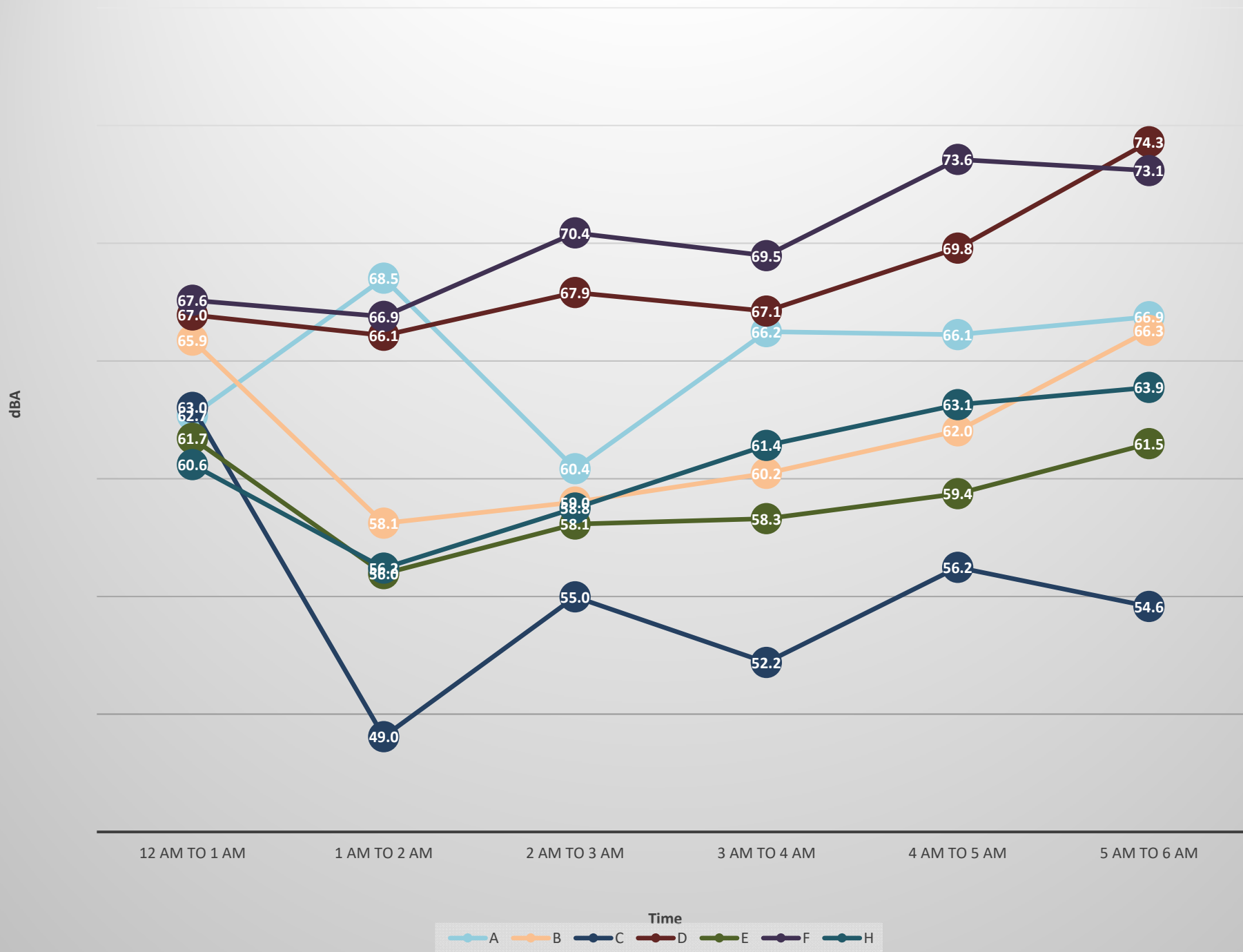
Barrio Logan Nighttime Noise - 11/19/19 Tuesday



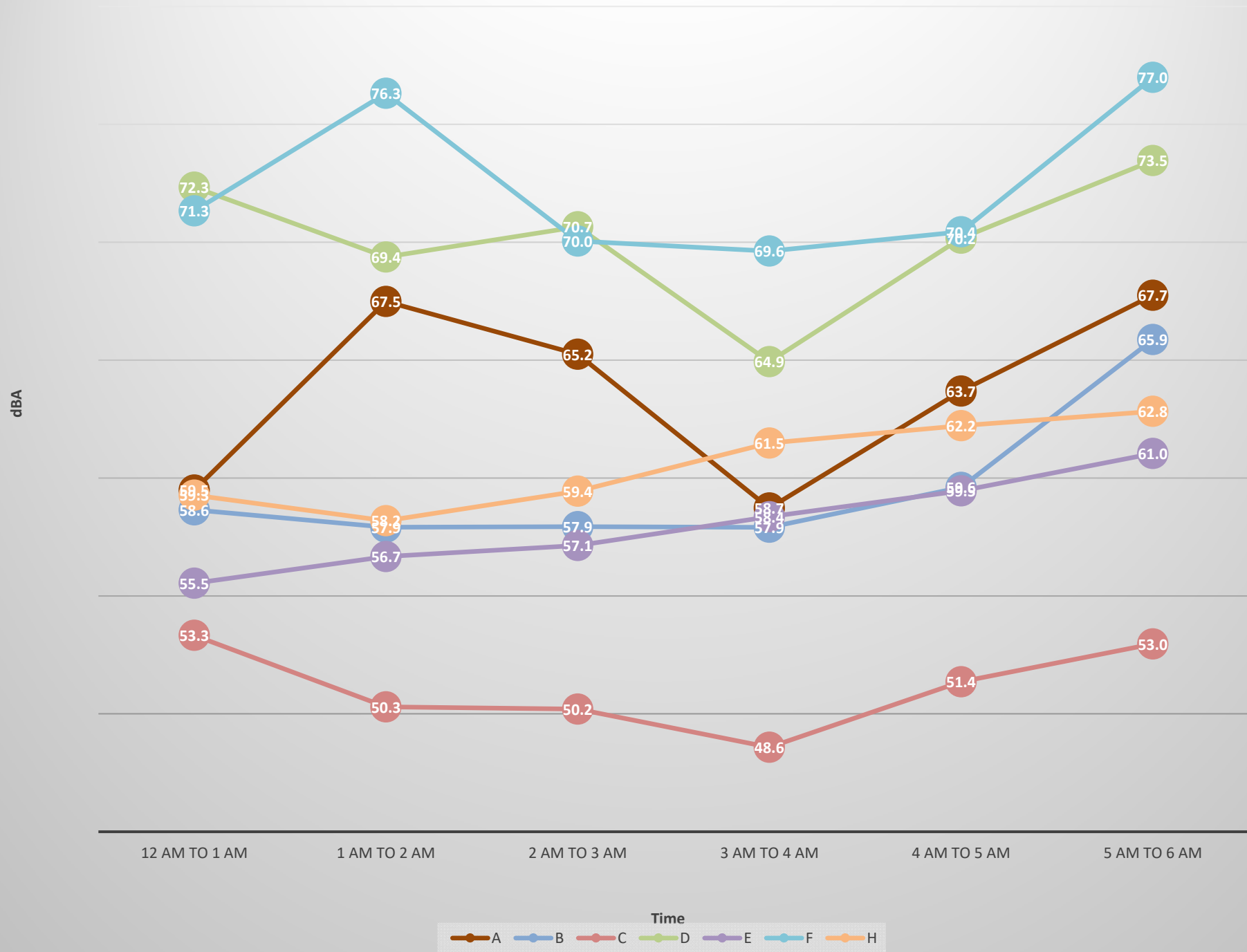
Barrio Logan Nighttime Noise - 11/20/19 Wednesday



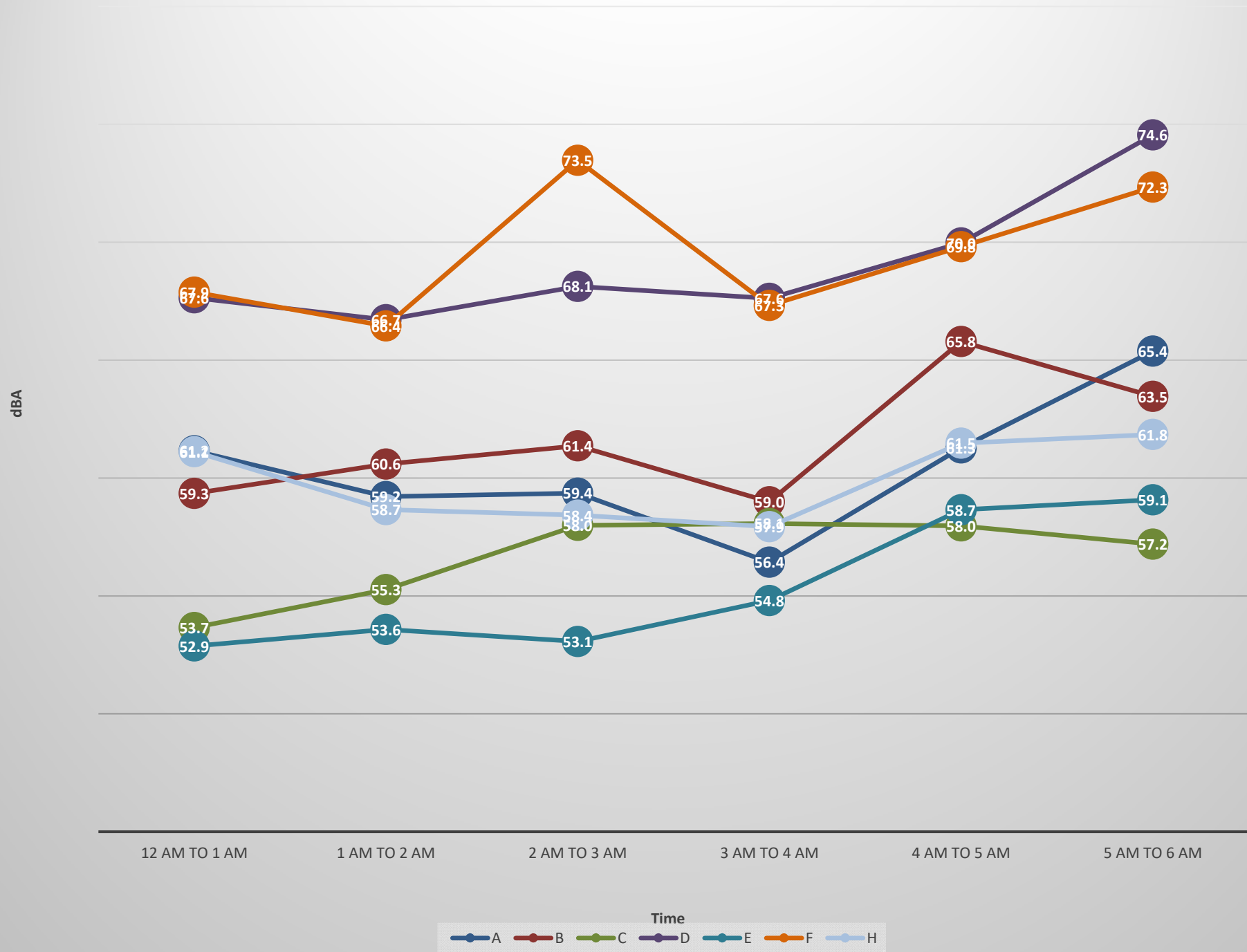
Barrio Logan Nighttime Noise - 11/21/19 Thursday



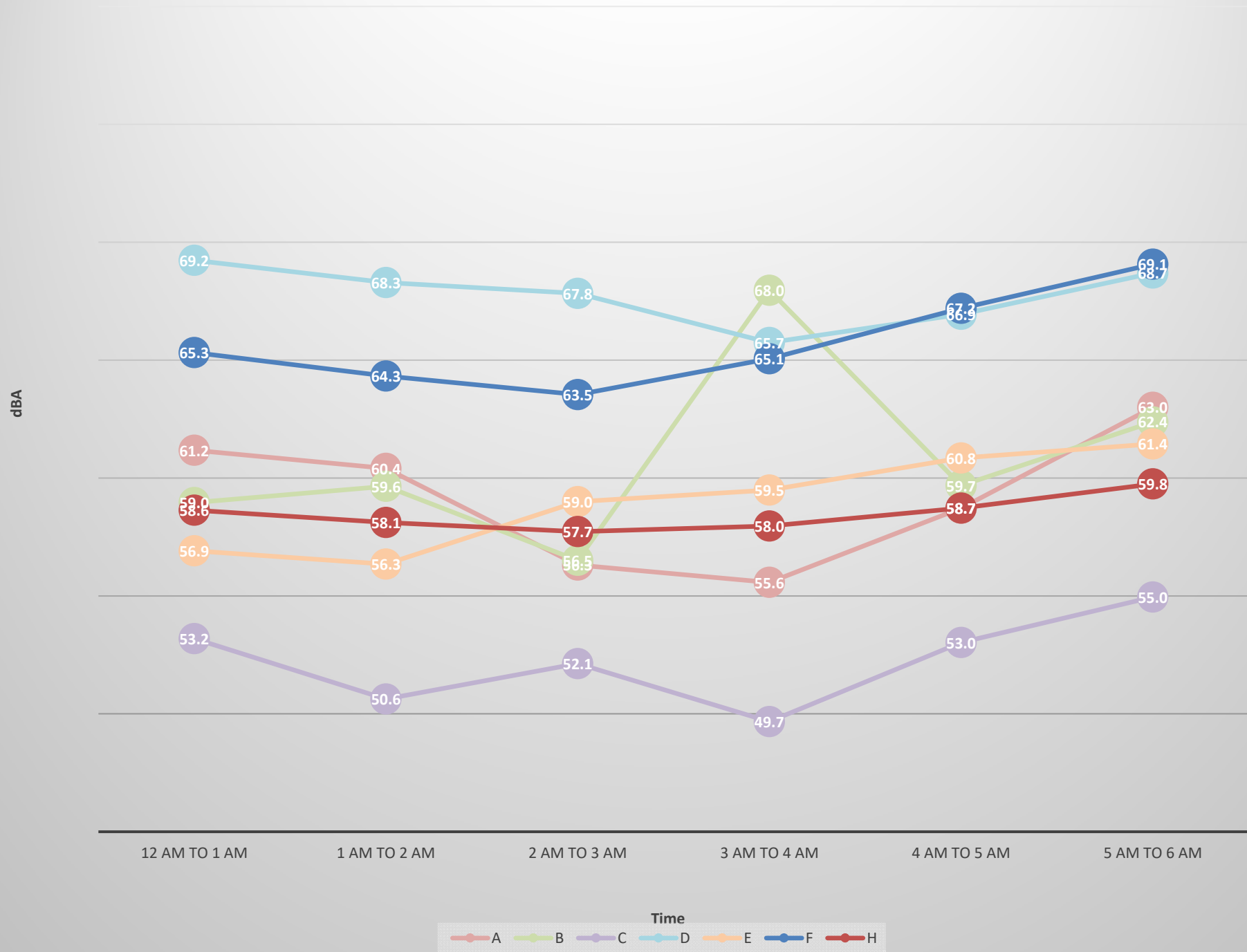
Barrio Logan Nighttime Noise - 11/22/19 Friday



Barrio Logan Nighttime Noise - 11/23/19 Saturday

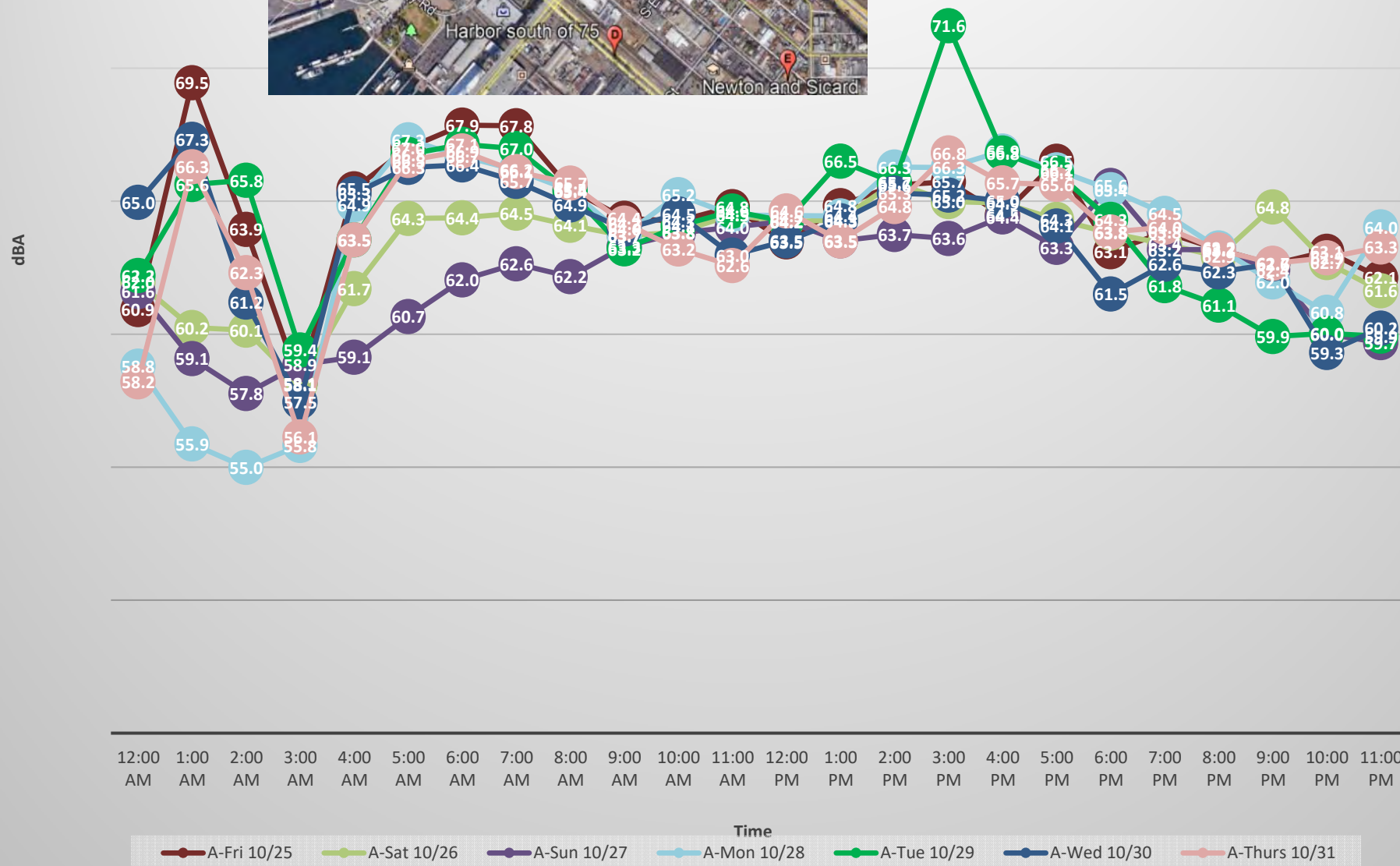


Barrio Logan Nighttime Noise - 11/24/19 Sunday



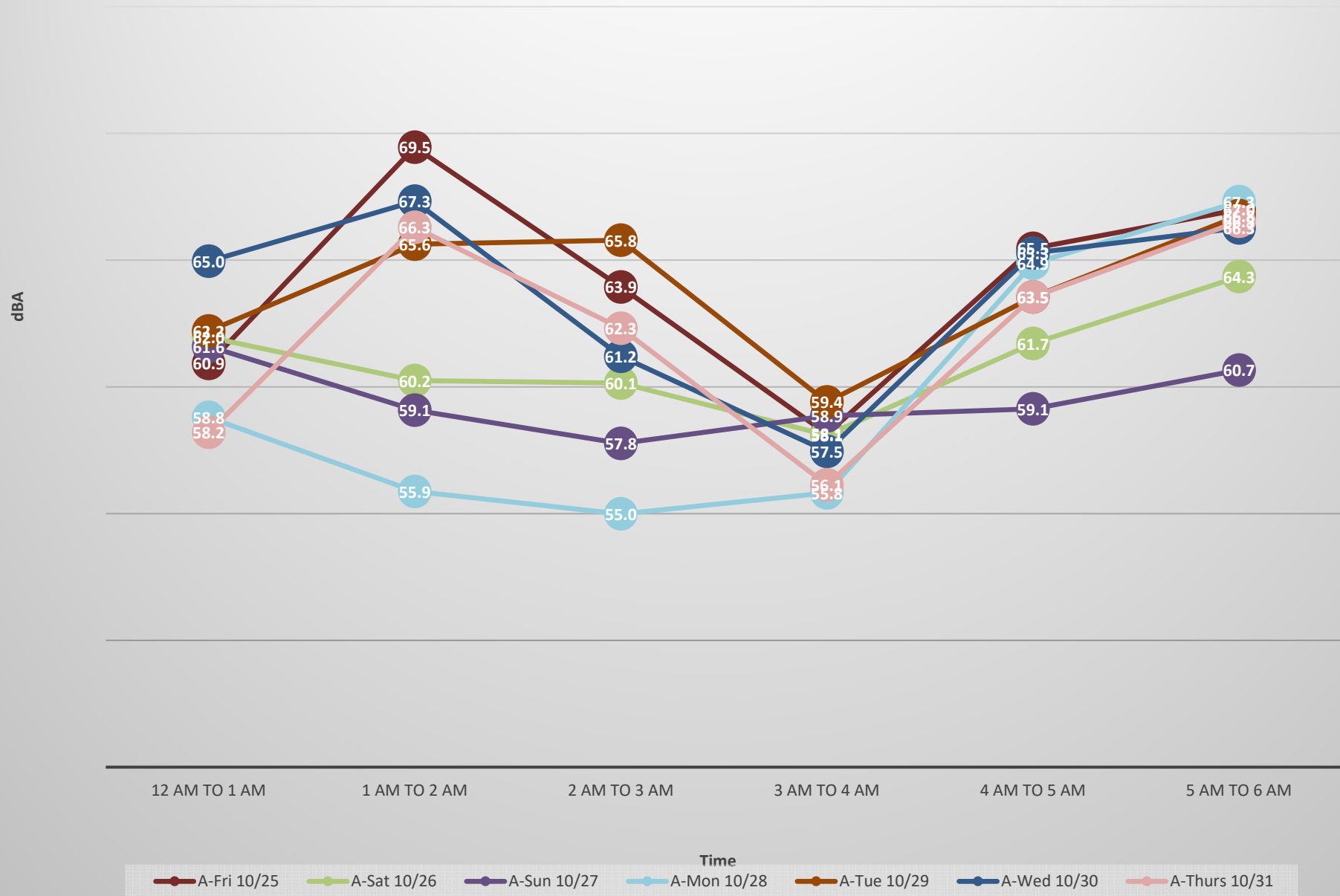
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Location A: Main and Beardsley



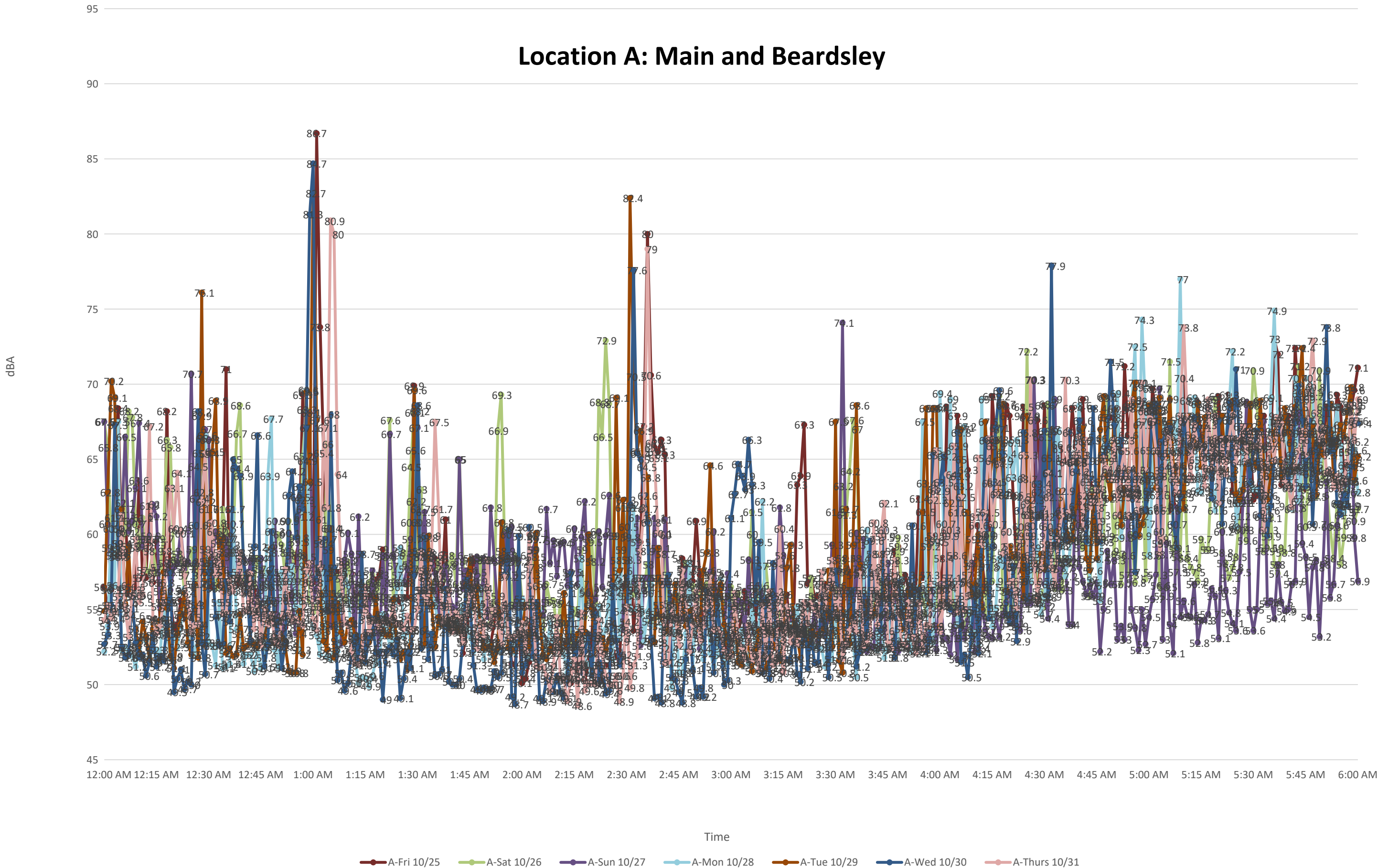
Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location A: Main and Beardsley

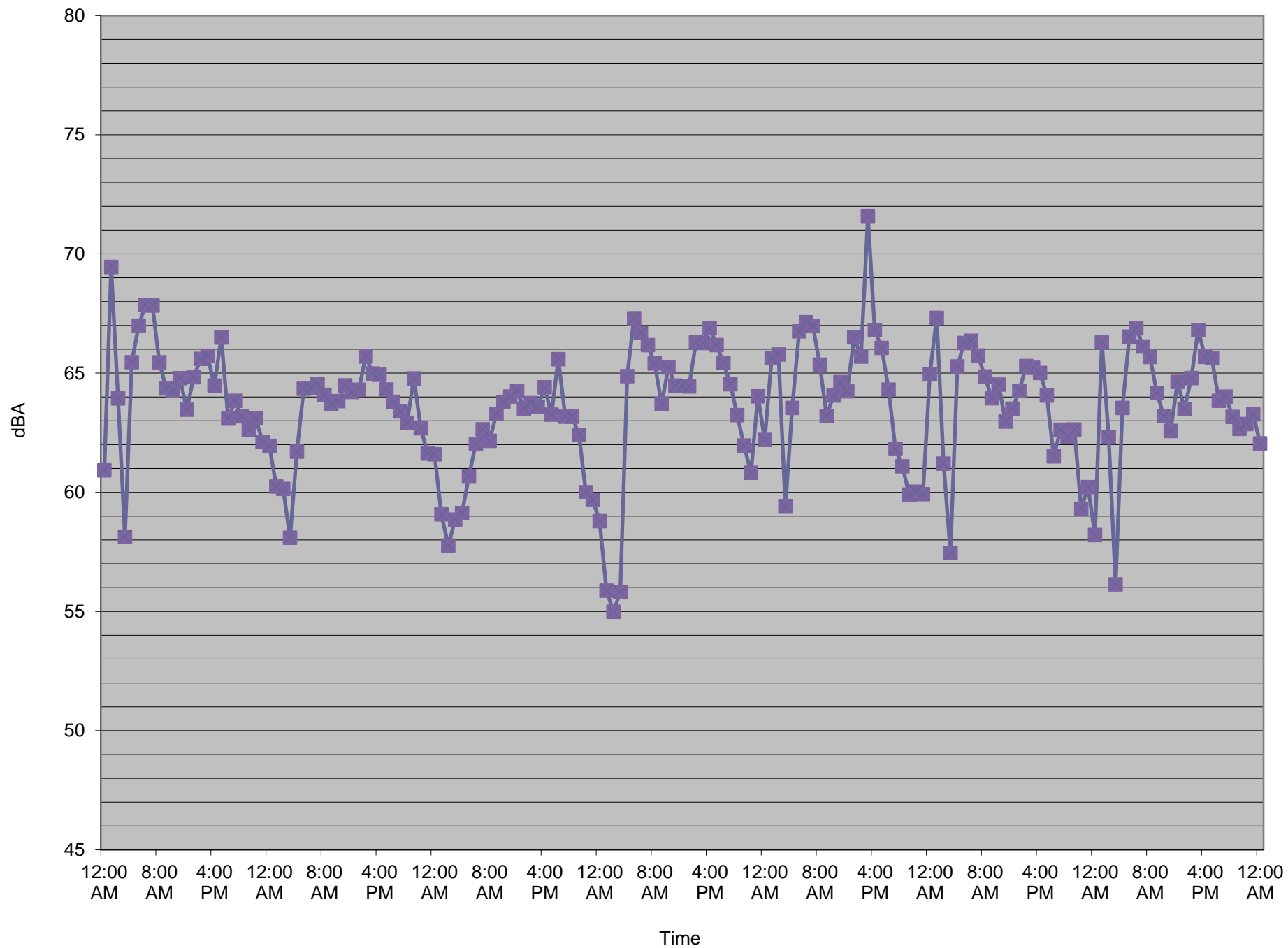


Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

Location A: Main and Beardsley

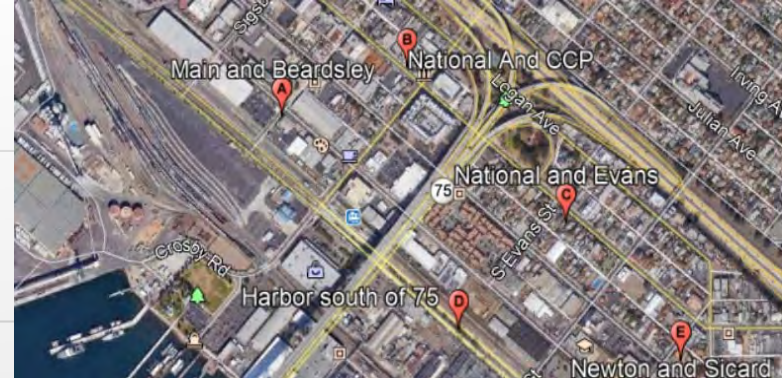


Barrio Logan Noise - 10/25/19 to 10/31/19 - Location A



Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location A: Main and Beardsley



dBA

12 AM TO 1 AM

1 AM TO 2 AM

2 AM TO 3 AM

3 AM TO 4 AM

4 AM TO 5 AM

5 AM TO 6 AM

A-Mon 11/11

A-Tue 11/12

A-Wed 11/13

Time

A-Thur 11/14

A-Fri 11/15

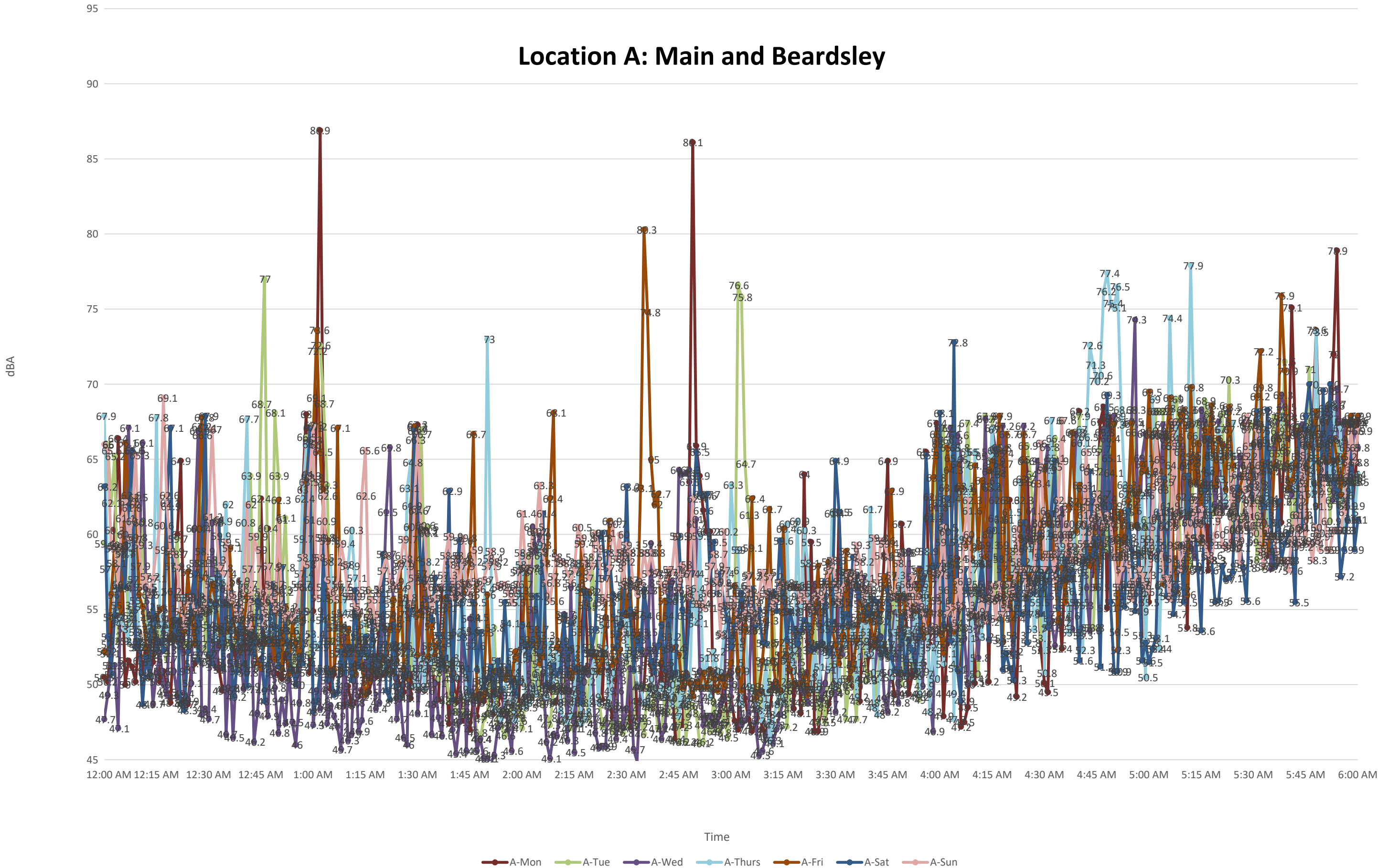
A-Sat 11/16

A-Sun 11/17

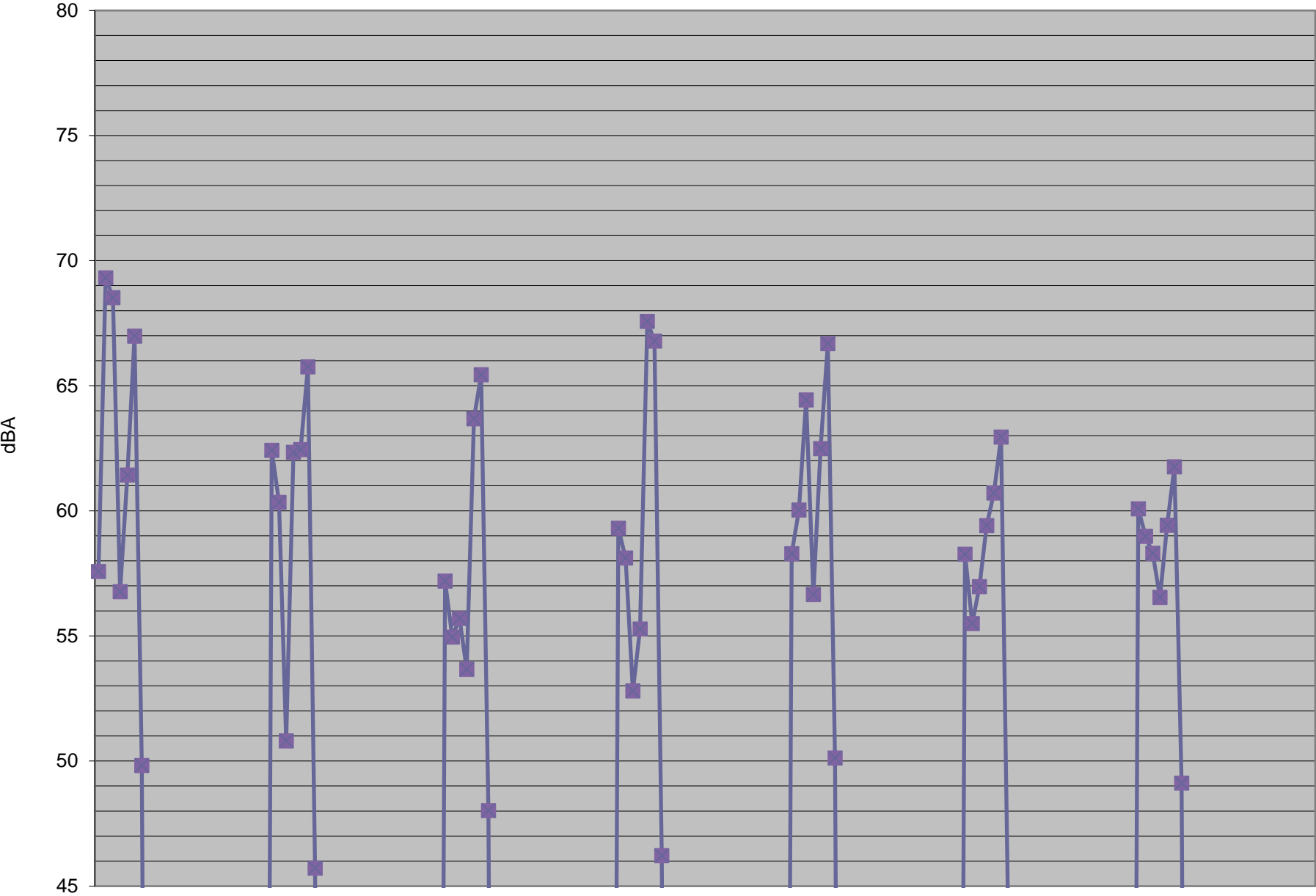


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Minute Intervals

Location A: Main and Beardsley

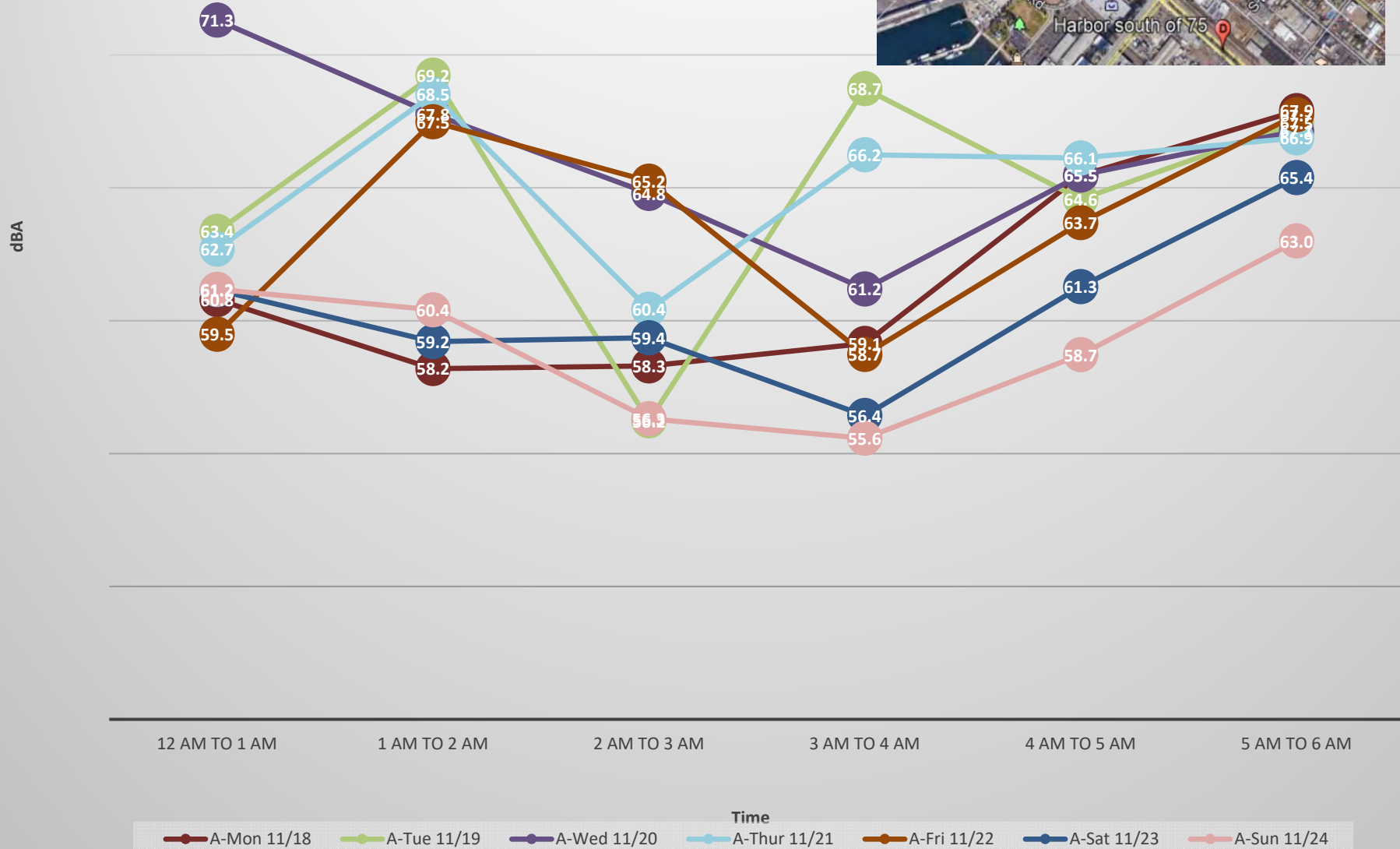
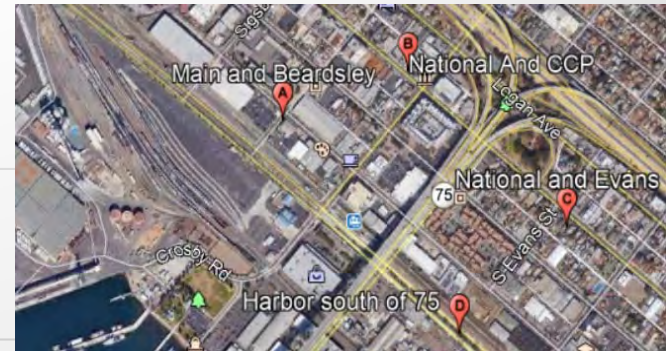


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - LOCATION A



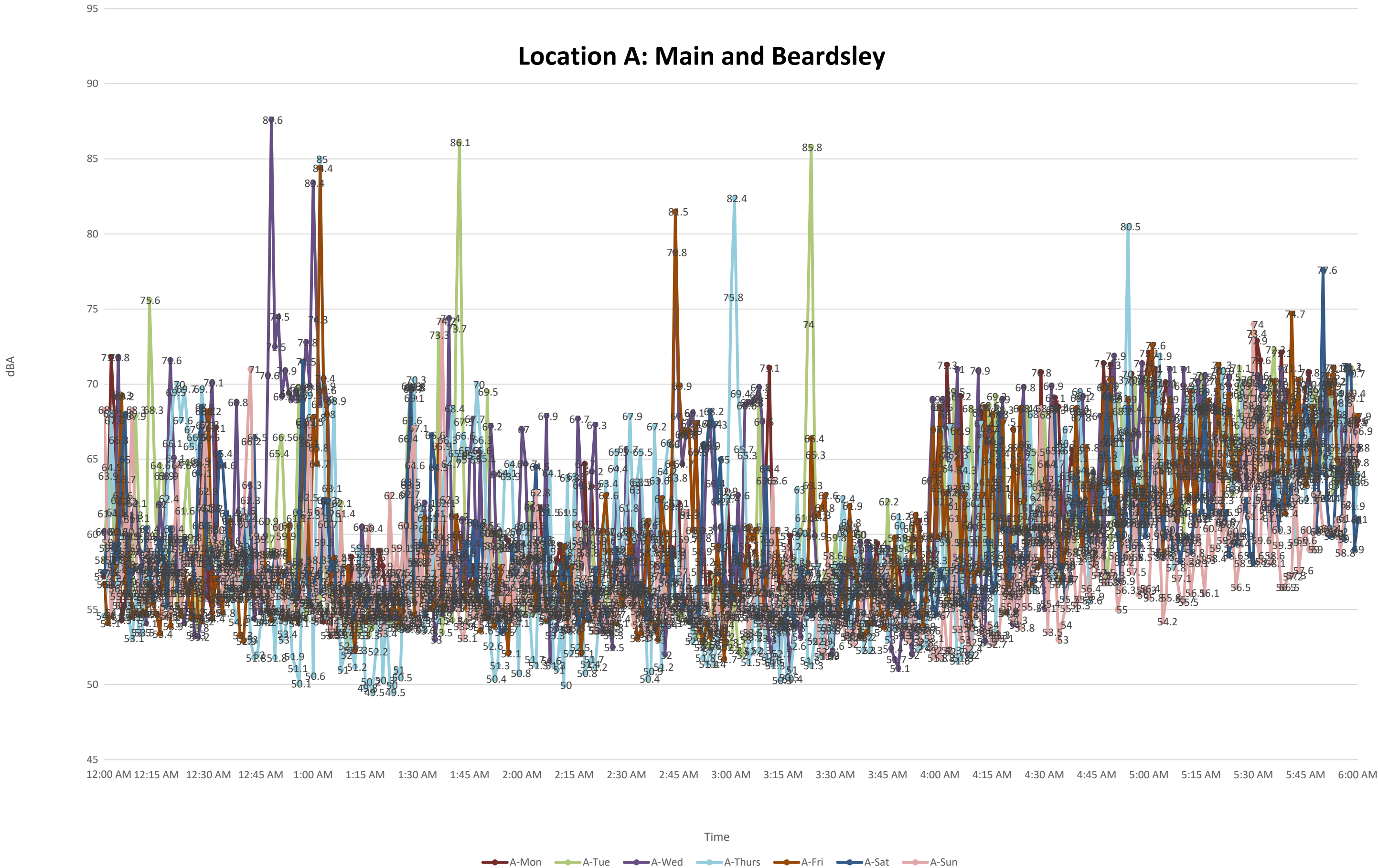
Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location A: Main and Beardsley

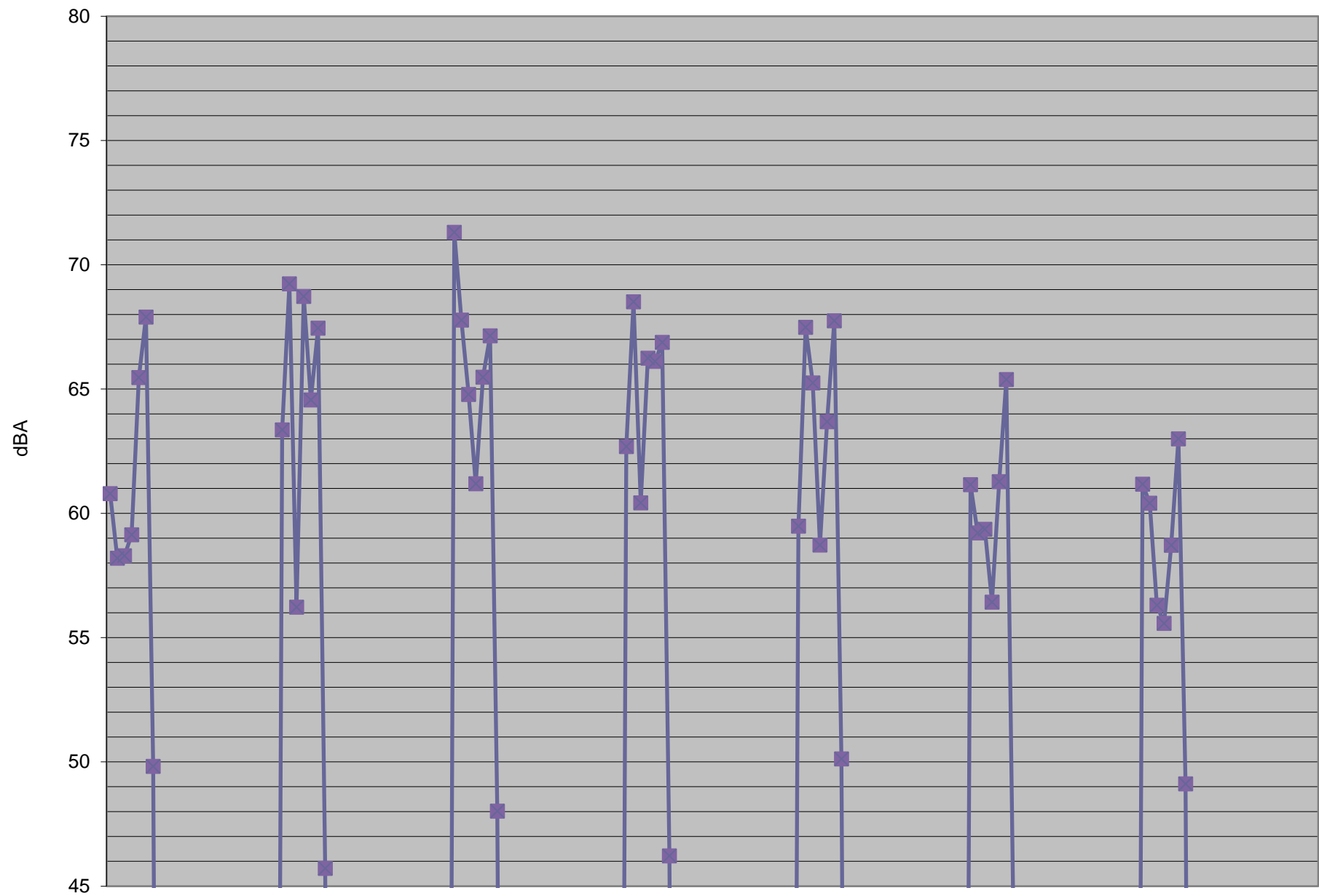


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

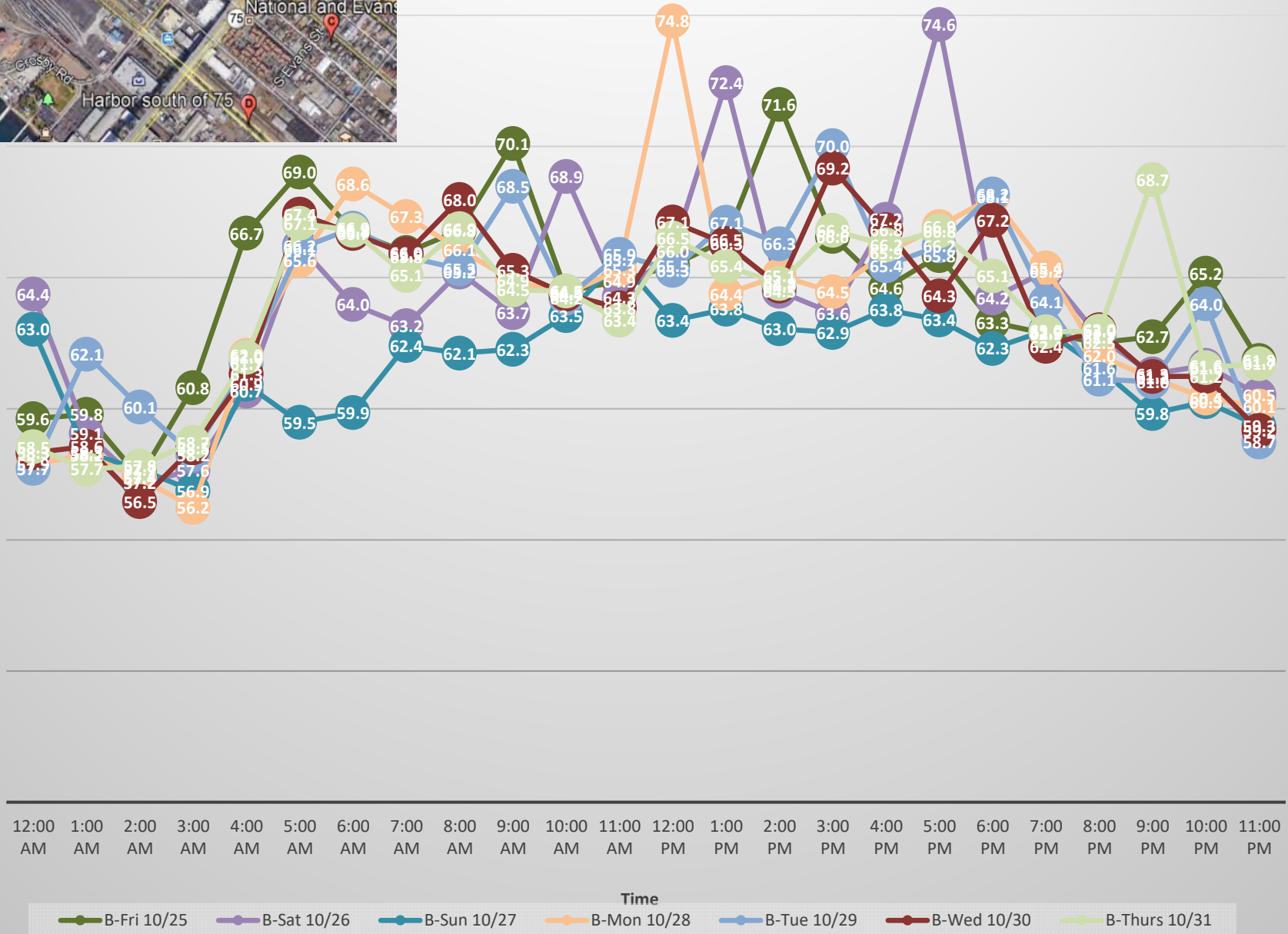
Location A: Main and Beardsley



Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - LOCATION A

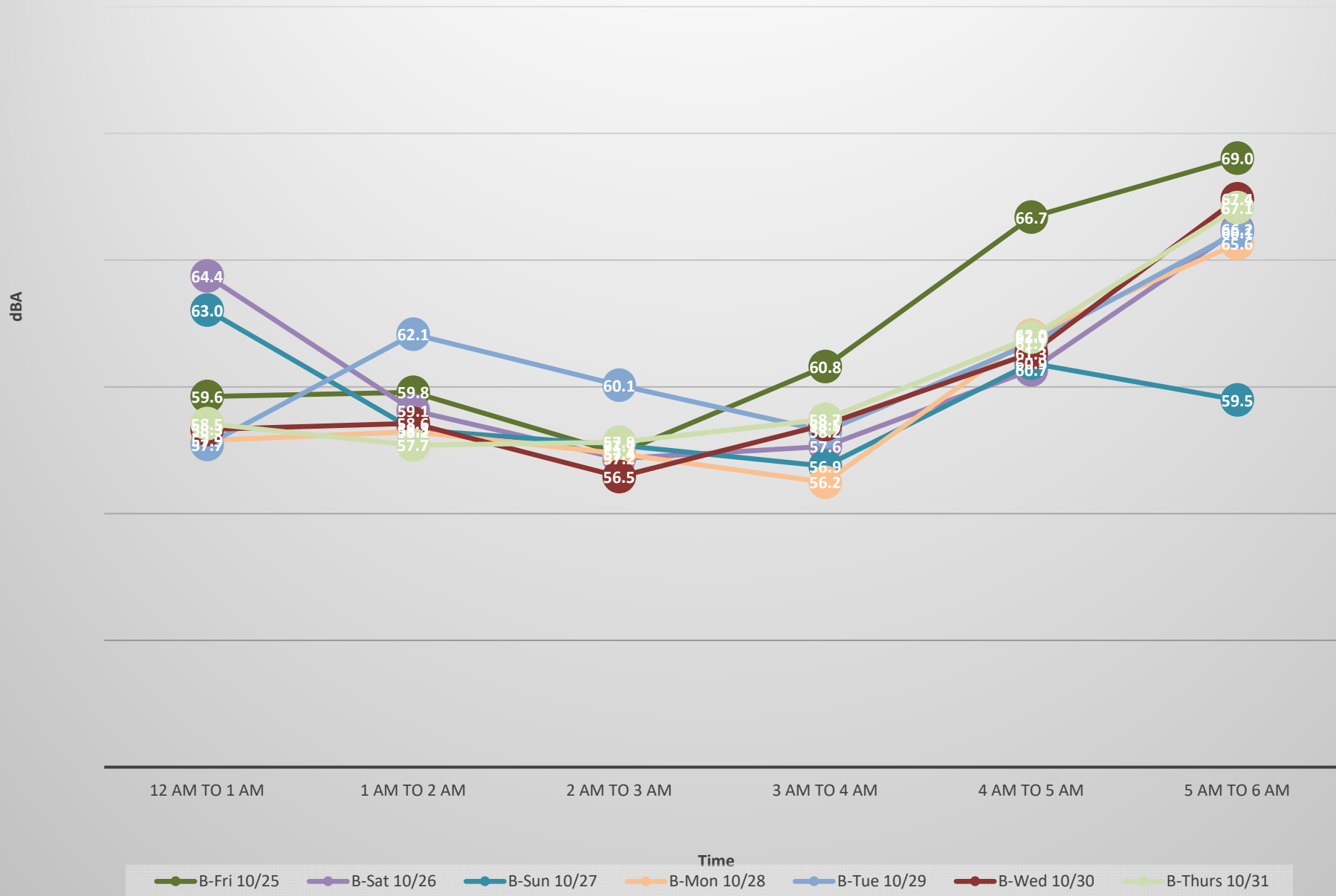


dBA



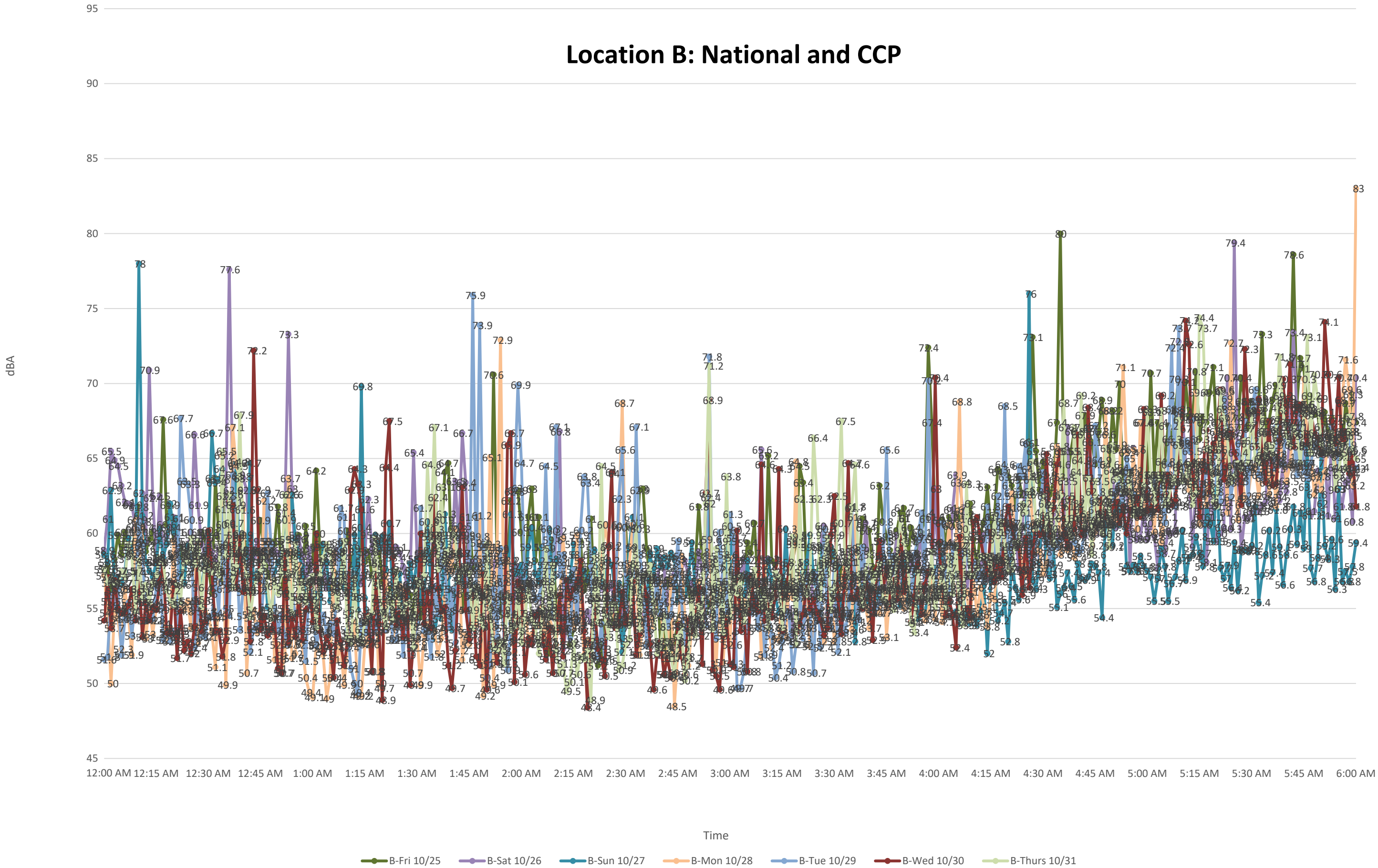
Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

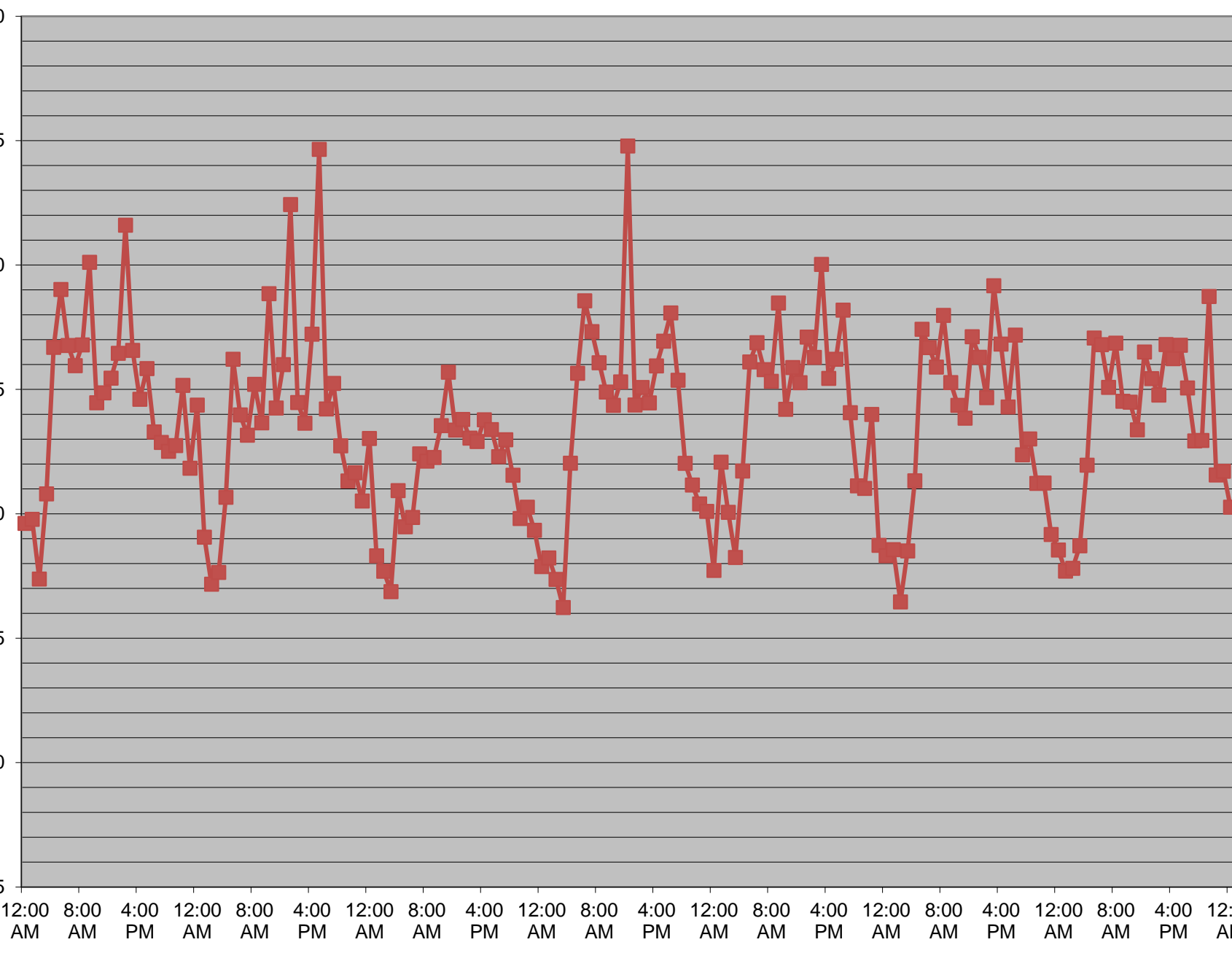
Location B: National and CCP



Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

Location B: National and CCP



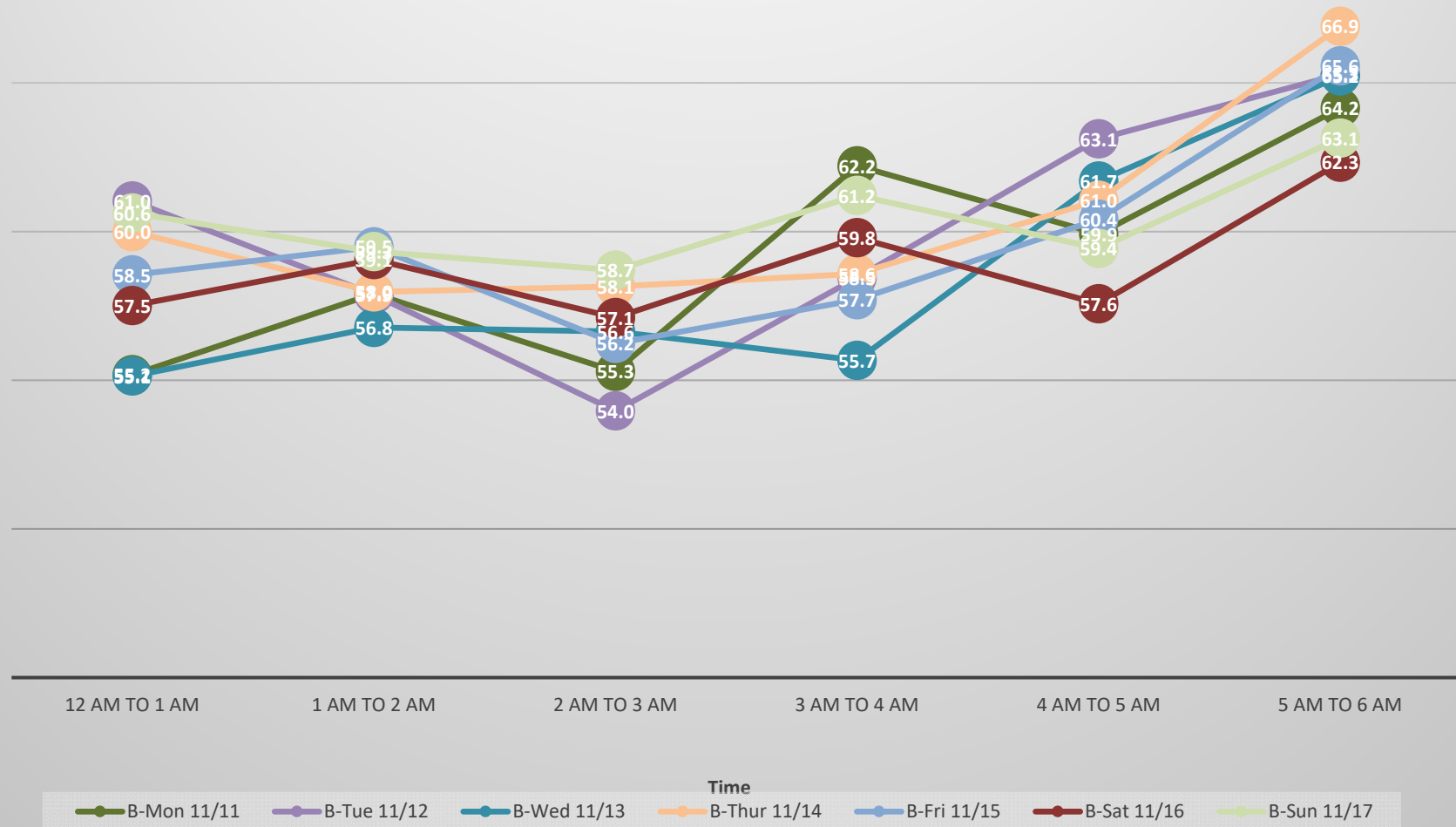


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location B: National and CCP

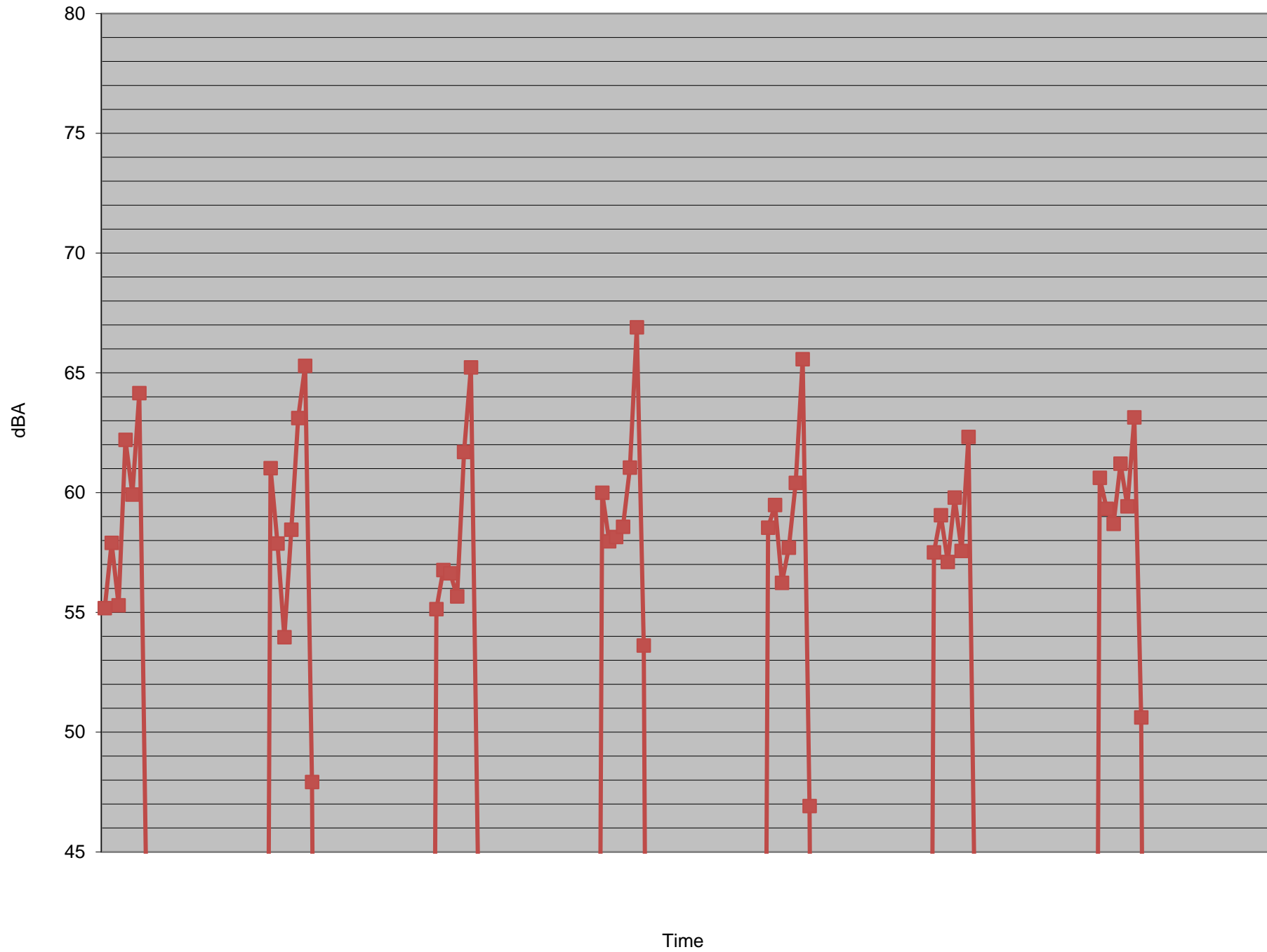


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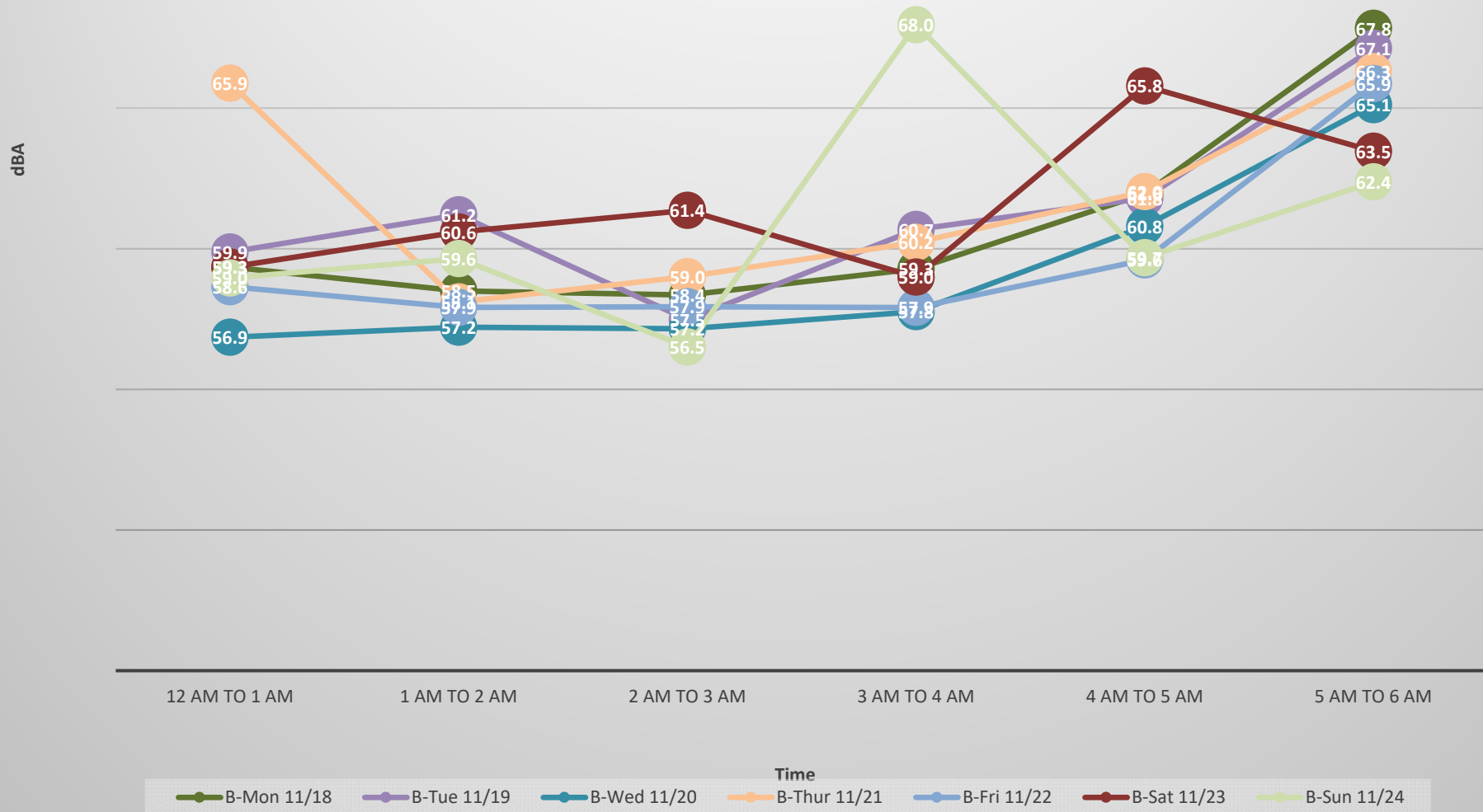
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Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - LOCATION B



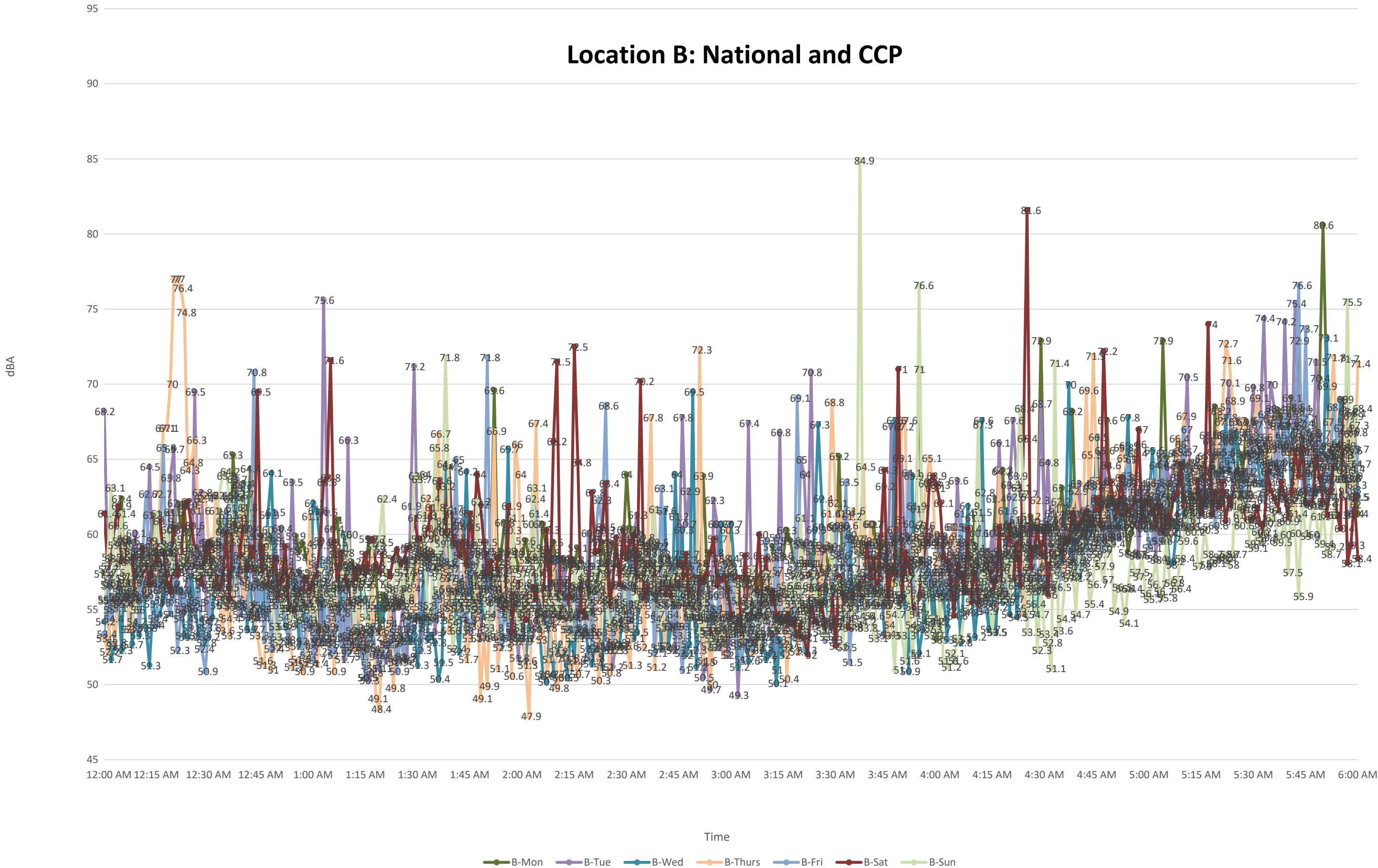
Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location B: National and CCP

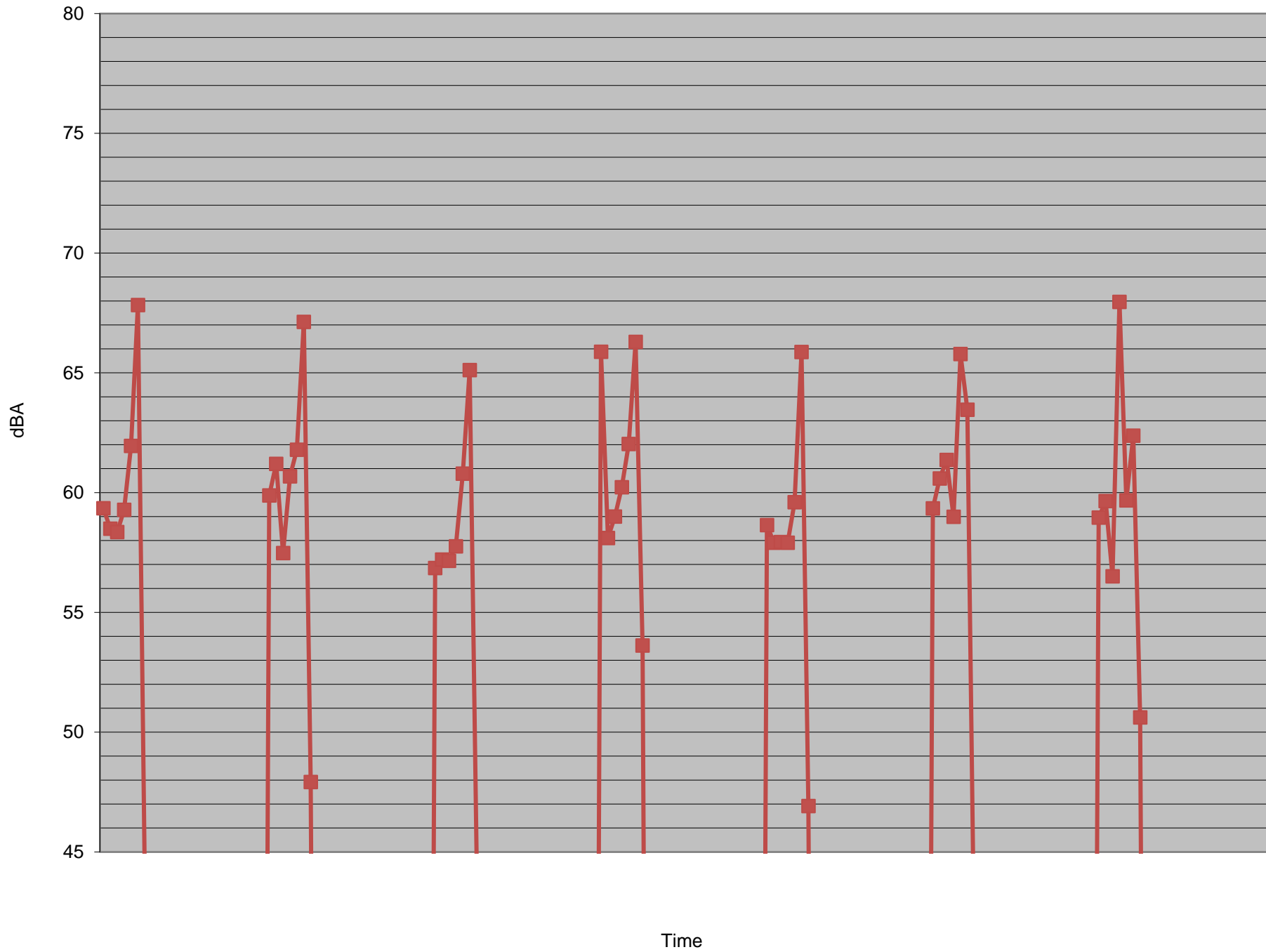


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

Location B: National and CCP



Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - LOCATION B



Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location C: National and Evans



dBA

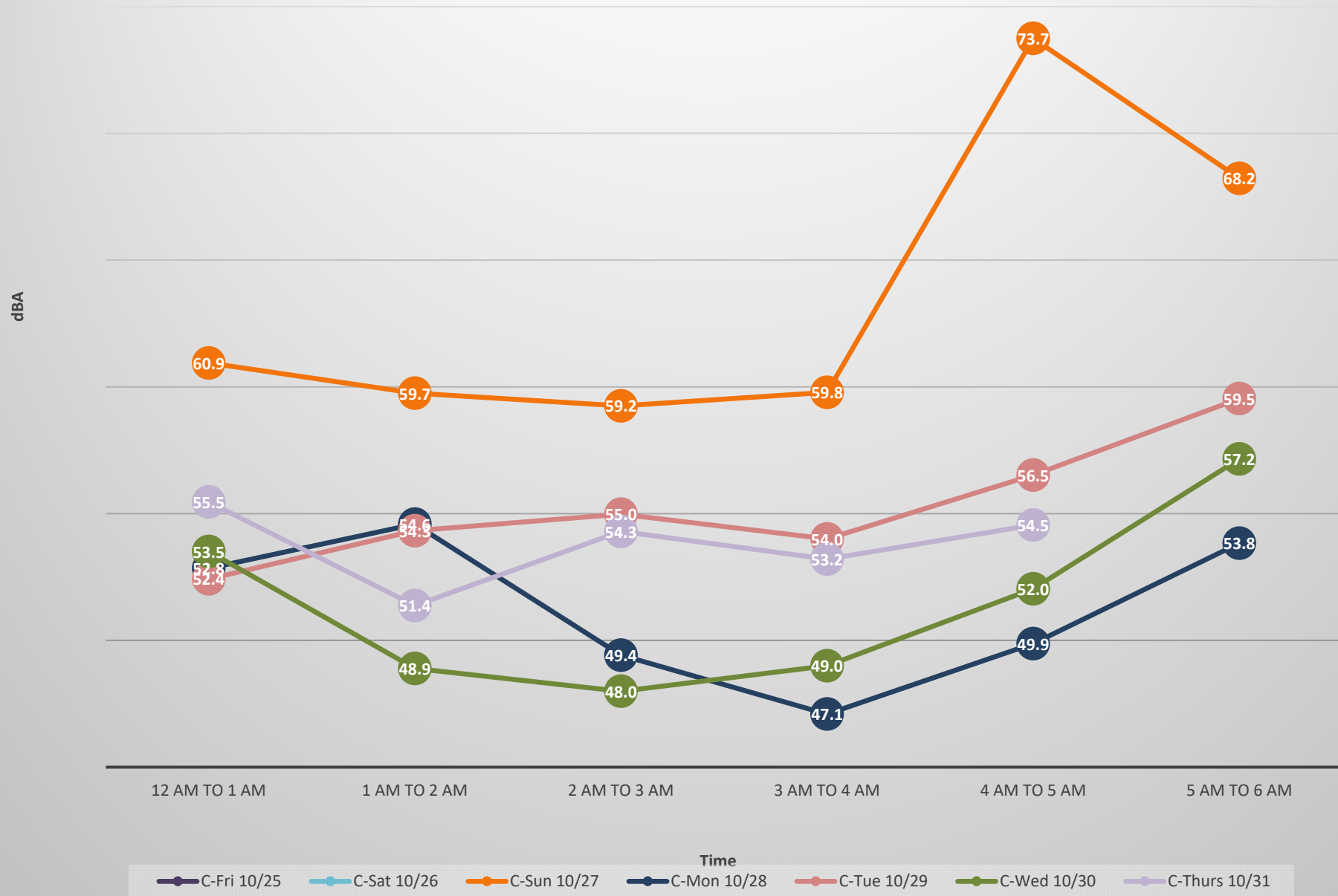


Time

C-Fri 10/25 C-Sat 10/26 C-Sun 10/27 C-Mon 10/28 C-Tue 10/29 C-Wed 10/30 C-Thurs 10/31

Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

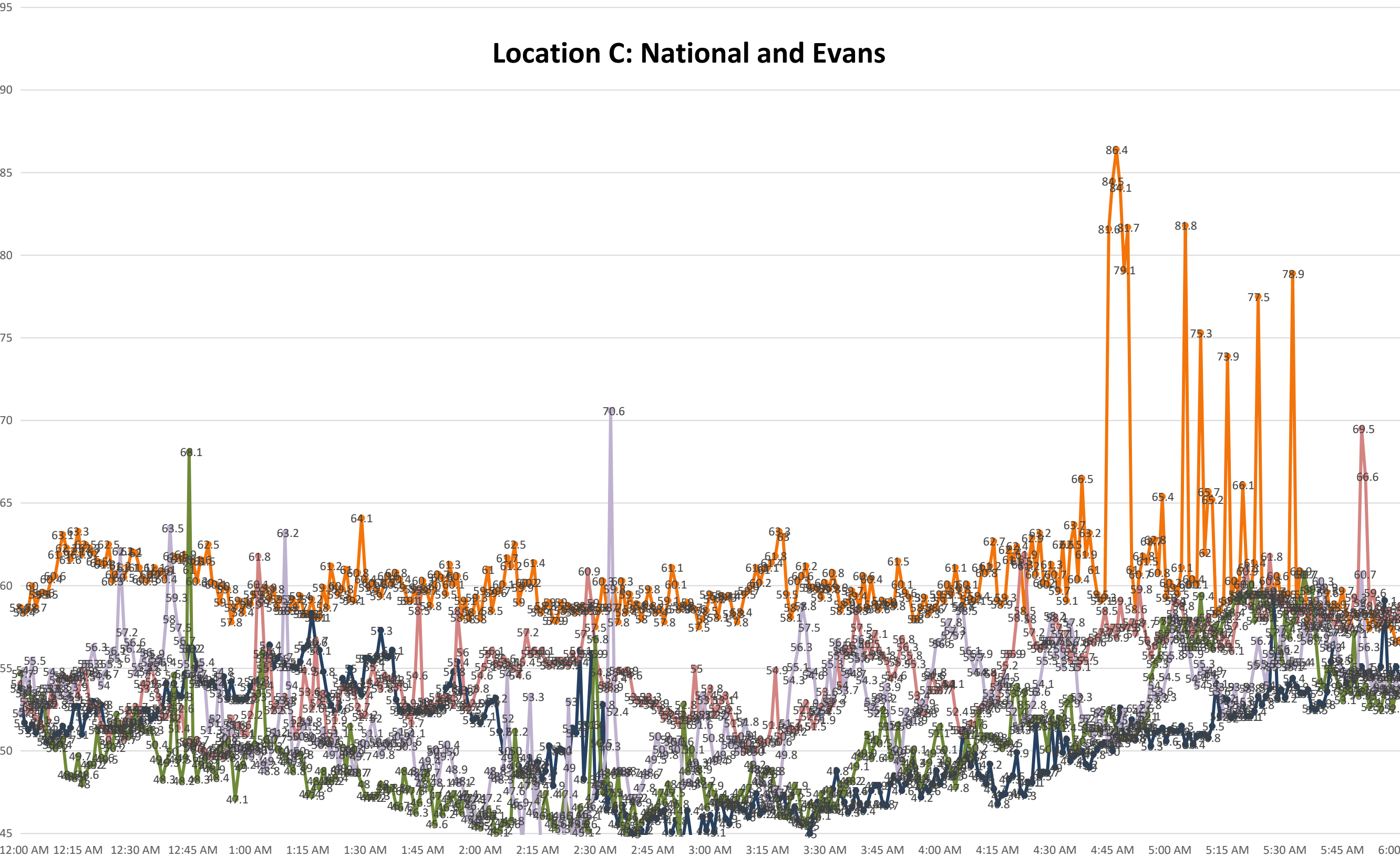
Location C: National and Evans



Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

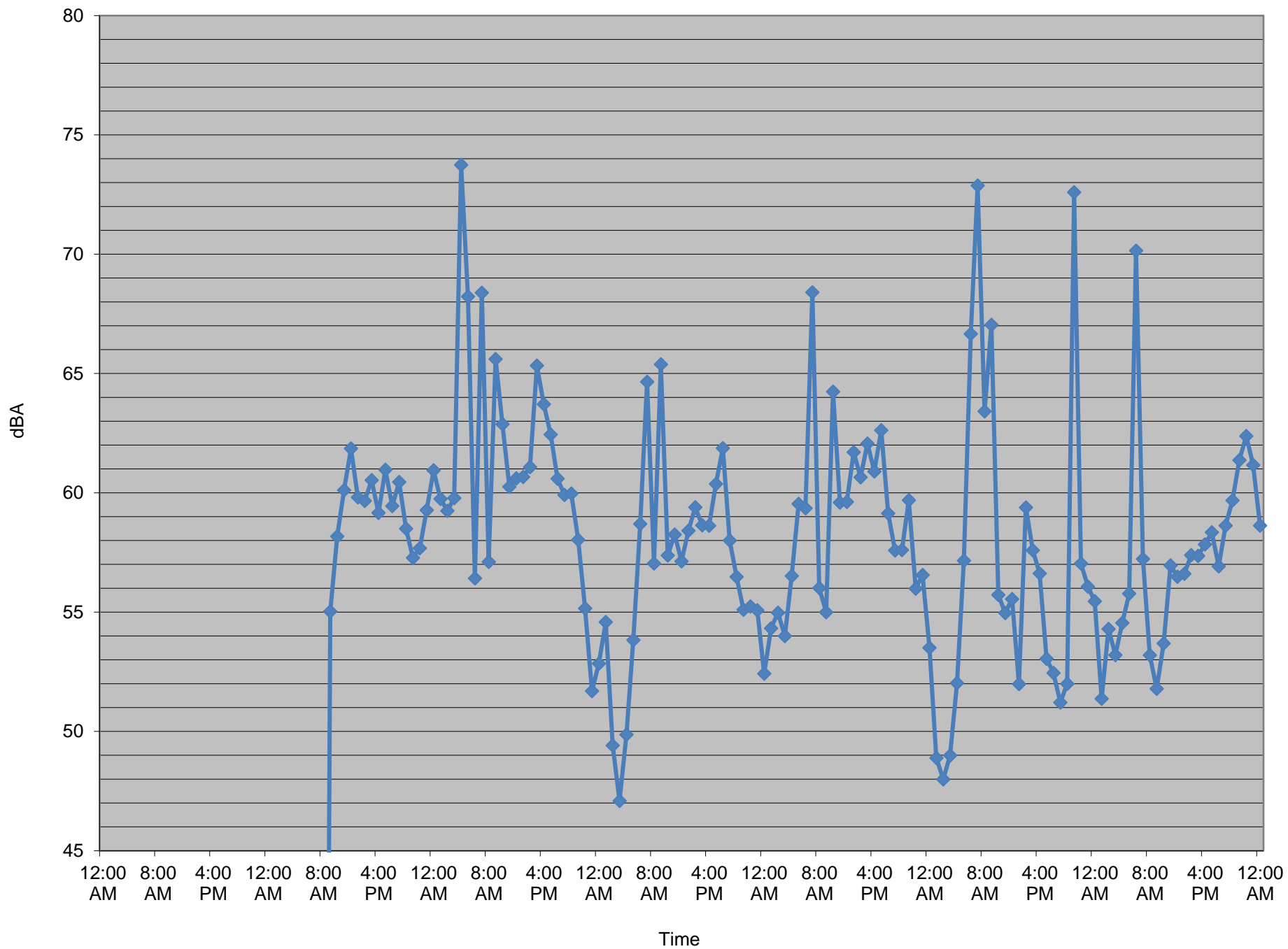
Location C: National and Evans

dBA



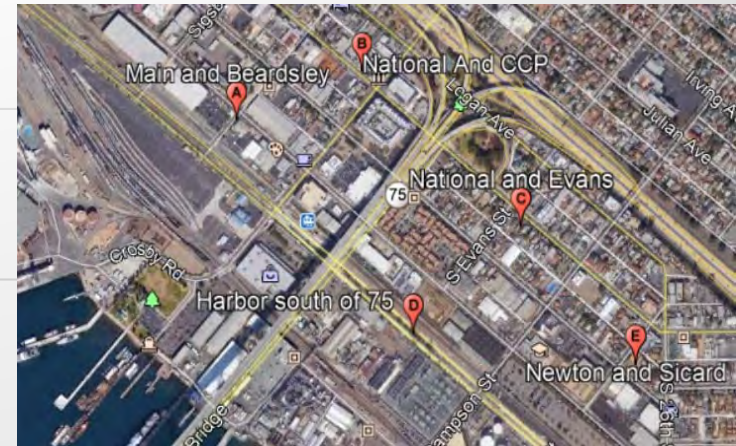
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Barrio Logan Noise - 10/25/19 to 10/31/19 - Location C

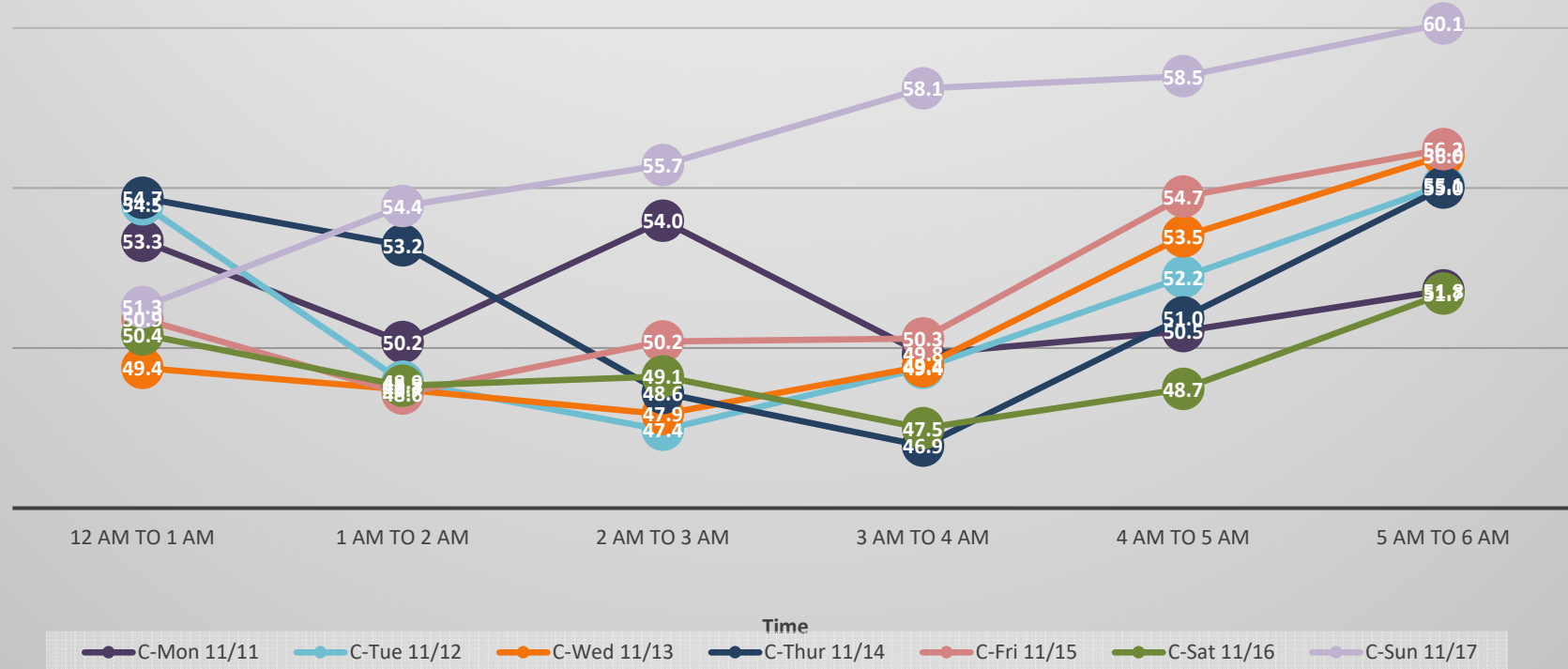


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location C: National and Evans



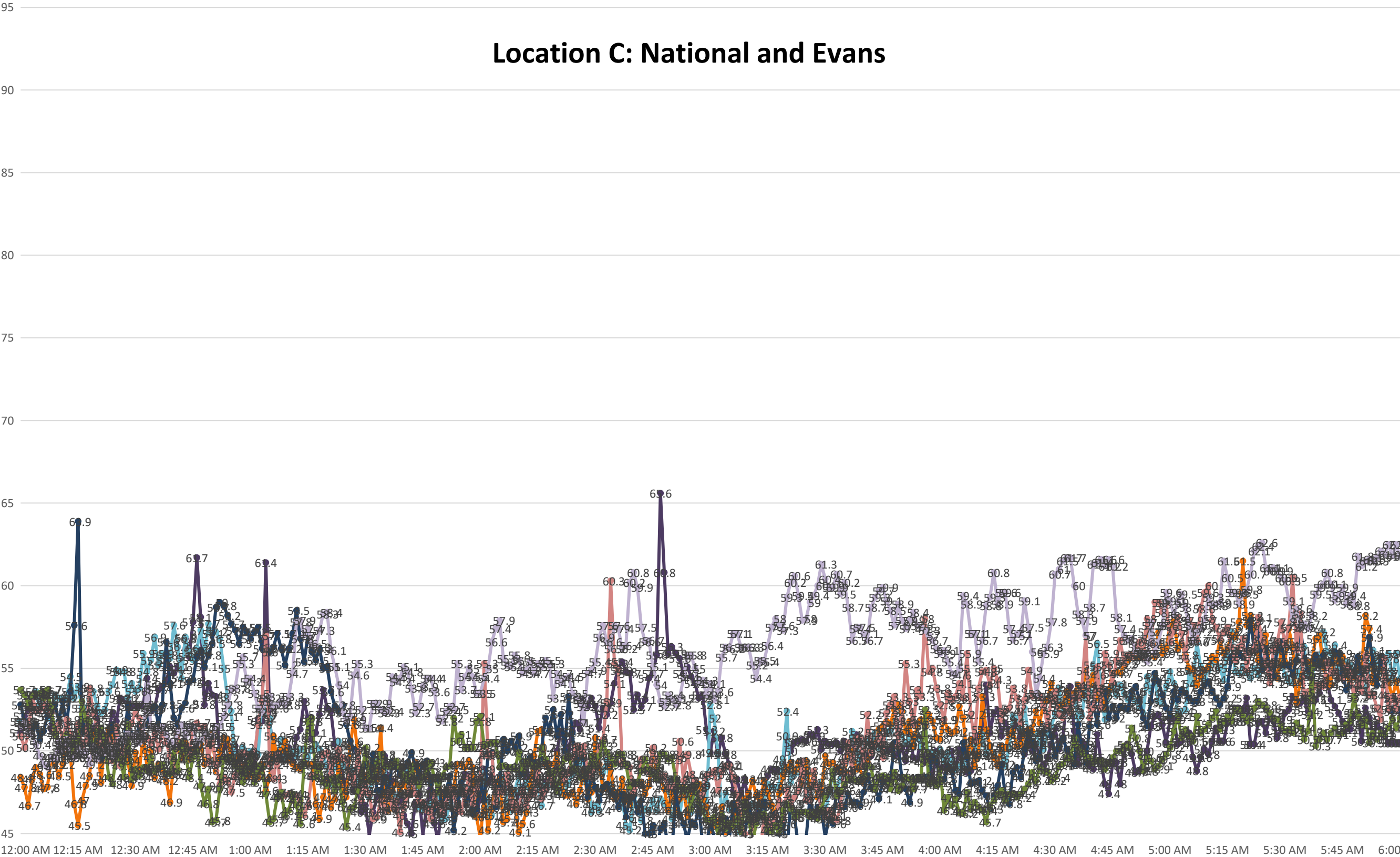
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Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Minute Intervals

Location C: National and Evans

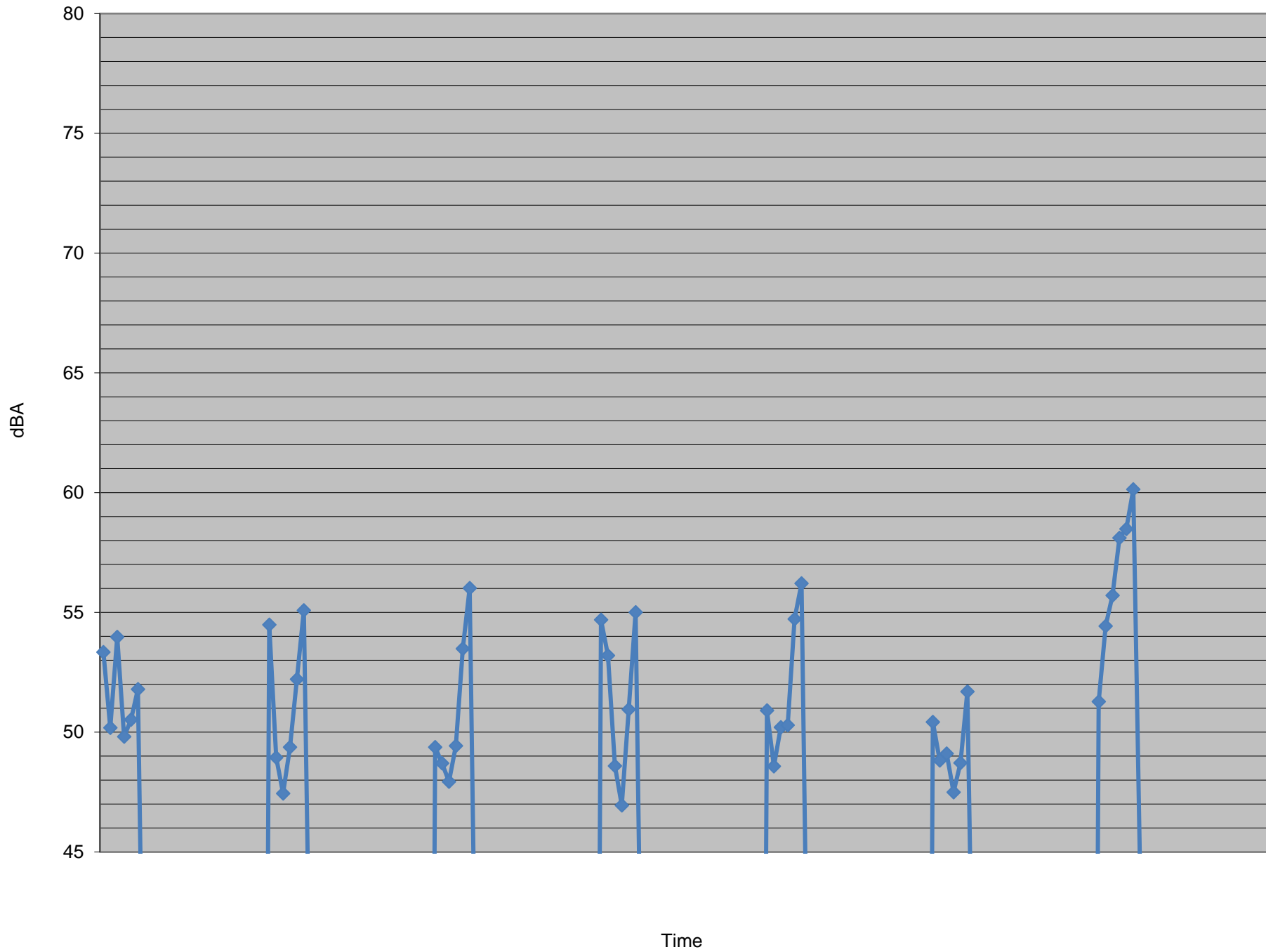
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Time

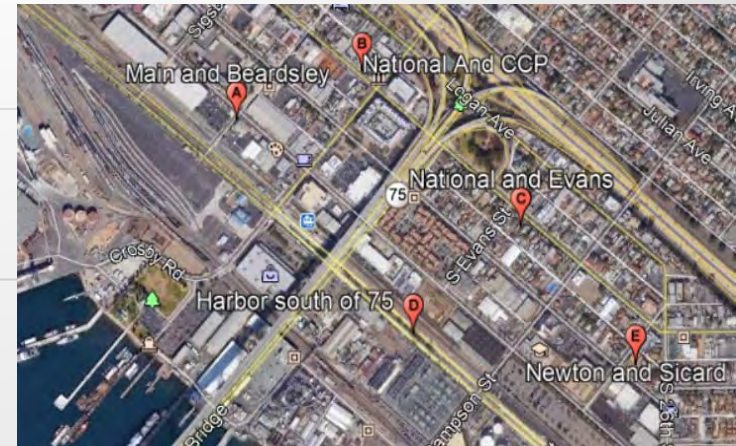
C-Mon C-Tue C-Wed C-Thurs C-Fri C-Sat C-Sun

Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - LOCATION C

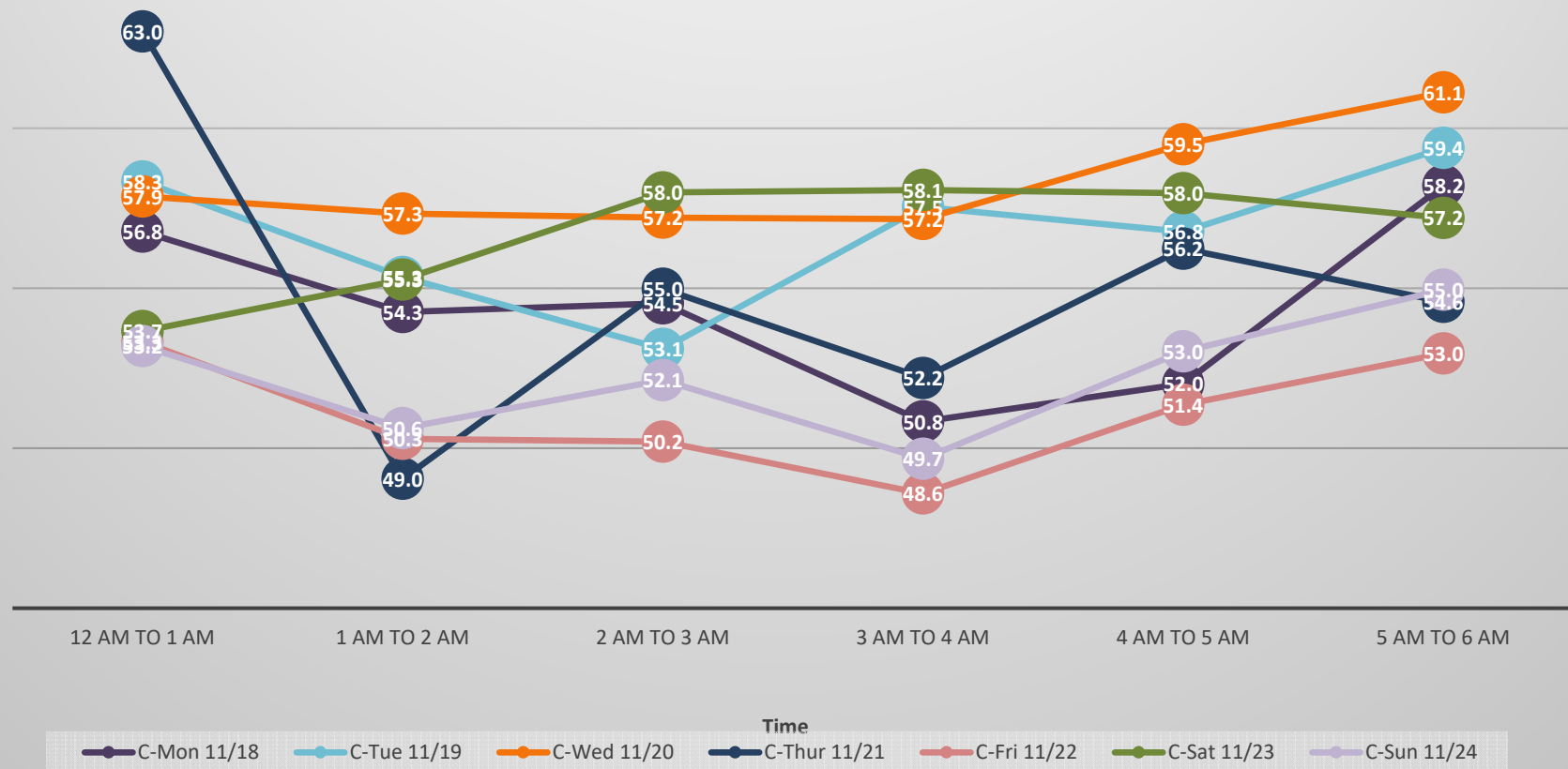


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location C: National and Evans

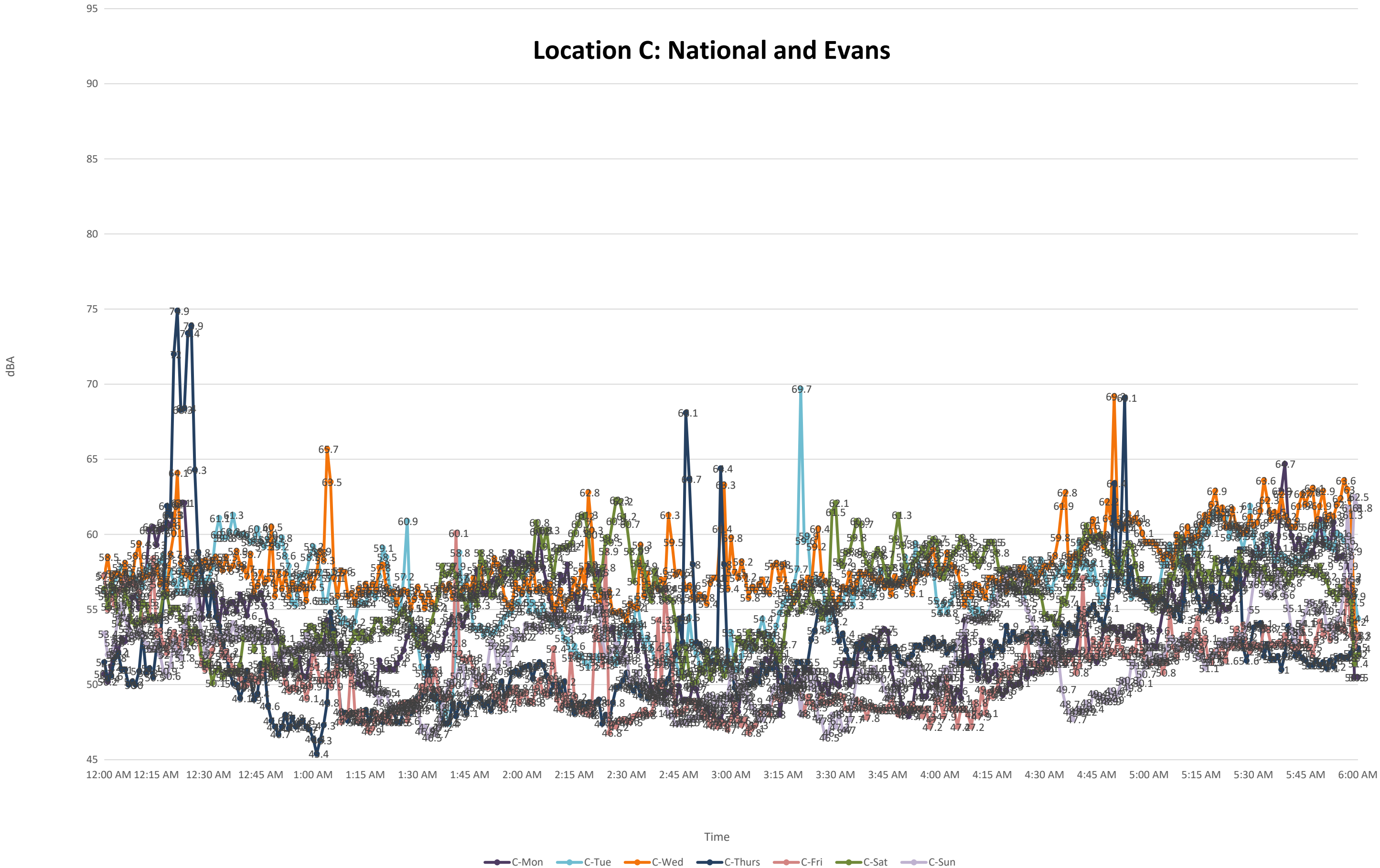


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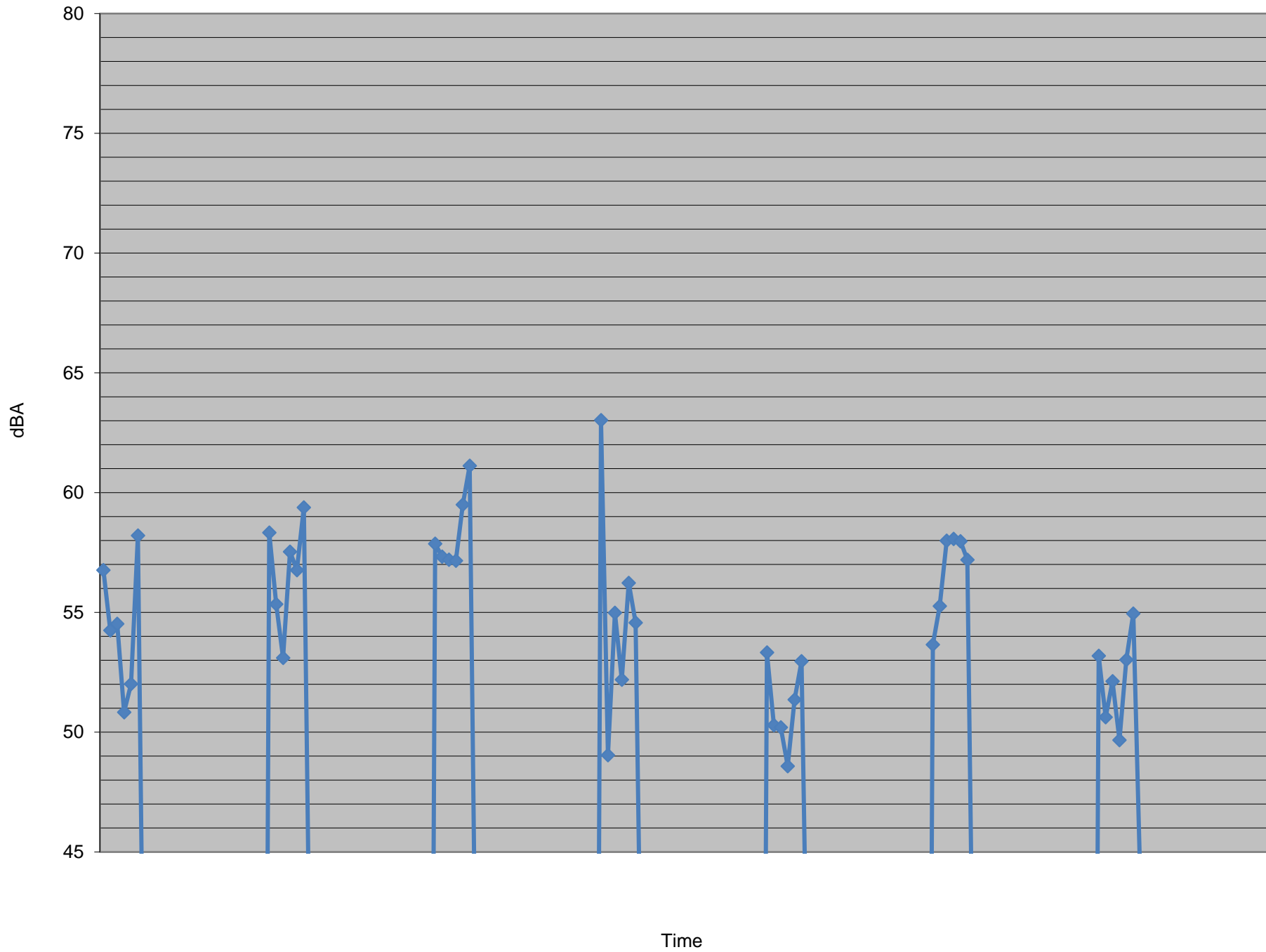


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

Location C: National and Evans



Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - LOCATION C



Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location D: Harbor south of 75



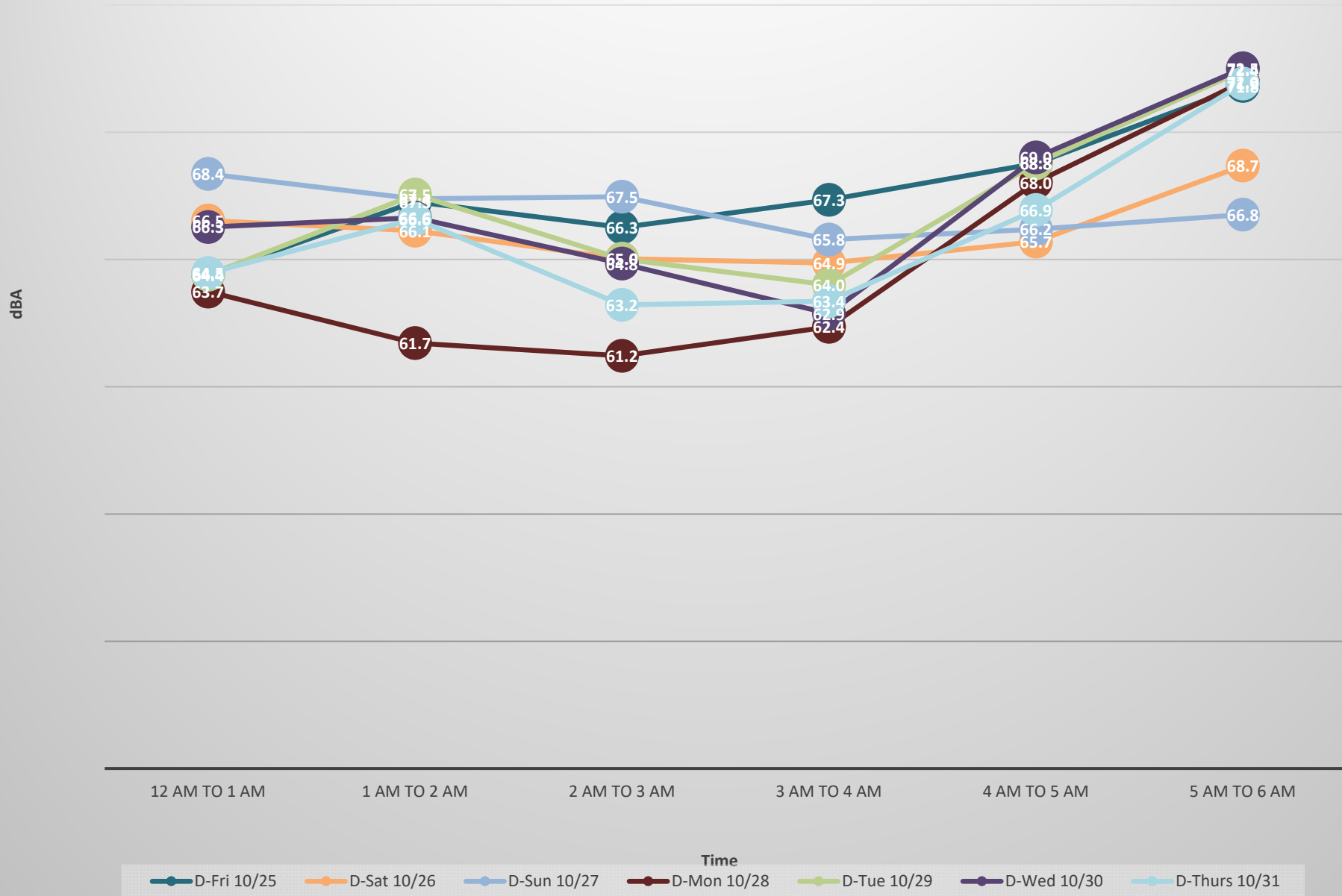
12:00 AM 1:00 AM 2:00 AM 3:00 AM 4:00 AM 5:00 AM 6:00 AM 7:00 AM 8:00 AM 9:00 AM 10:00 AM 11:00 AM 12:00 PM 1:00 PM 2:00 PM 3:00 PM 4:00 PM 5:00 PM 6:00 PM 7:00 PM 8:00 PM 9:00 PM 10:00 PM 11:00 PM

Time

D-Fri 10/25 D-Sat 10/26 D-Sun 10/27 D-Mon 10/28 D-Tue 10/29 D-Wed 10/30 D-Thurs 10/31

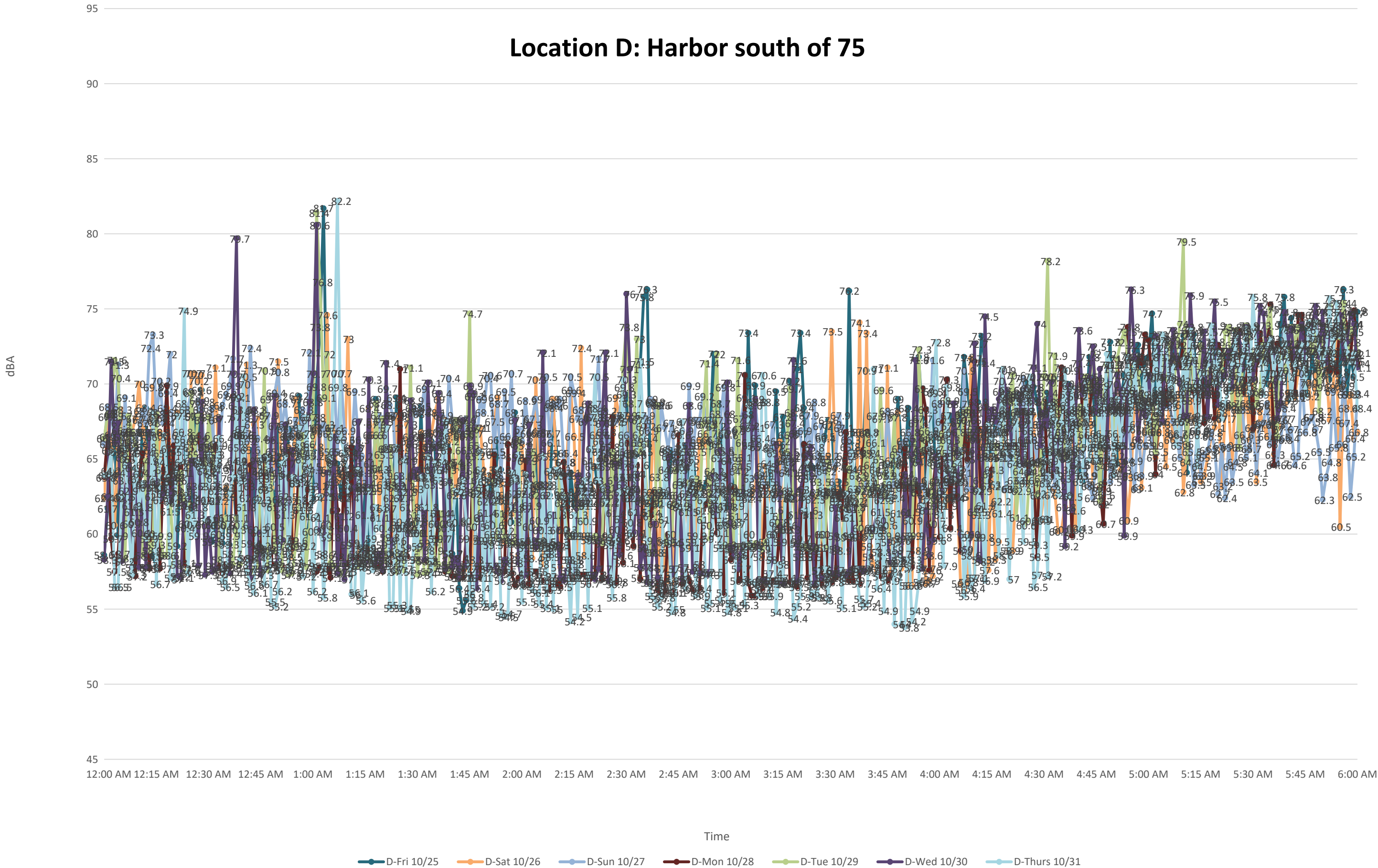
Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location D: Harbor south of 75

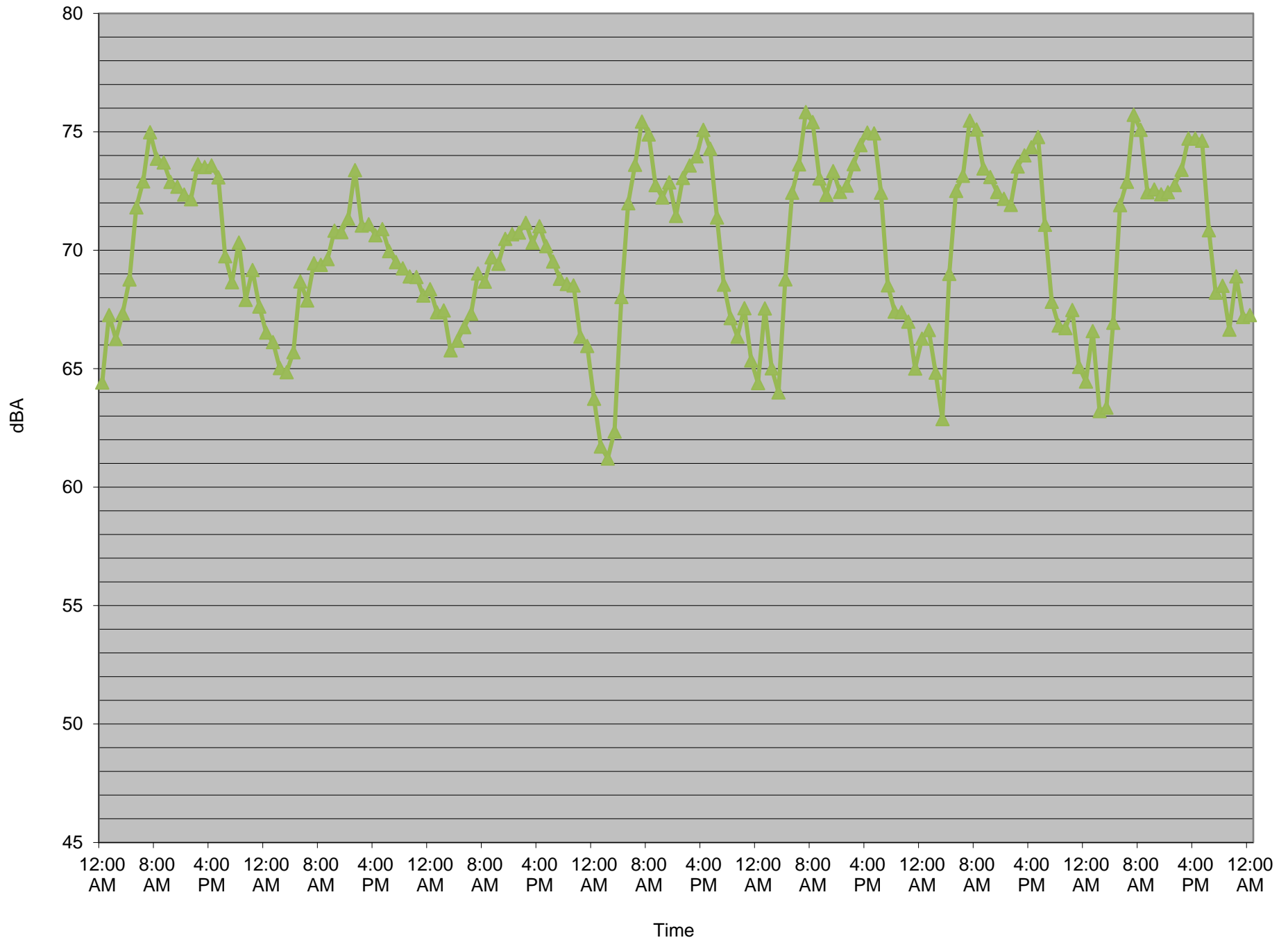


Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

Location D: Harbor south of 75

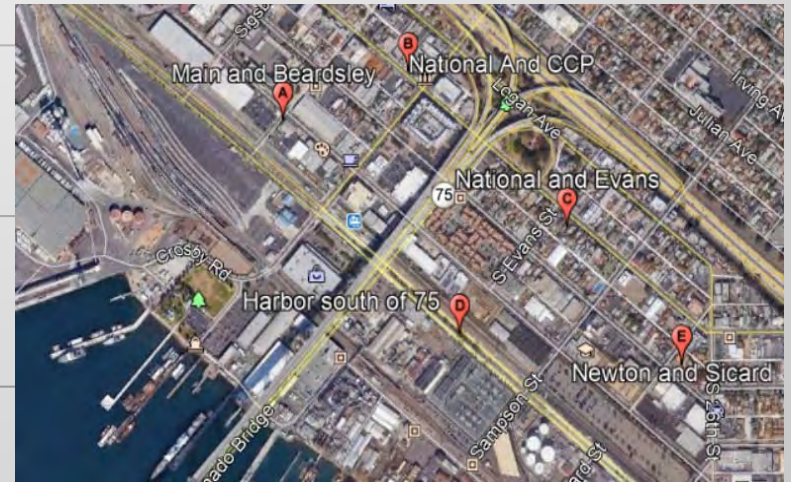


Barrio Logan Noise - 10/25/19 to 10/31/19 - Location D



Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location D: Harbor south of 75



12 AM TO 1 AM

1 AM TO 2 AM

2 AM TO 3 AM

3 AM TO 4 AM

4 AM TO 5 AM

5 AM TO 6 AM

Time

D-Mon 11/11

D-Tue 11/12

D-Wed 11/13

D-Thur 11/14

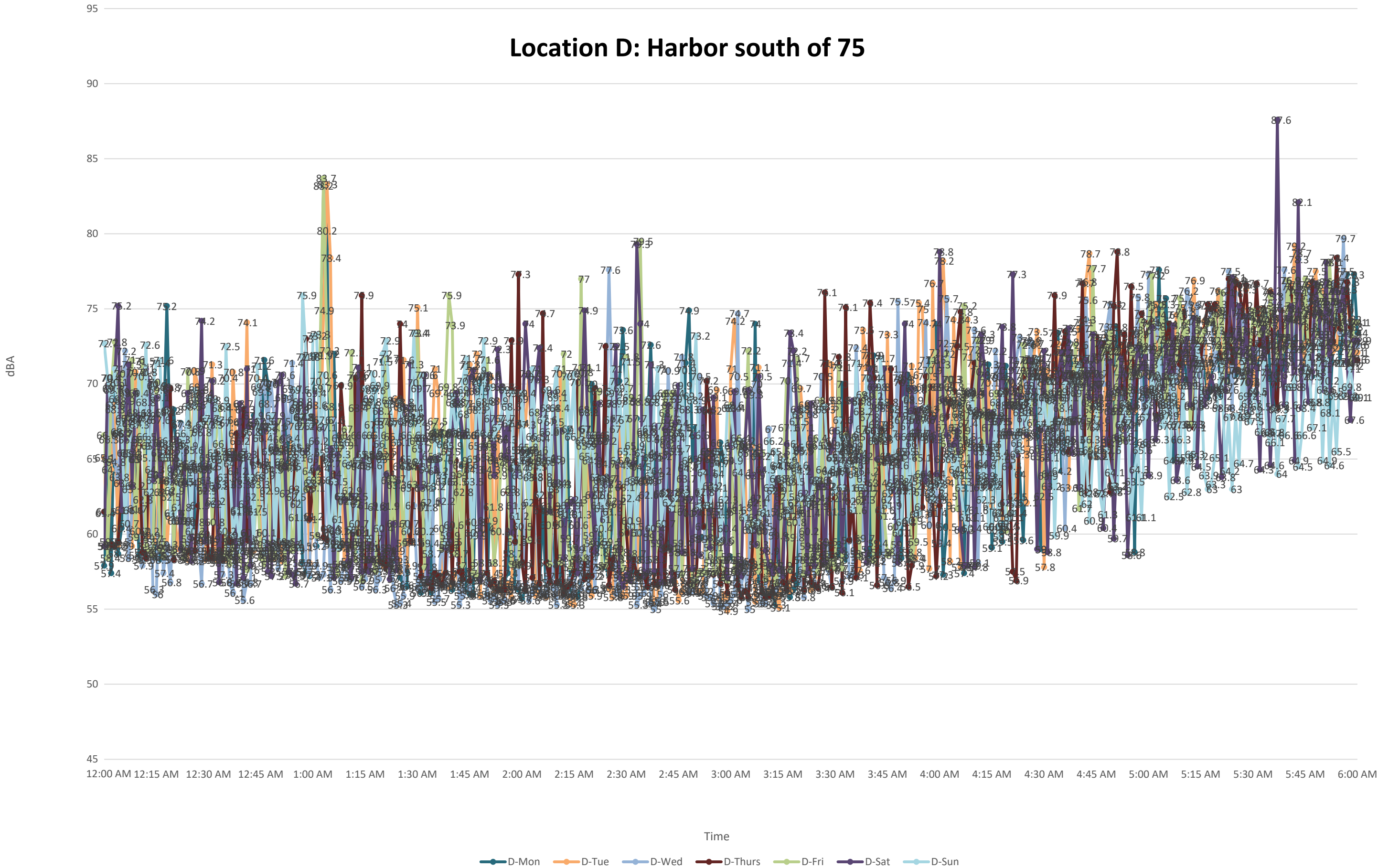
D-Fri 11/15

D-Sat 11/16

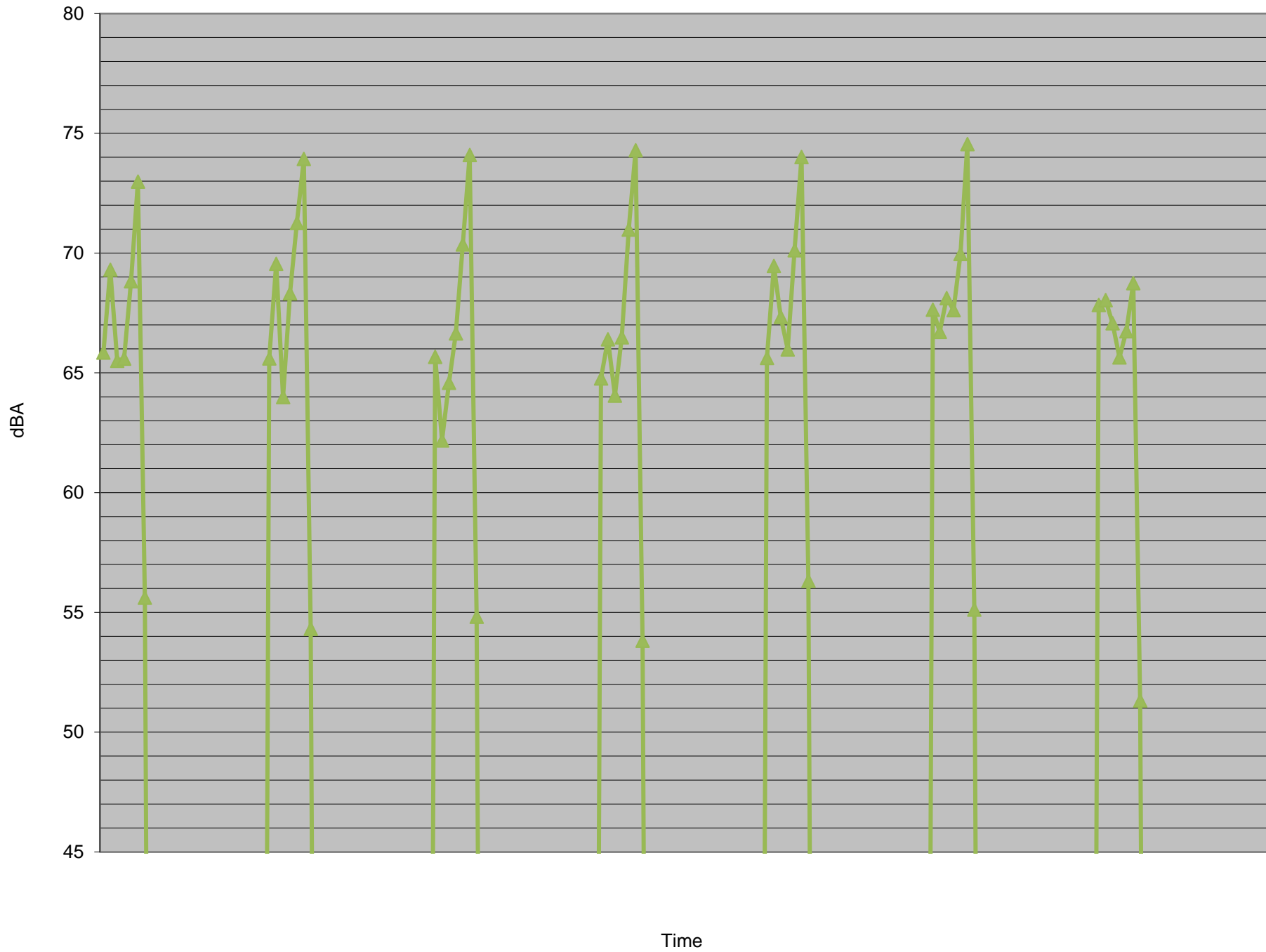
D-Sun 11/17

Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Minute Intervals

Location D: Harbor south of 75

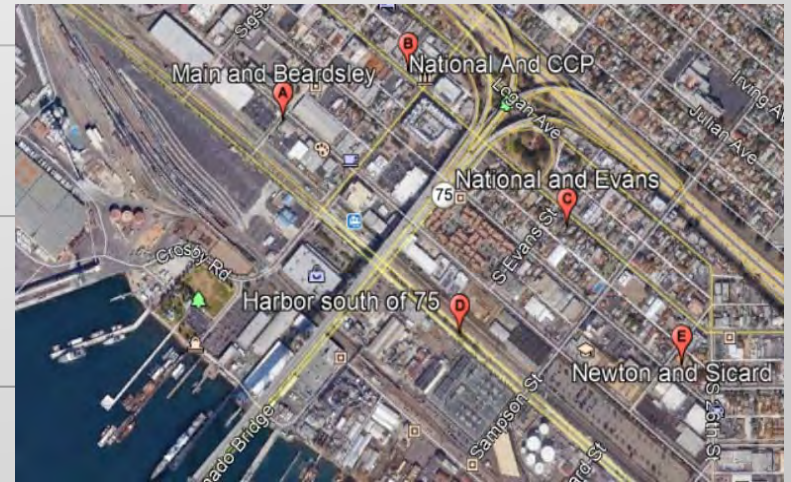
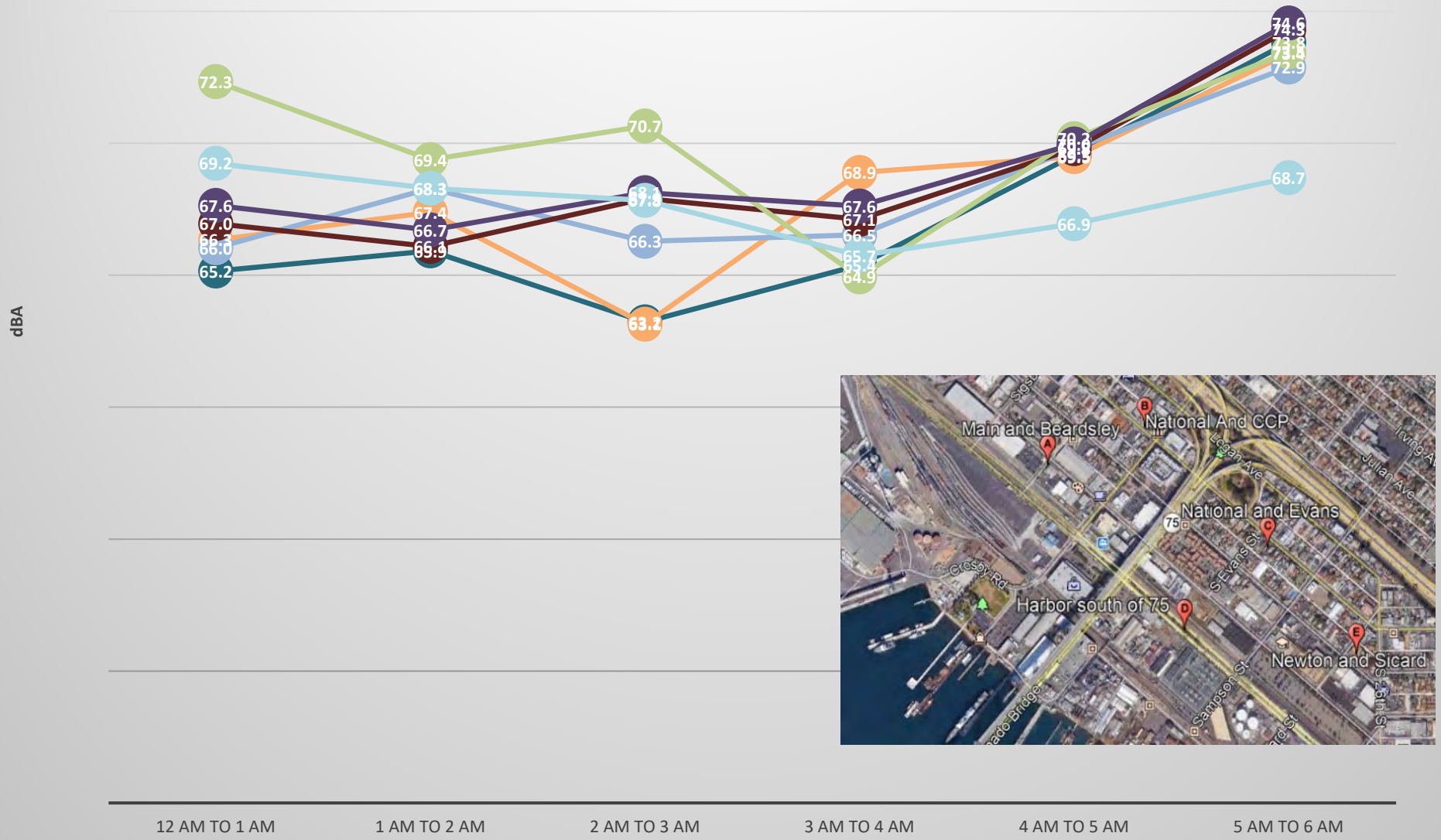


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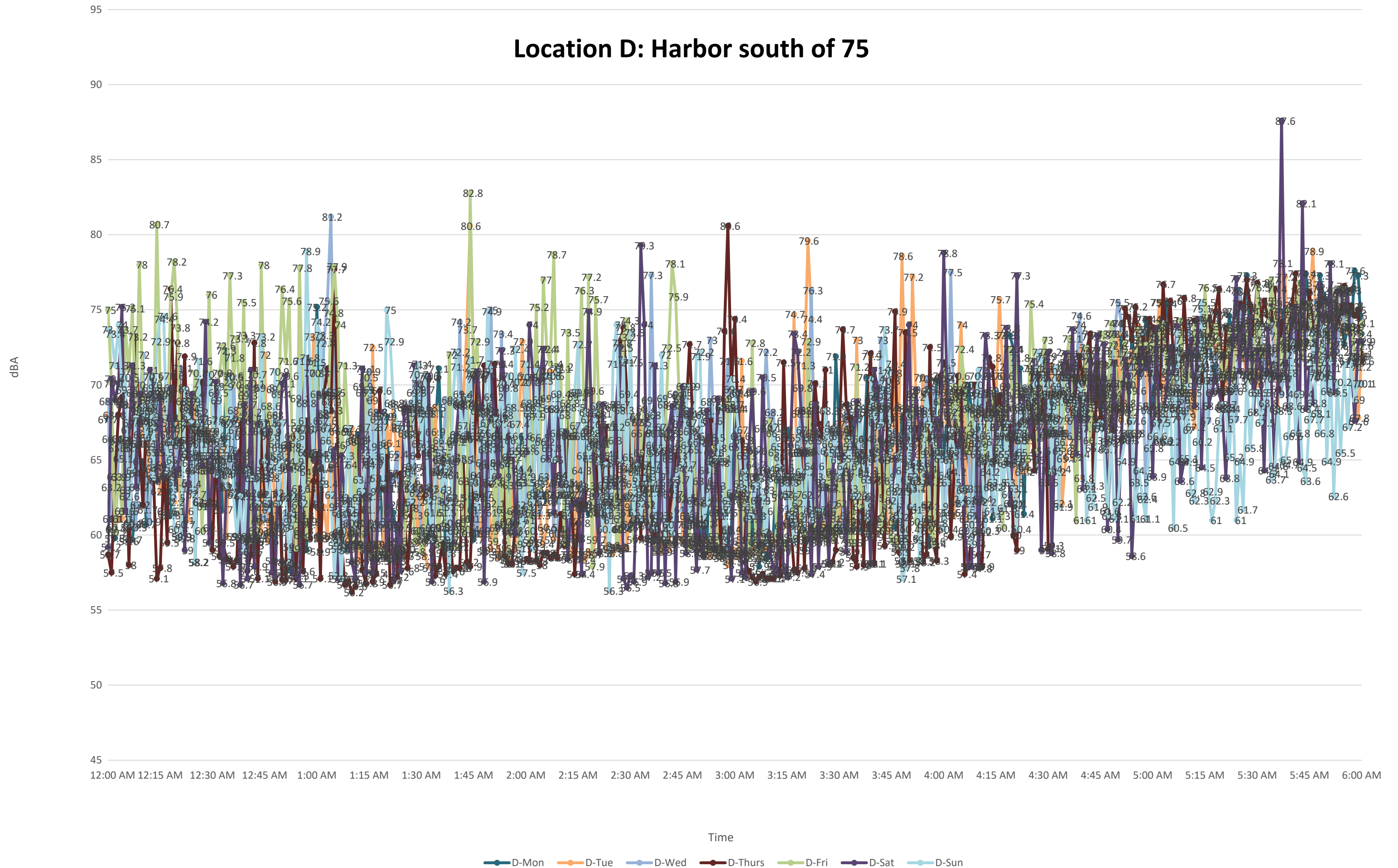
Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location D: Harbor south of 75

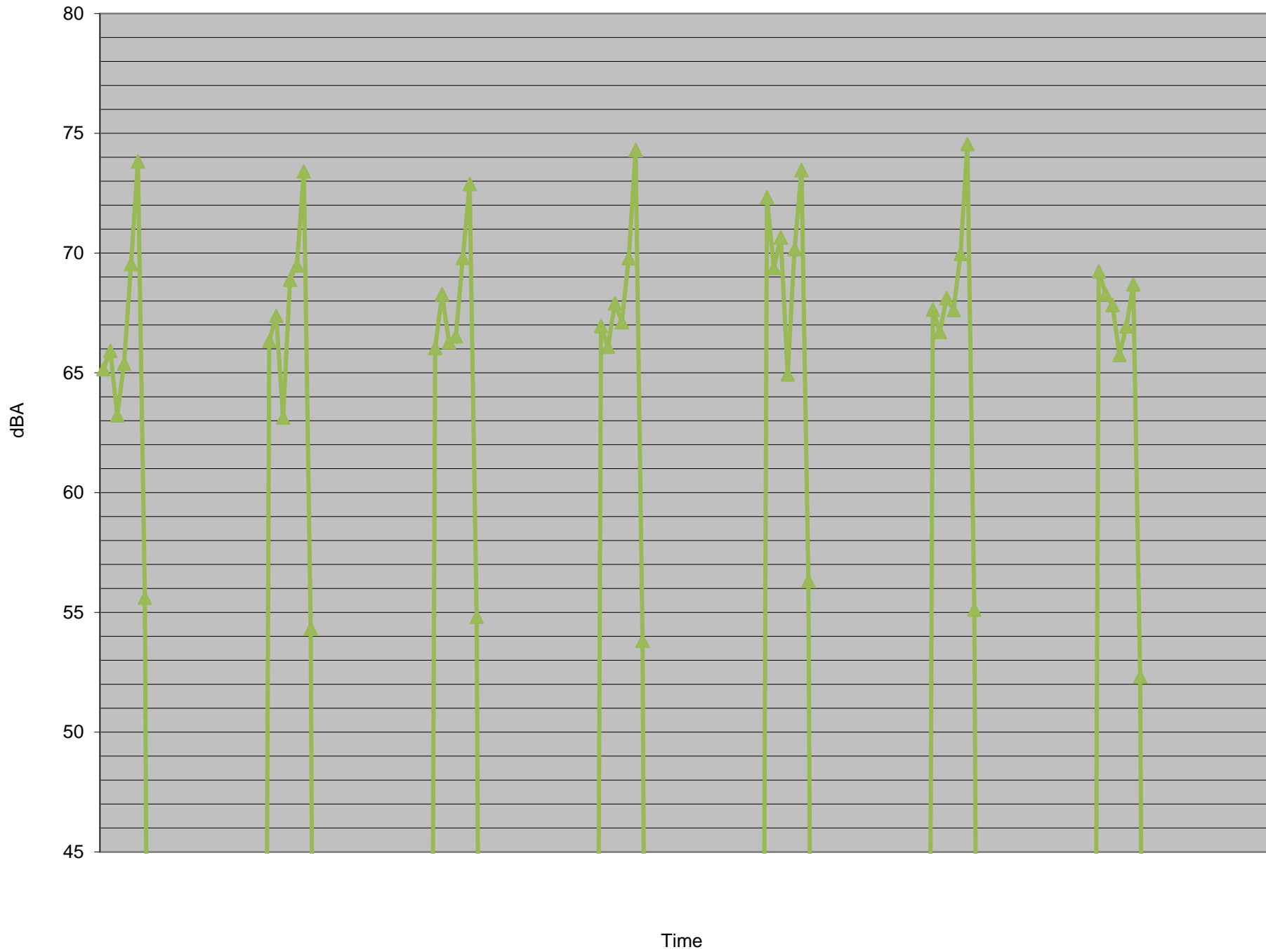


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

Location D: Harbor south of 75

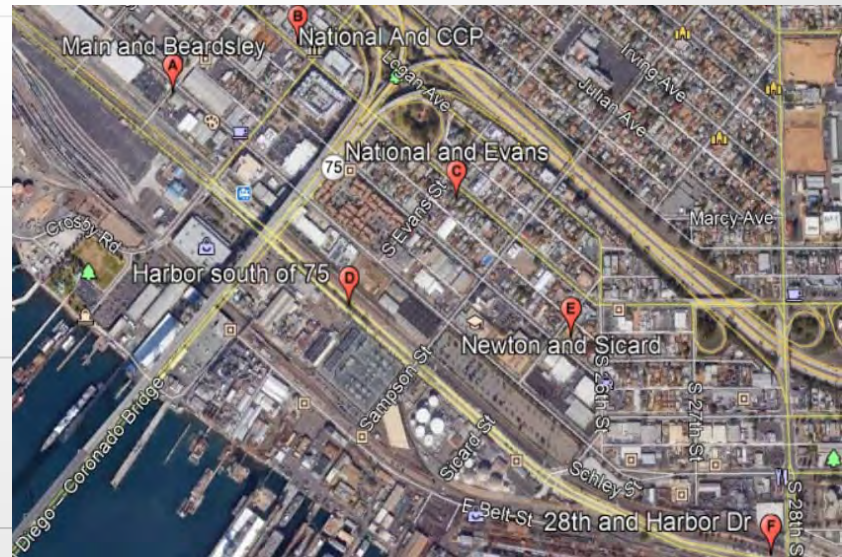


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - LOCATION D

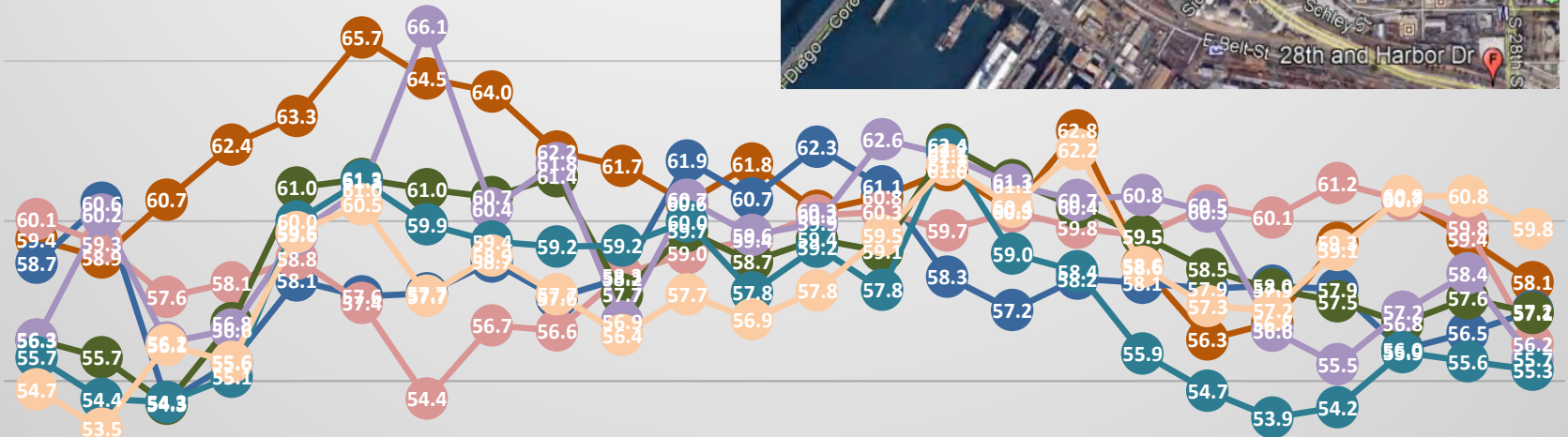


Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location E: Newton and Sicard



dBA



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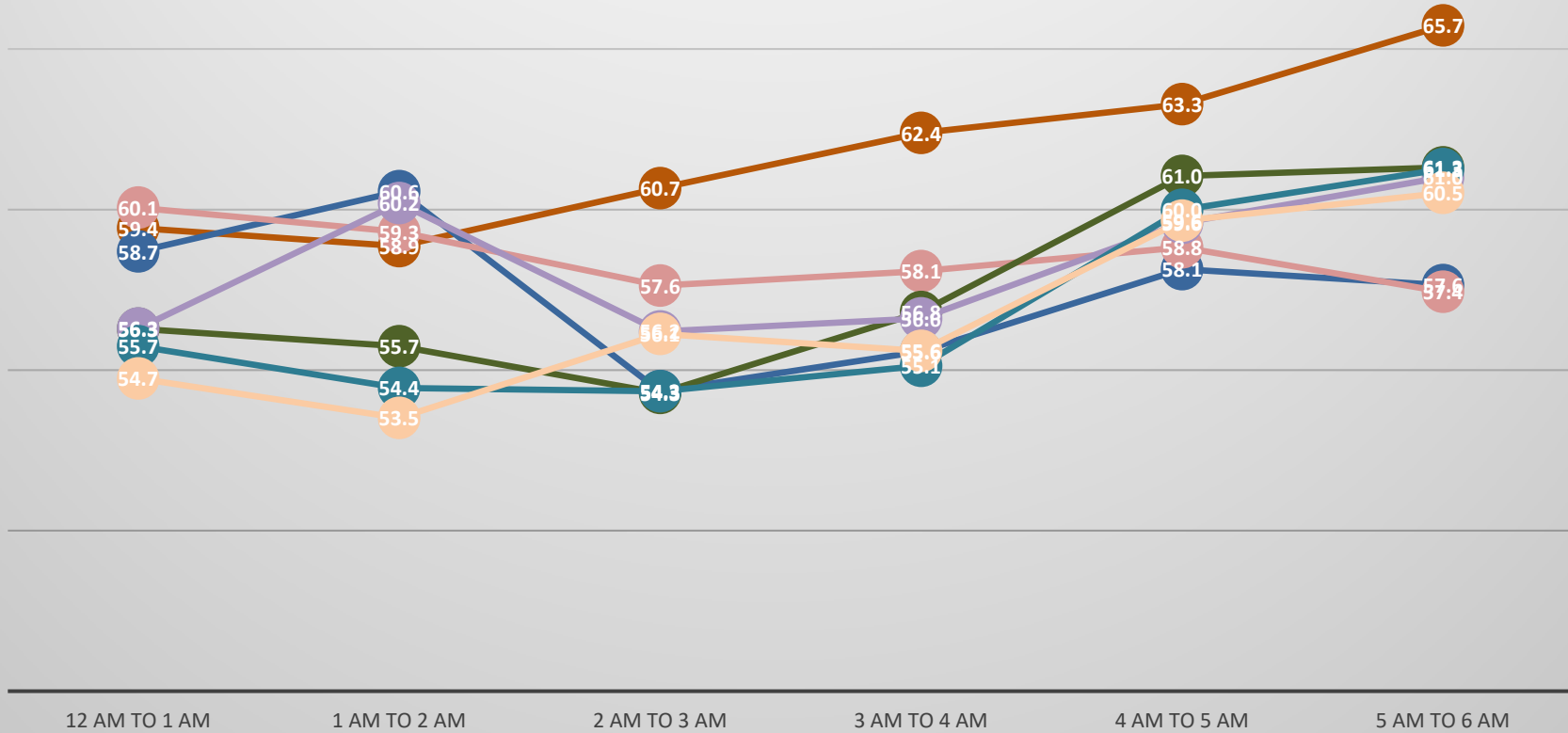
Time

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Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location E: Newton and Sicard

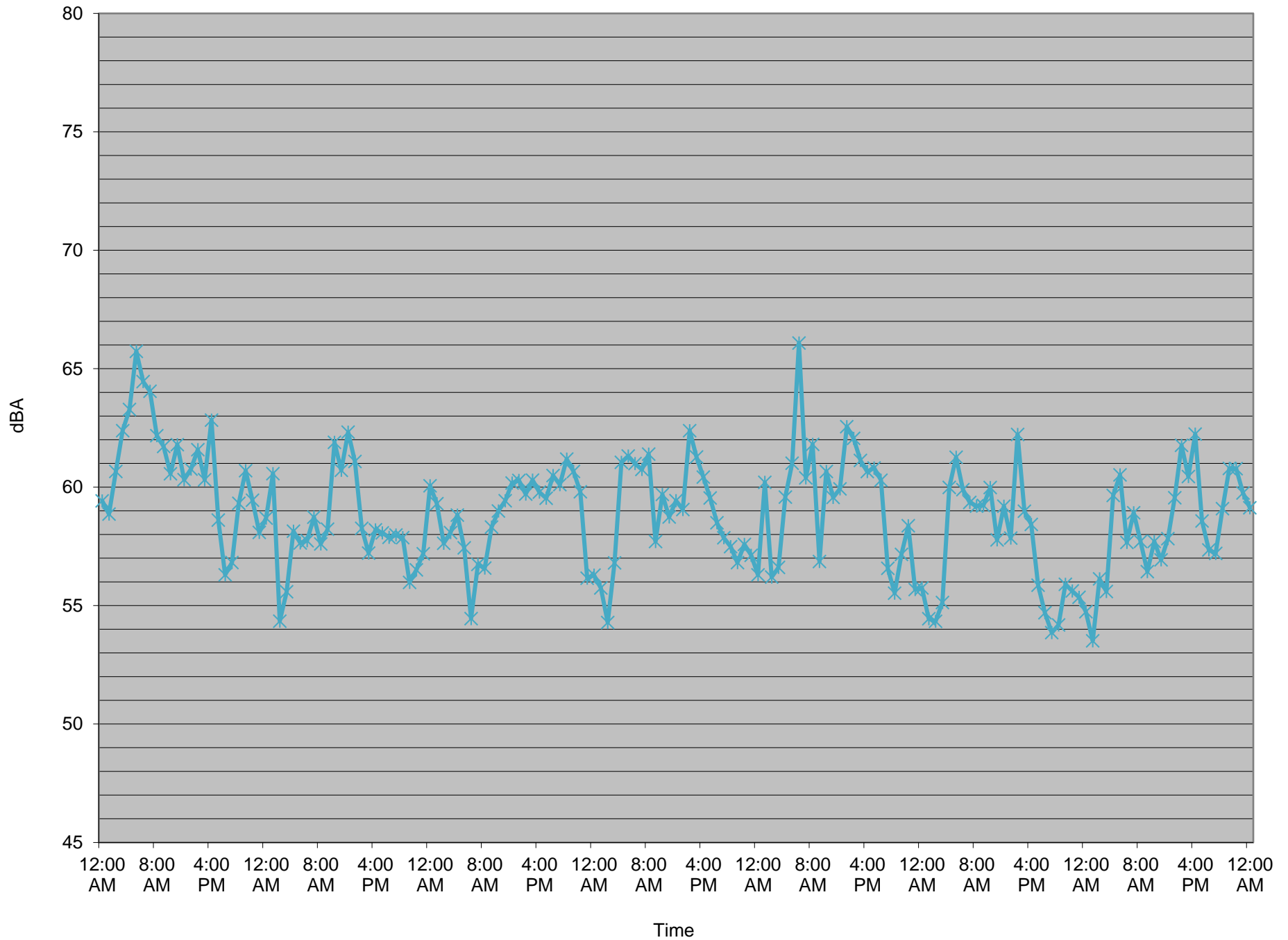
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Time

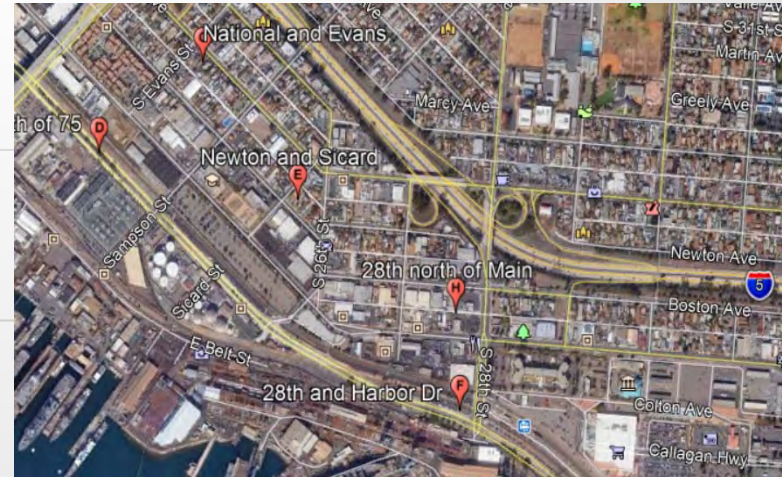
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Barrio Logan Noise - 10/25/19 to 10/31/19 - Location E

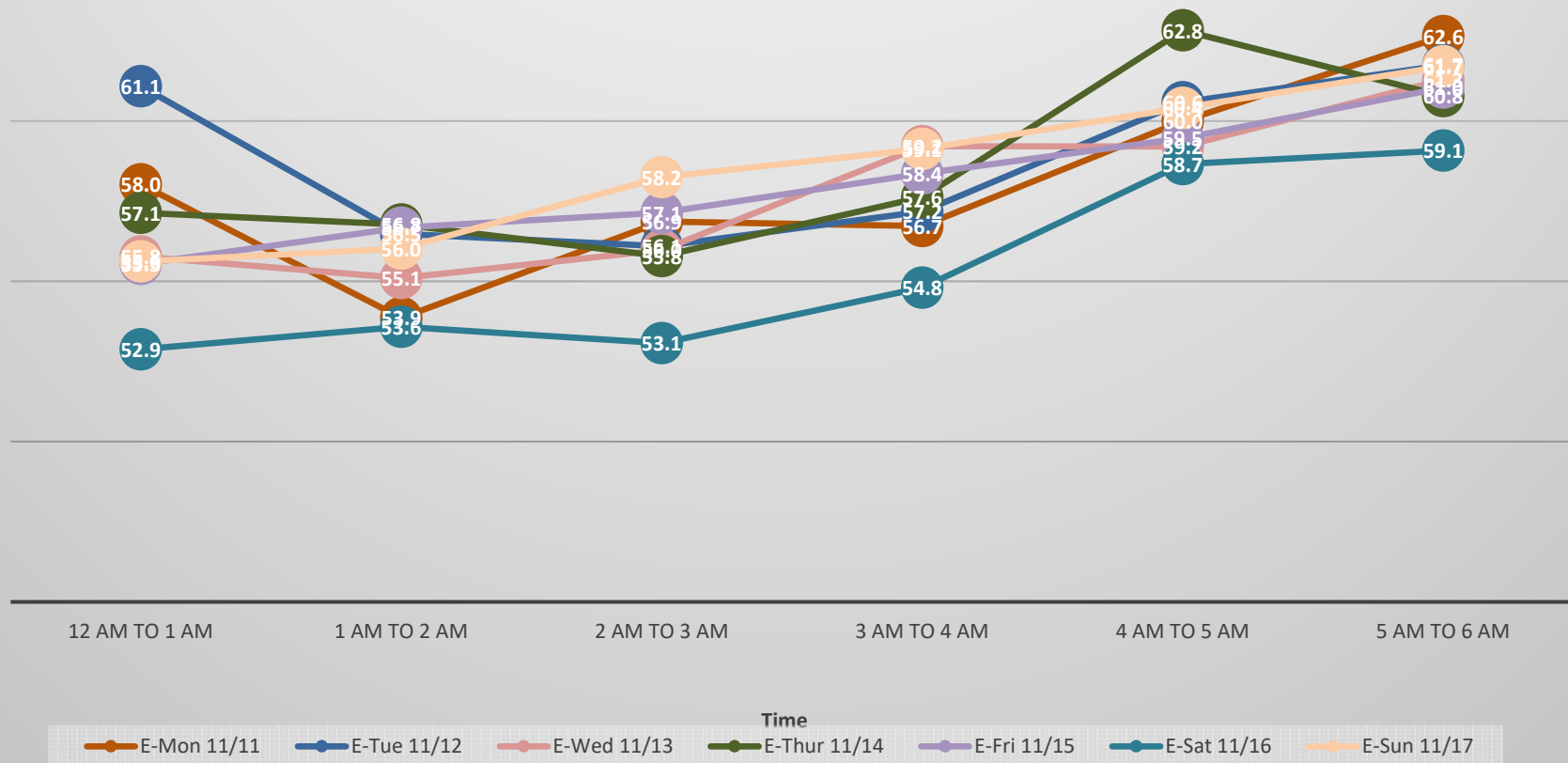


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location E: Newton and Sicard

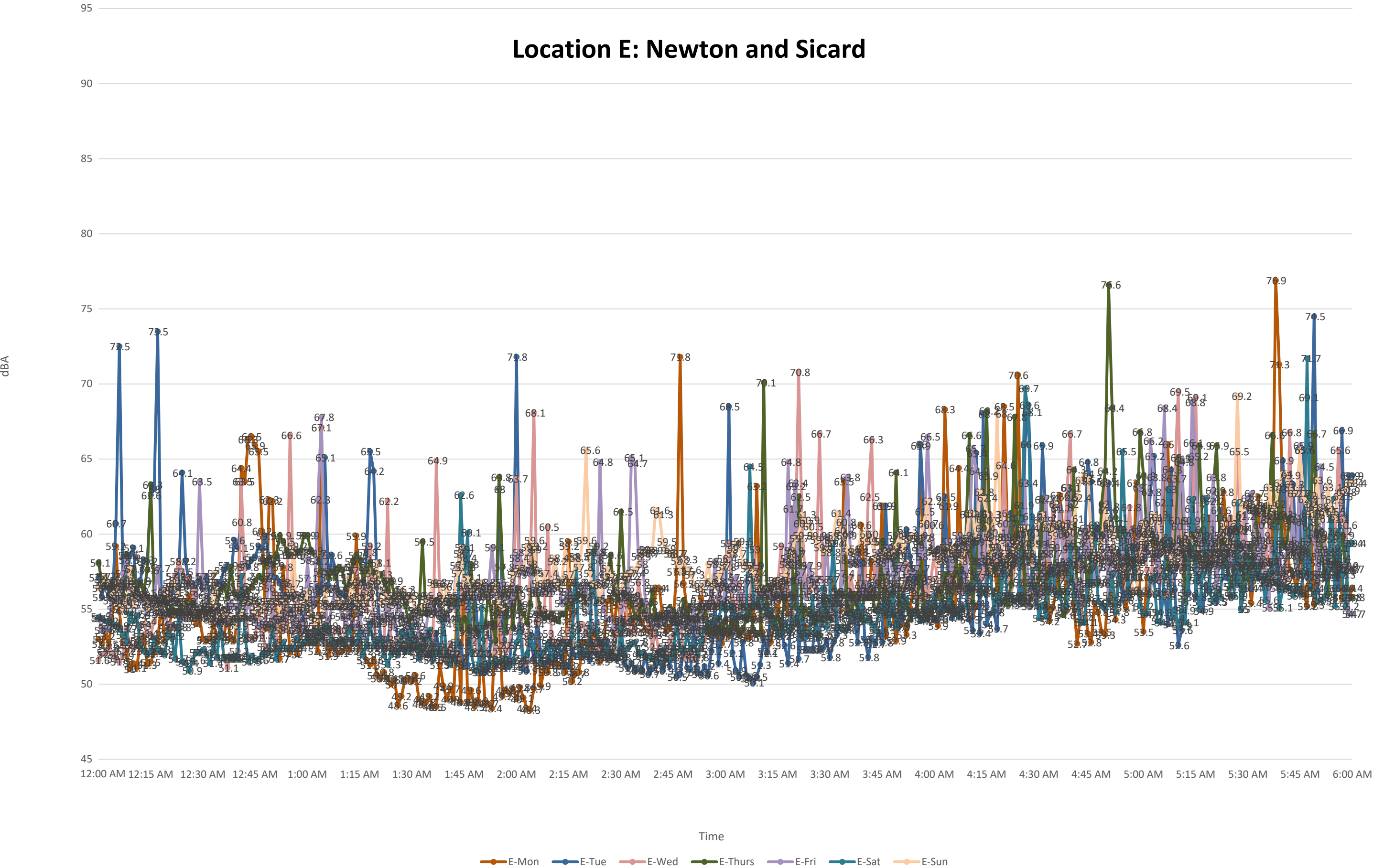


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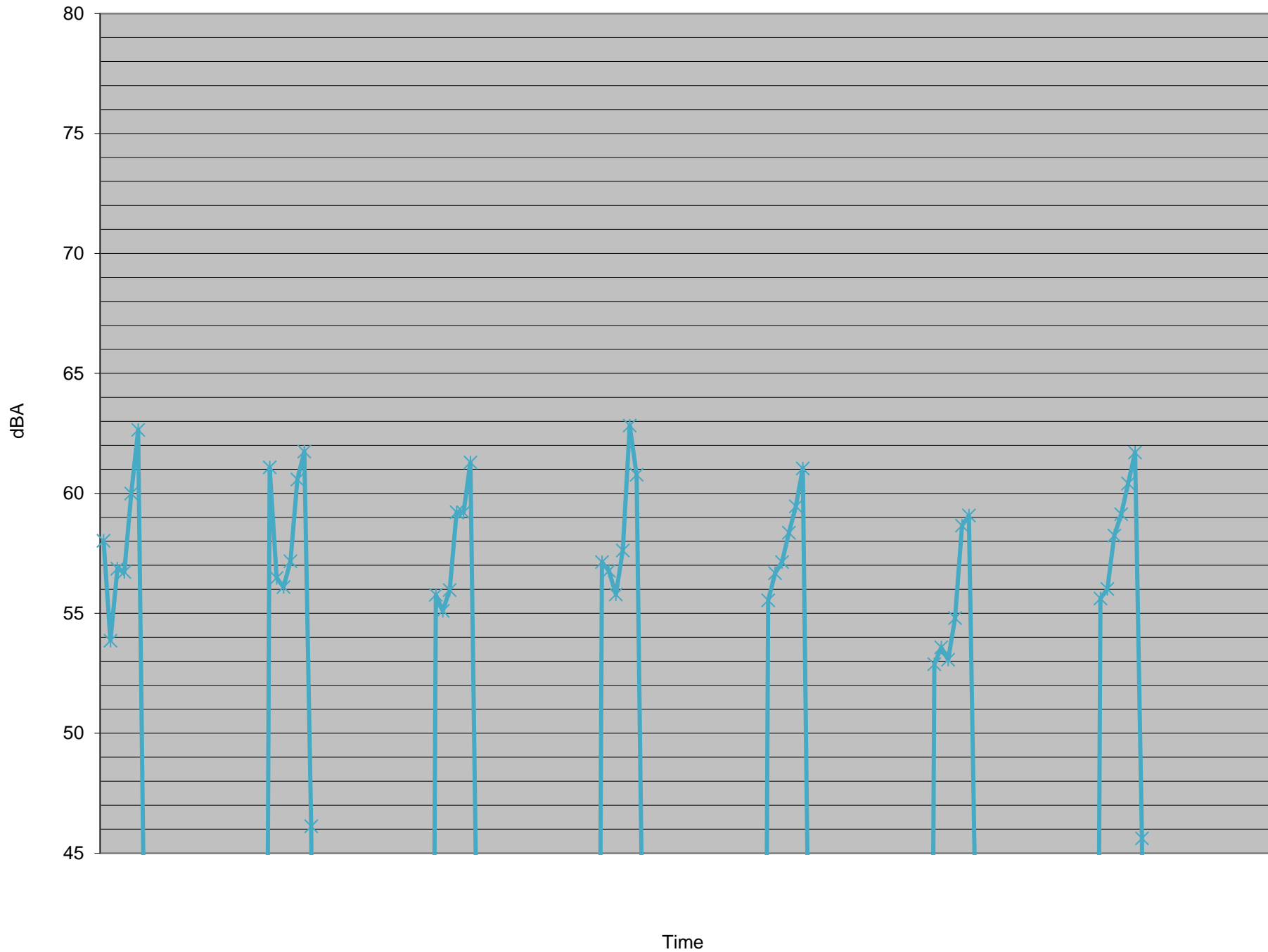


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Minute Intervals

Location E: Newton and Sicard

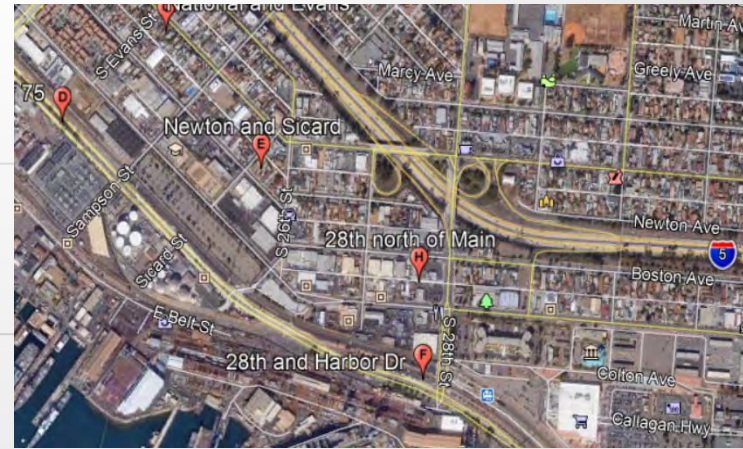


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - LOCATION E

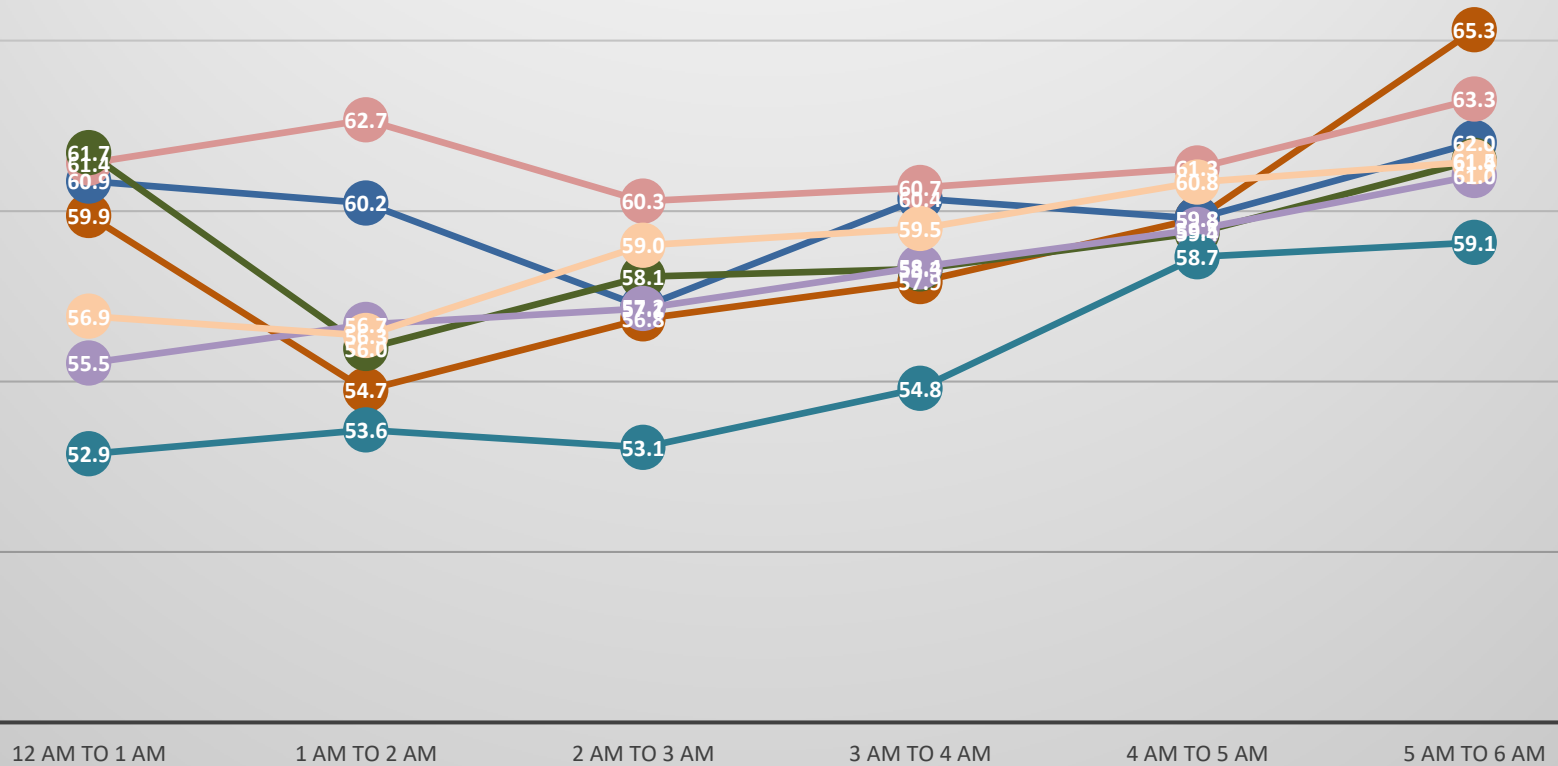


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location E: Newton and Sicard



dBA

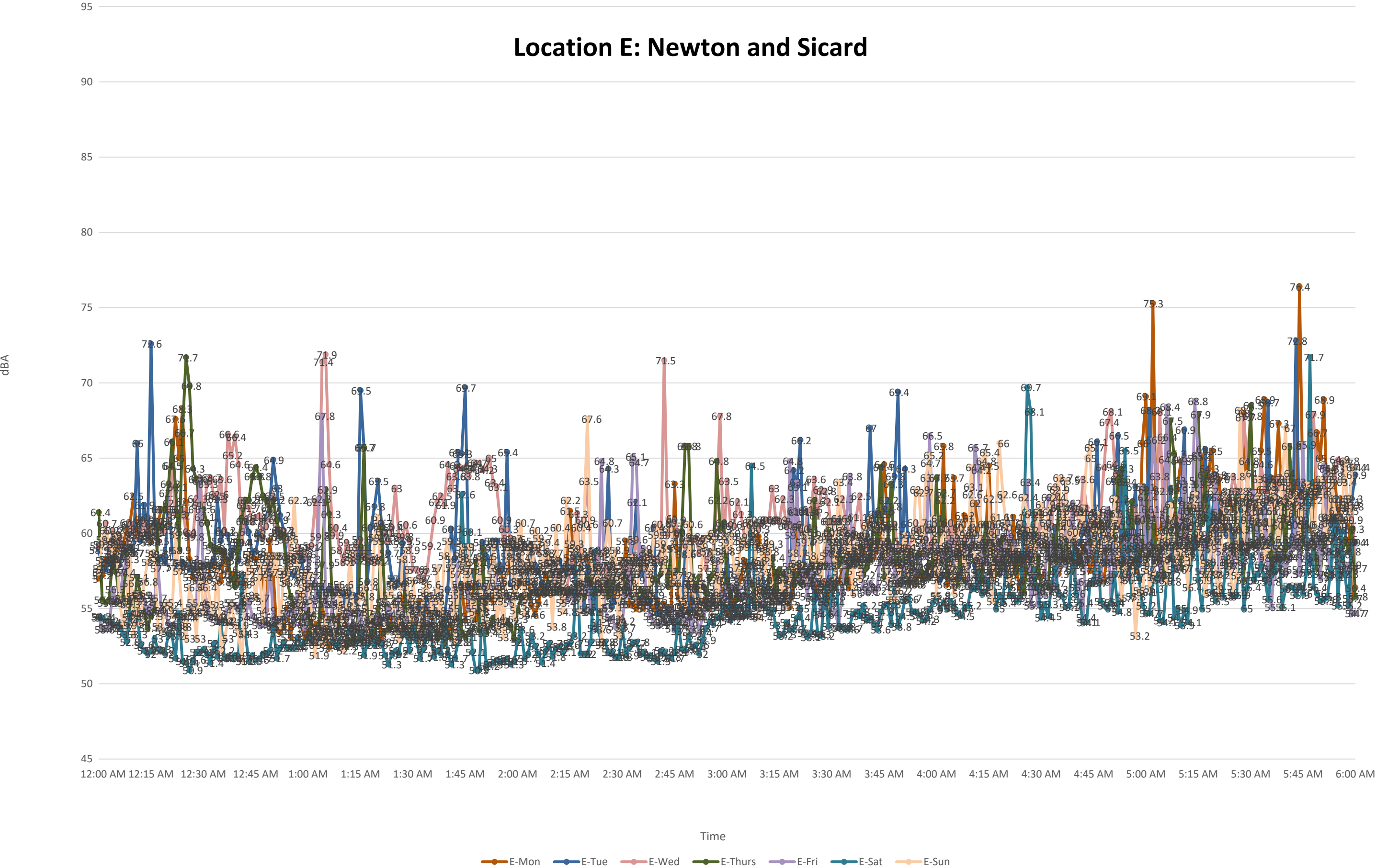


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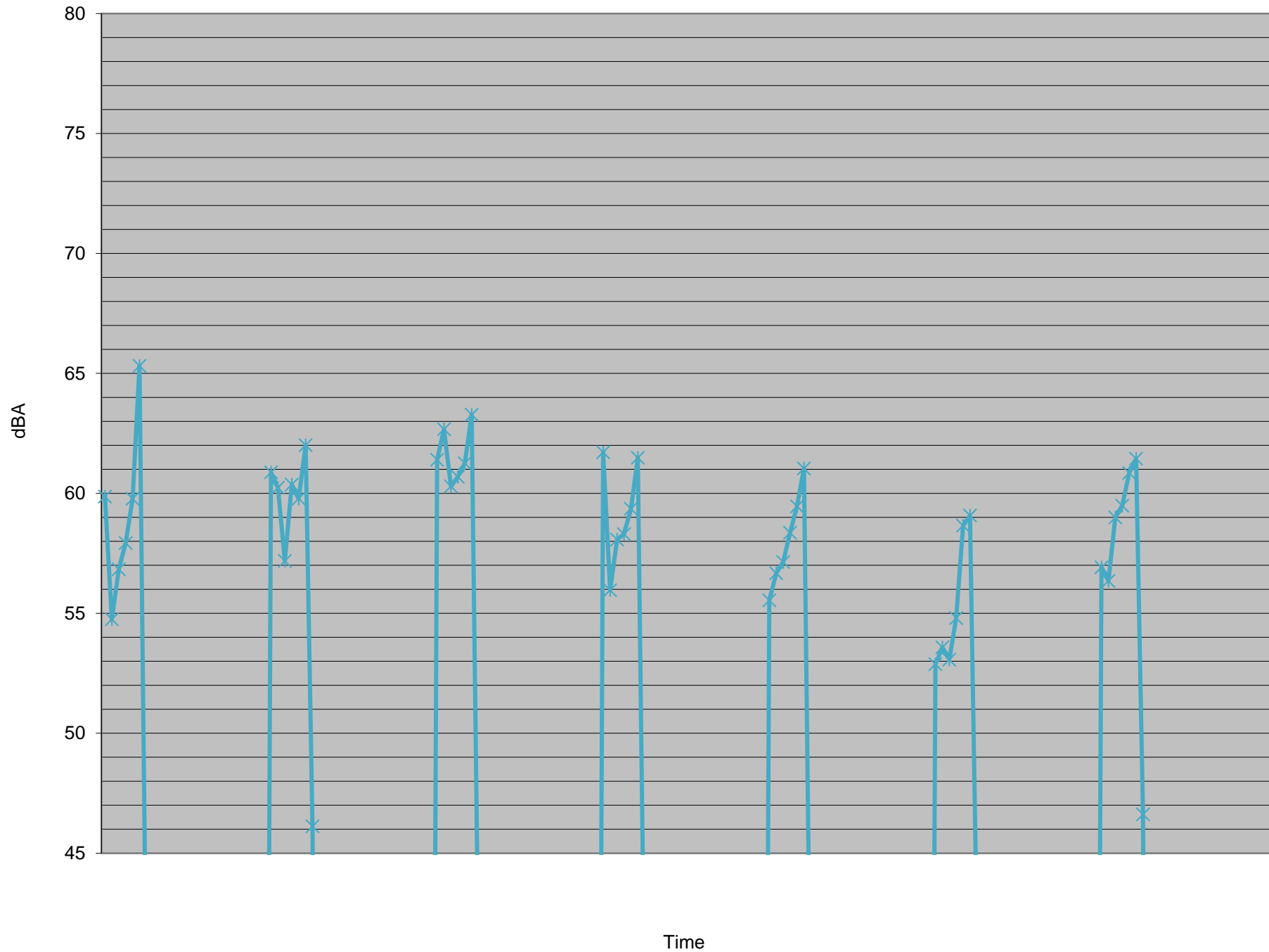
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Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

Location E: Newton and Sicard



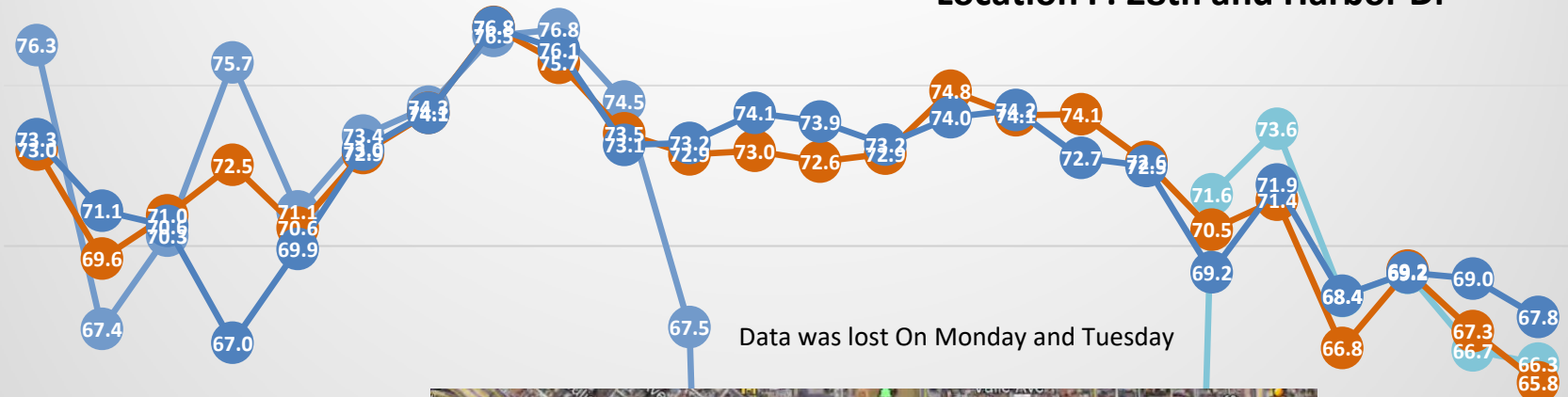
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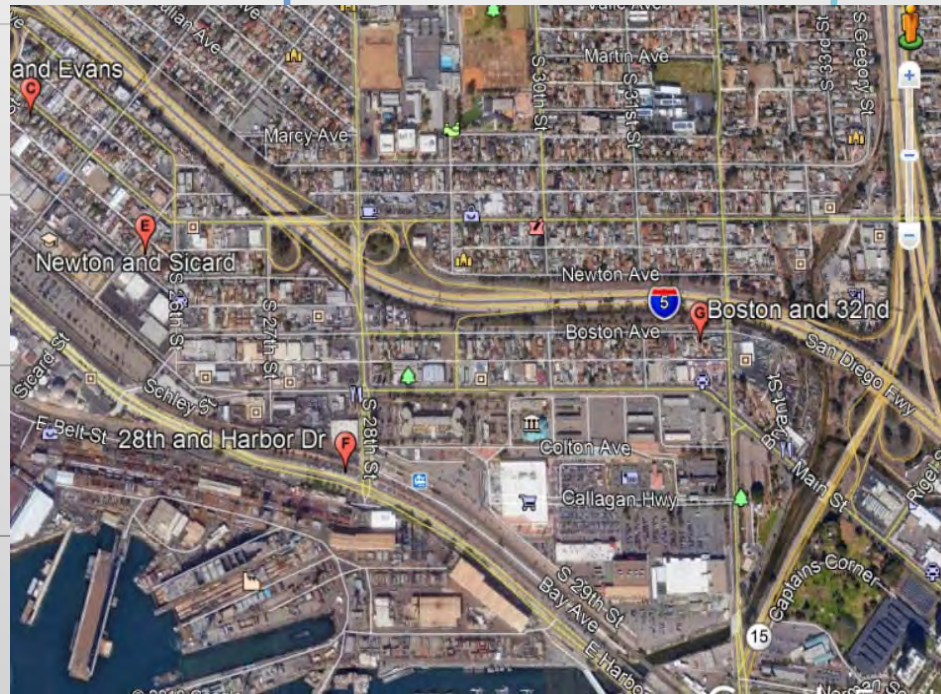
Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location F: 28th and Harbor Dr

dBA



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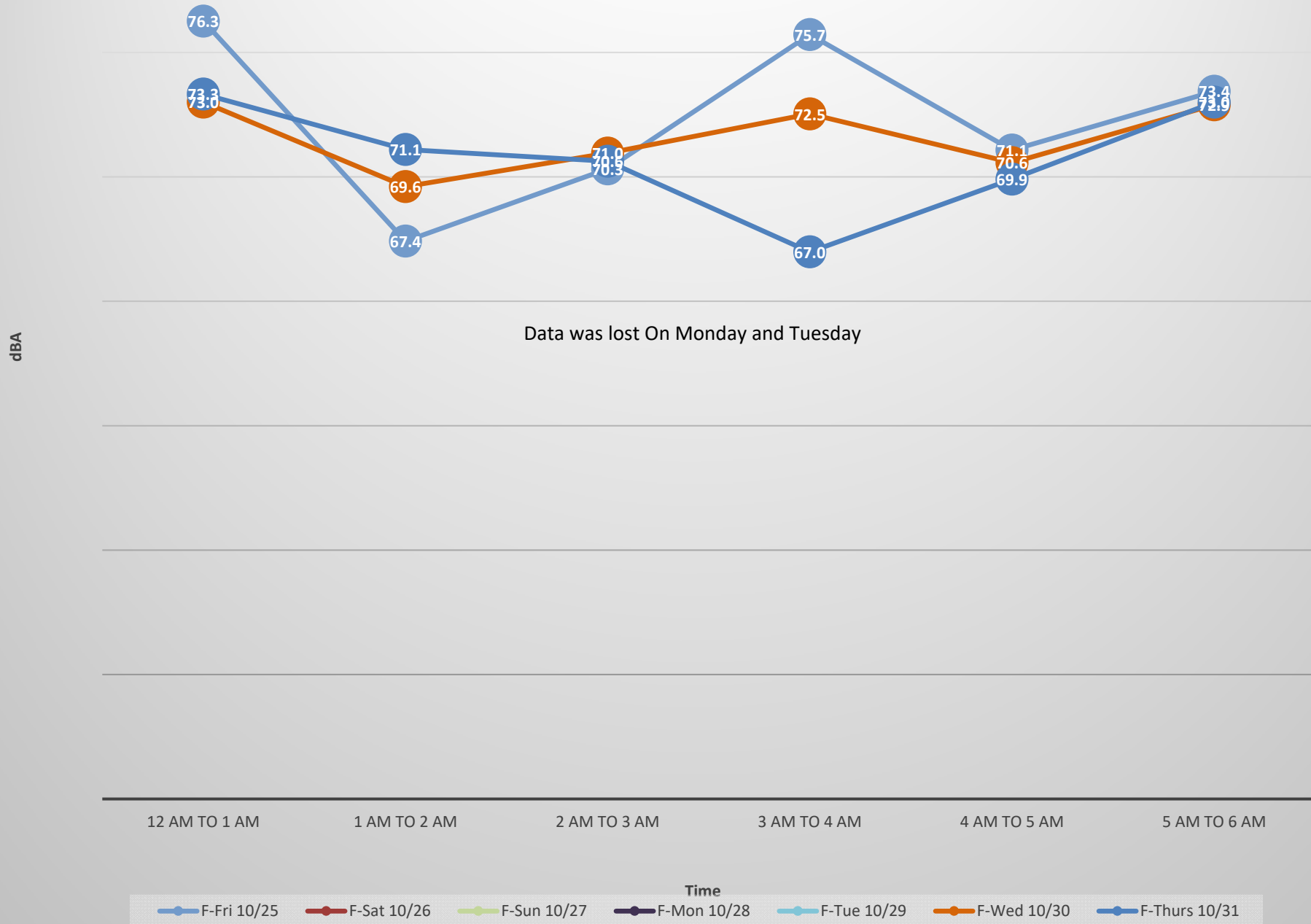
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Time

F-Fri 10/25 F-Sat 10/26 F-Sun 10/27 F-Mon 10/28 F-Tue 10/29 F-Wed 10/30 F-Thurs 10/31

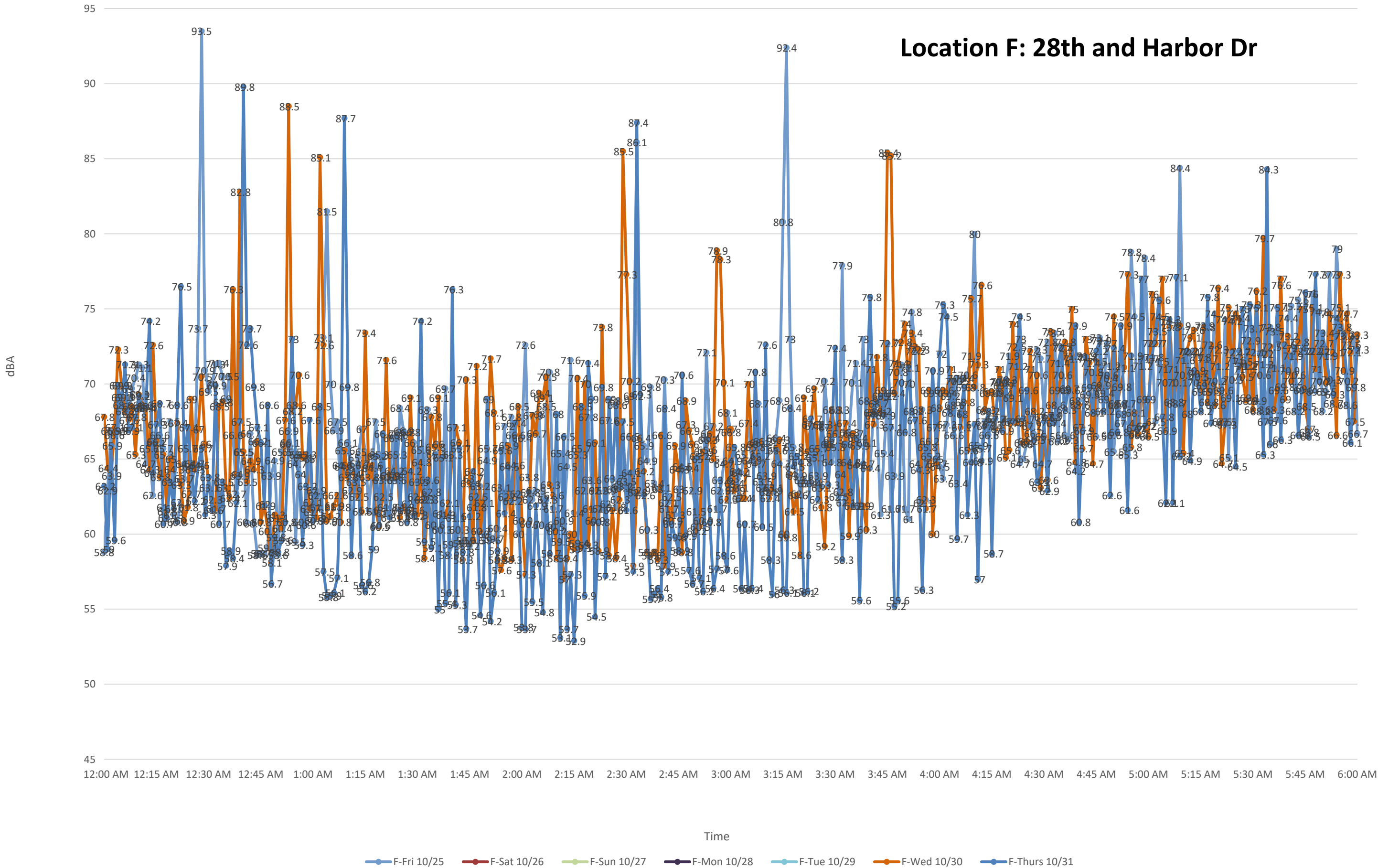
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Location F: 28th and Harbor Dr

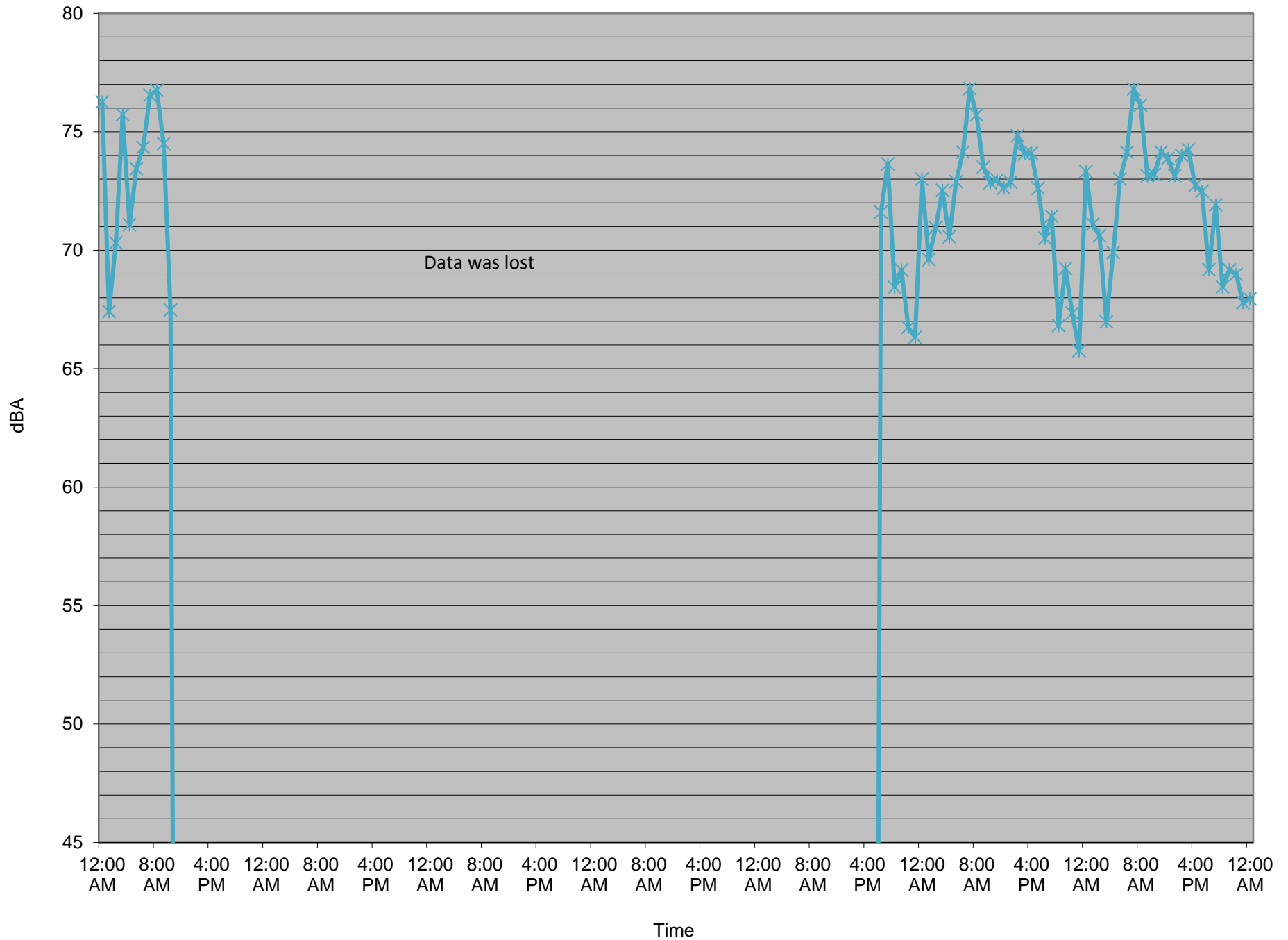


Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

Location F: 28th and Harbor Dr

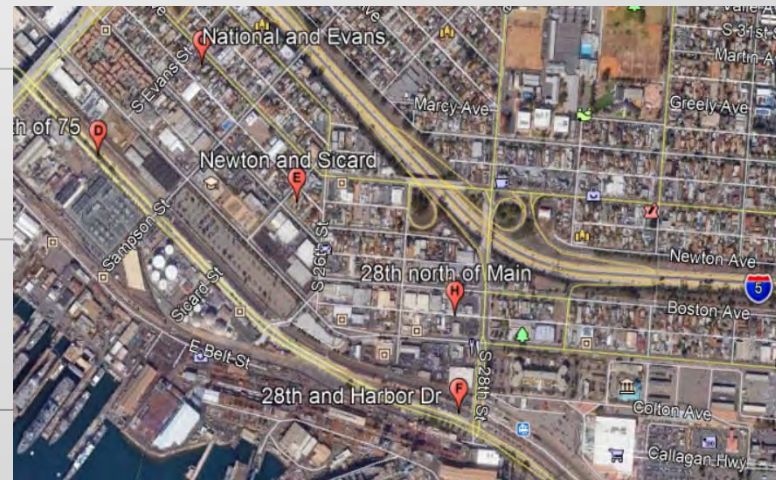


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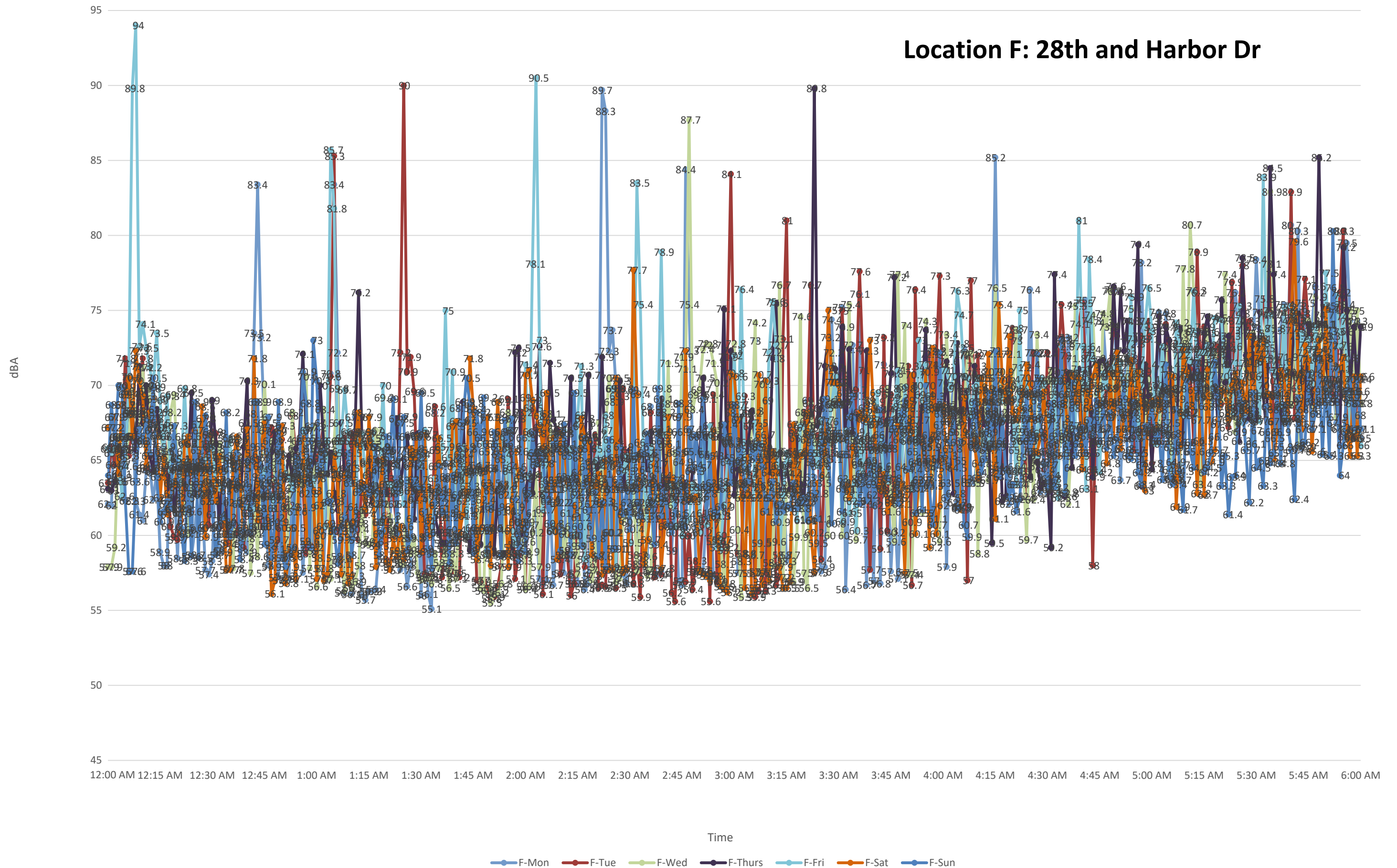


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

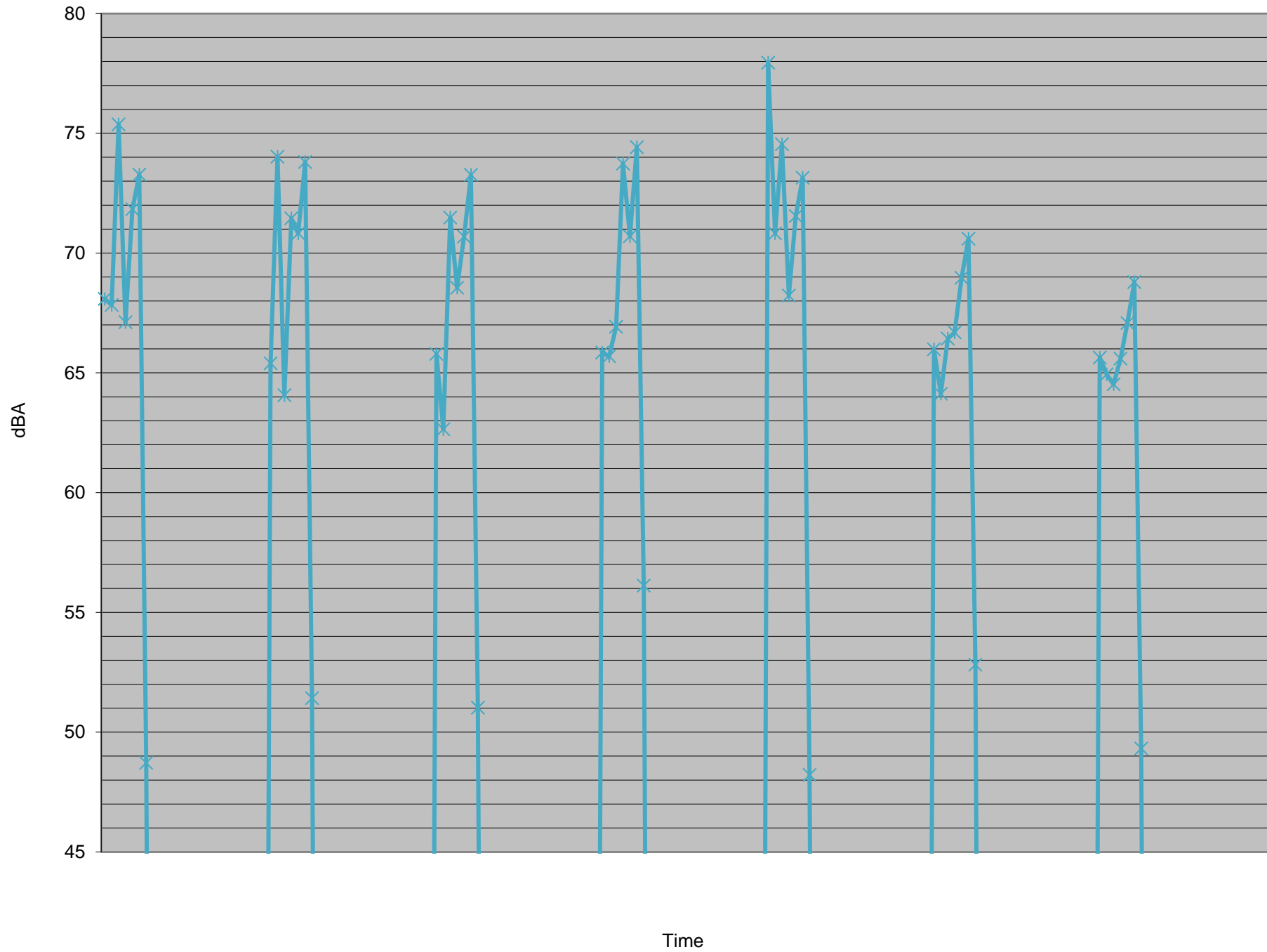
Location F: 28th and Harbor Dr



Location F: 28th and Harbor Dr

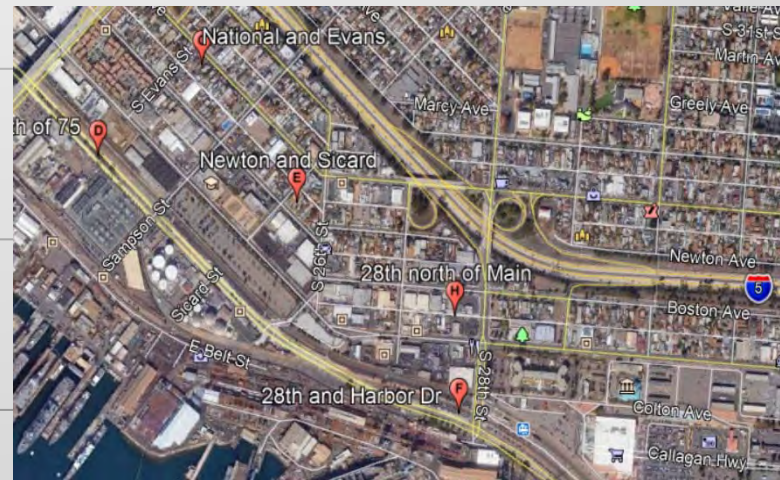


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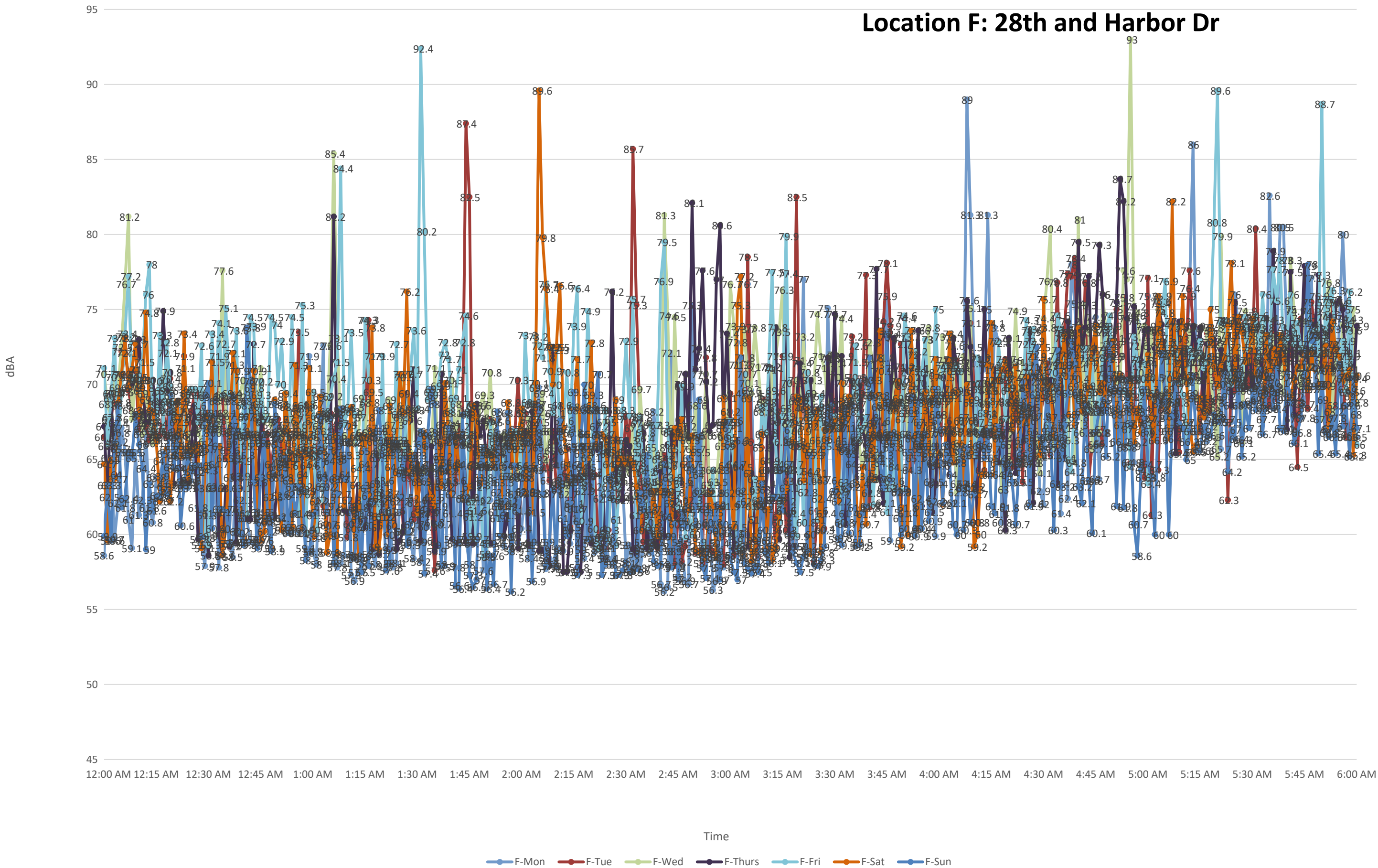


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

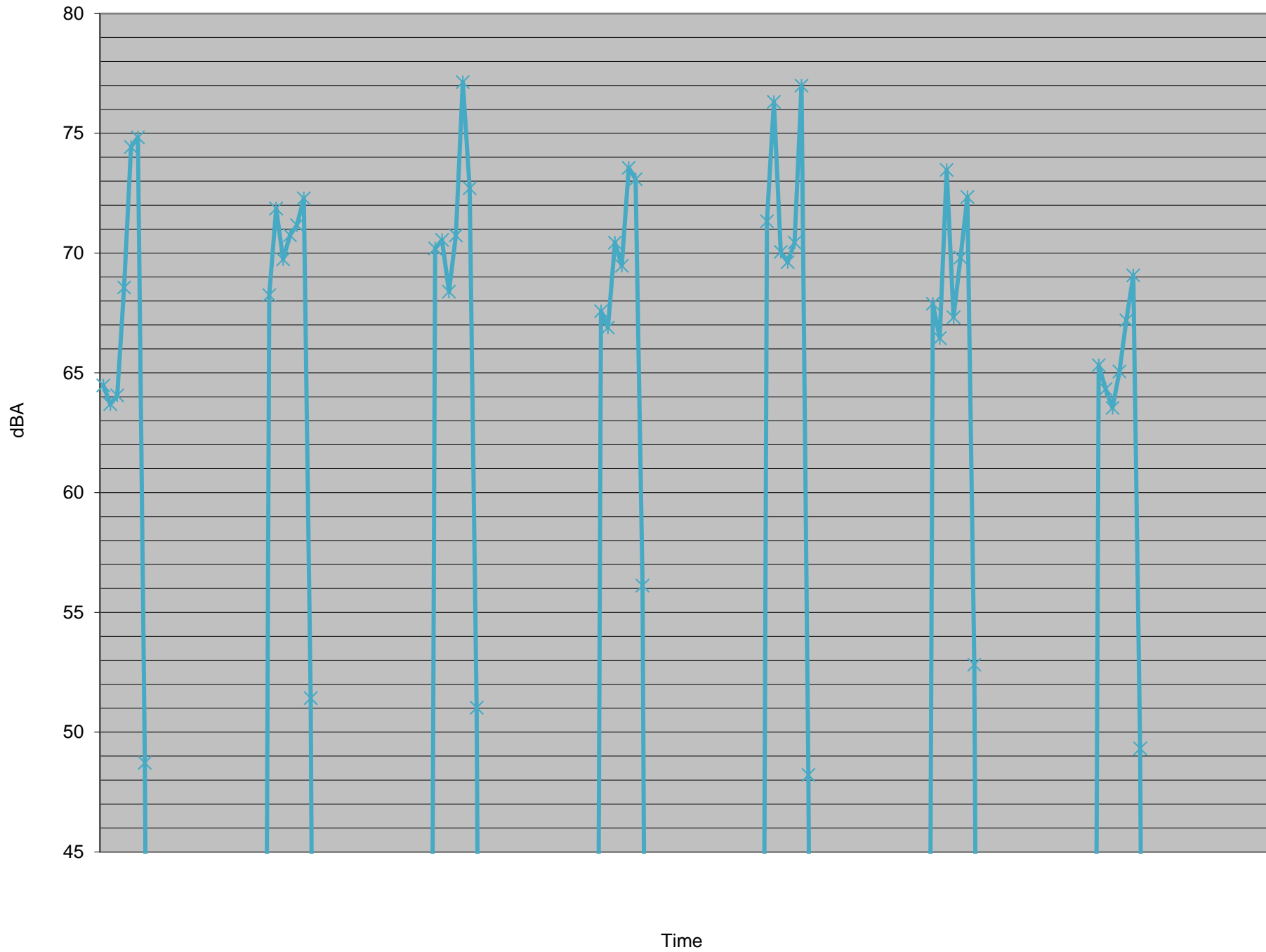
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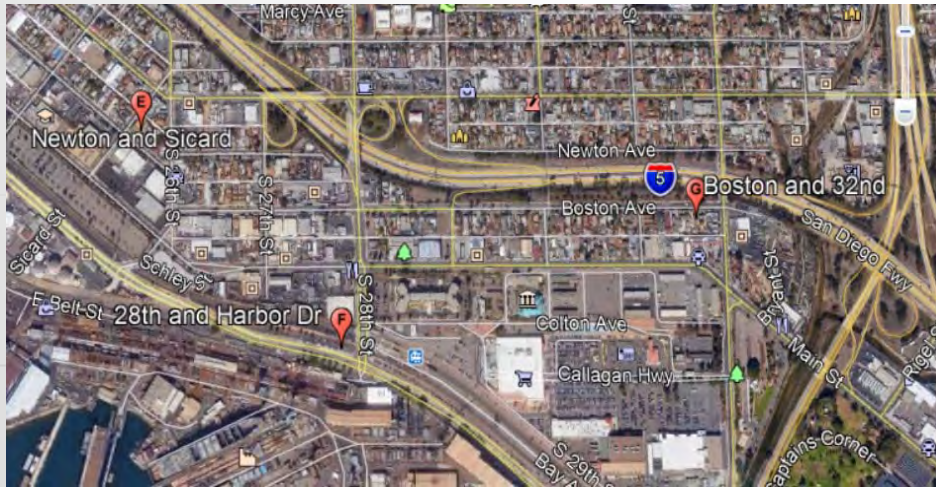
Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals



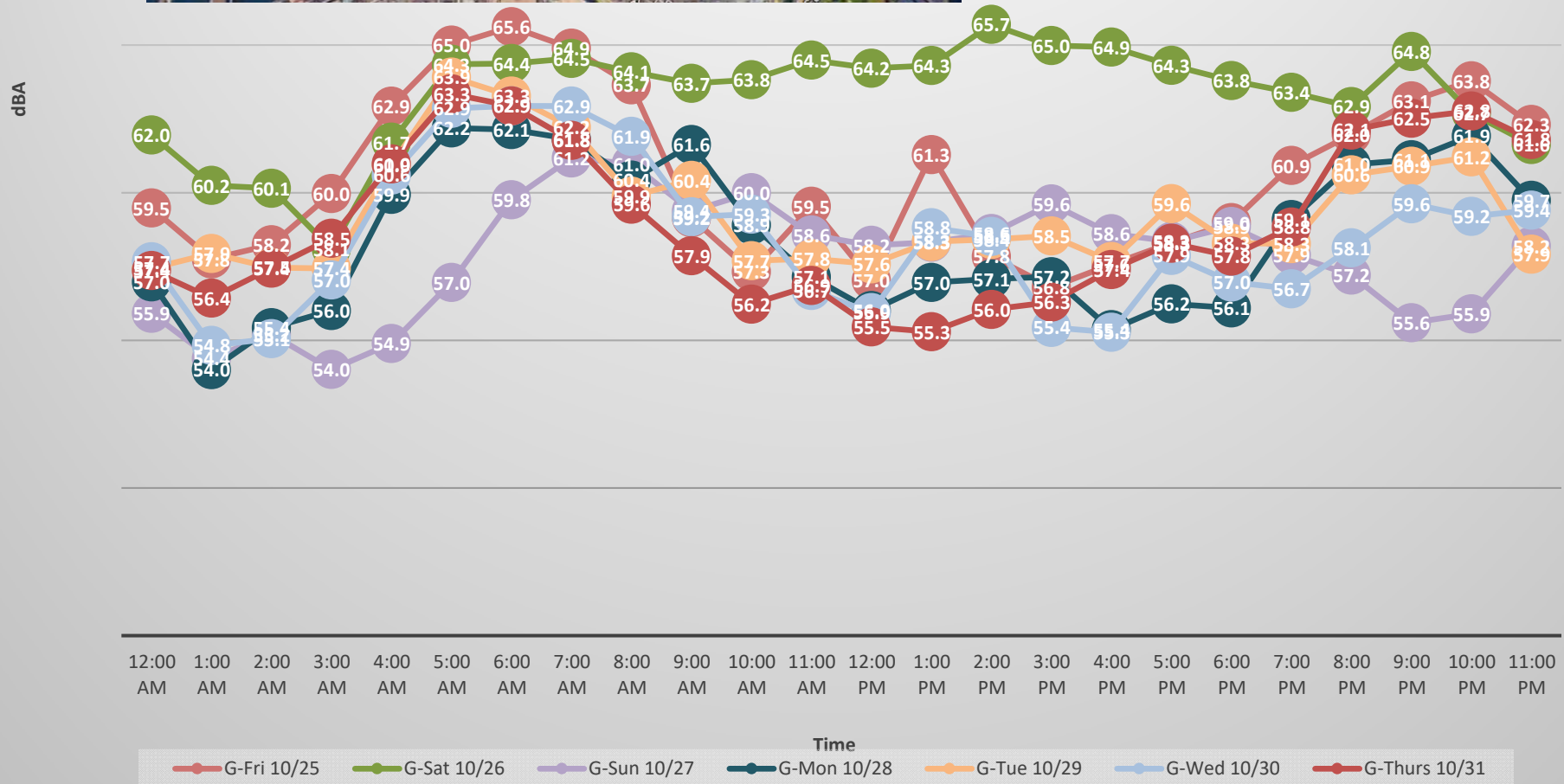
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Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals



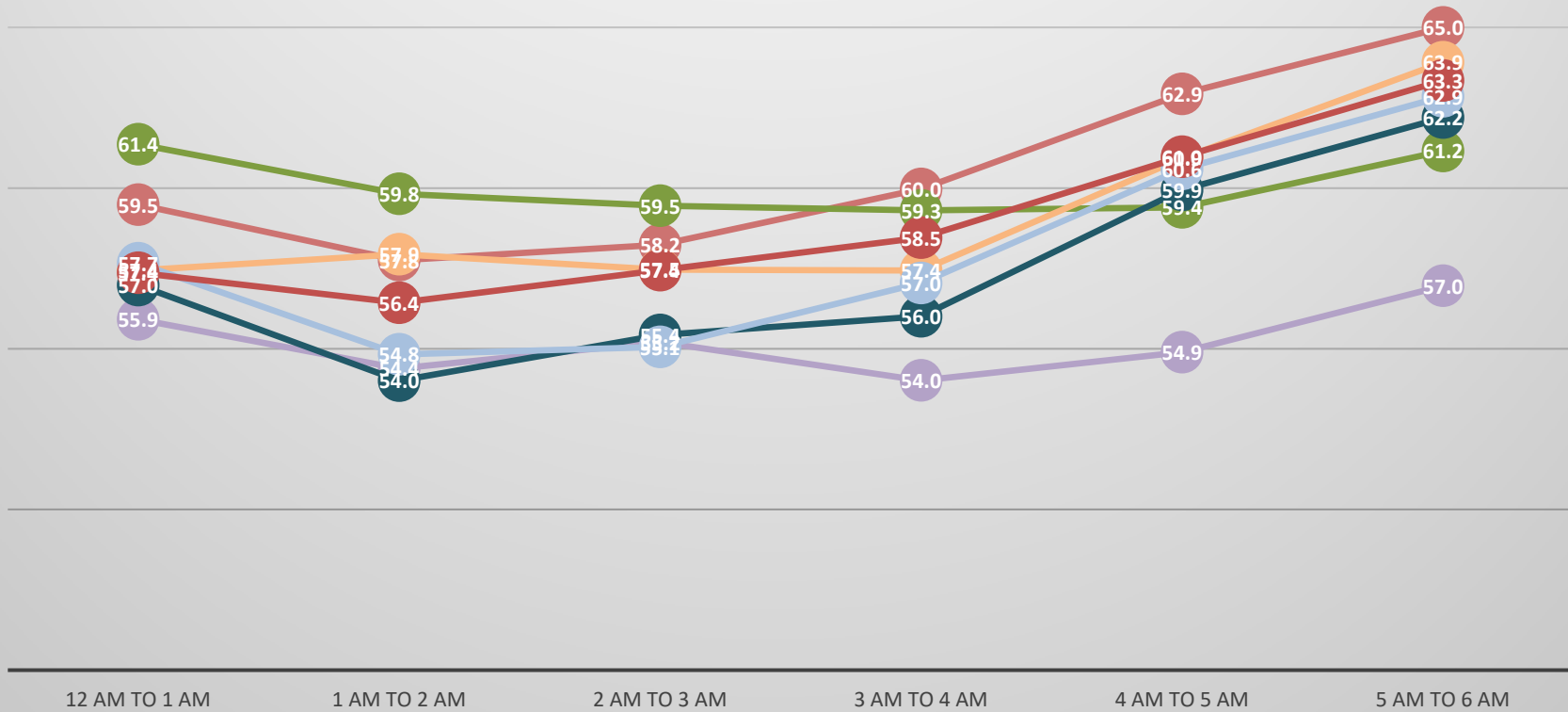
Location G: Boston and 32nd



Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Hourly Intervals

Location G: Boston and 32nd

dBa



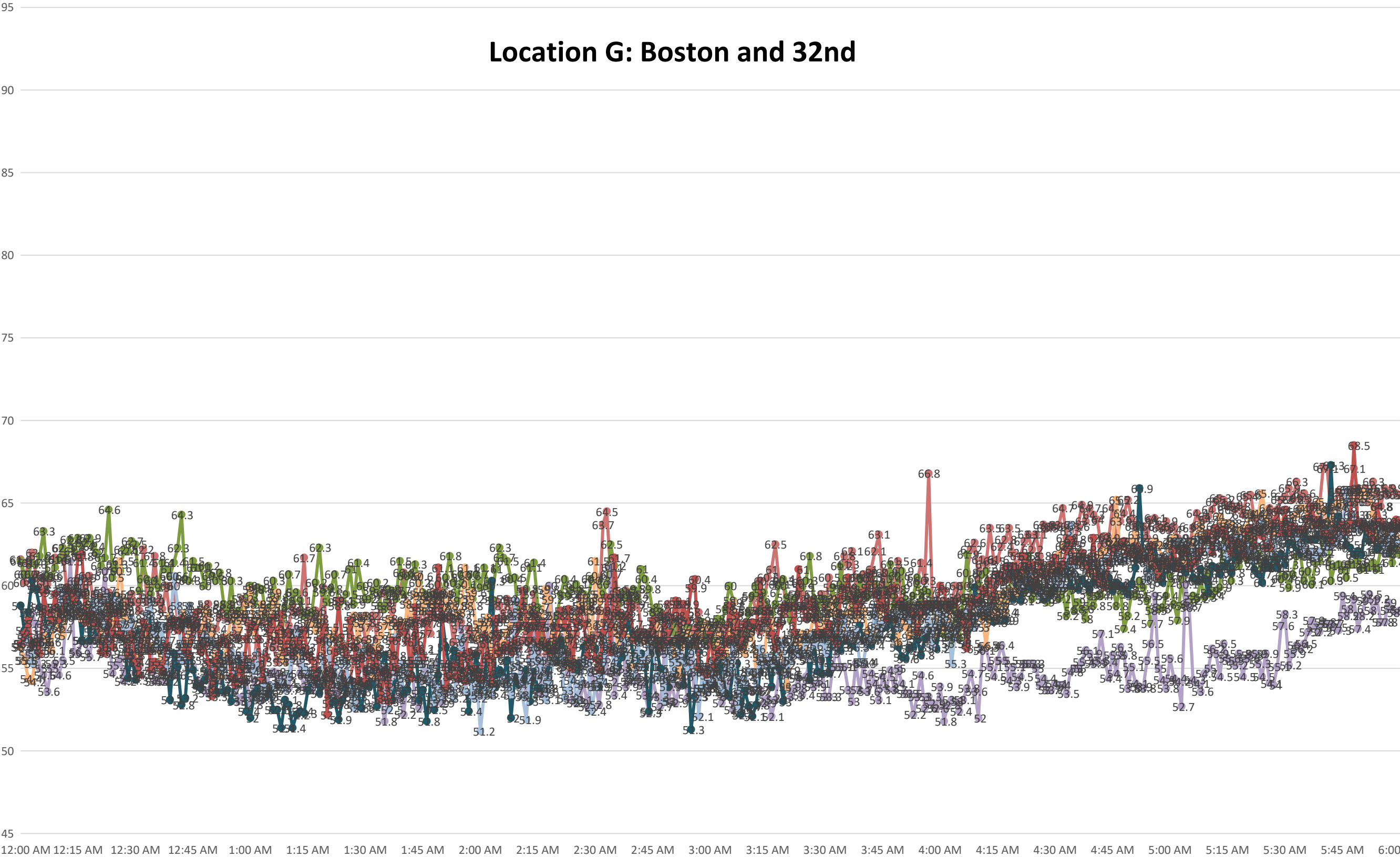
Time

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Barrio Logan Nighttime Noise - 10/25/19 to 10/31/19 - Minute Intervals

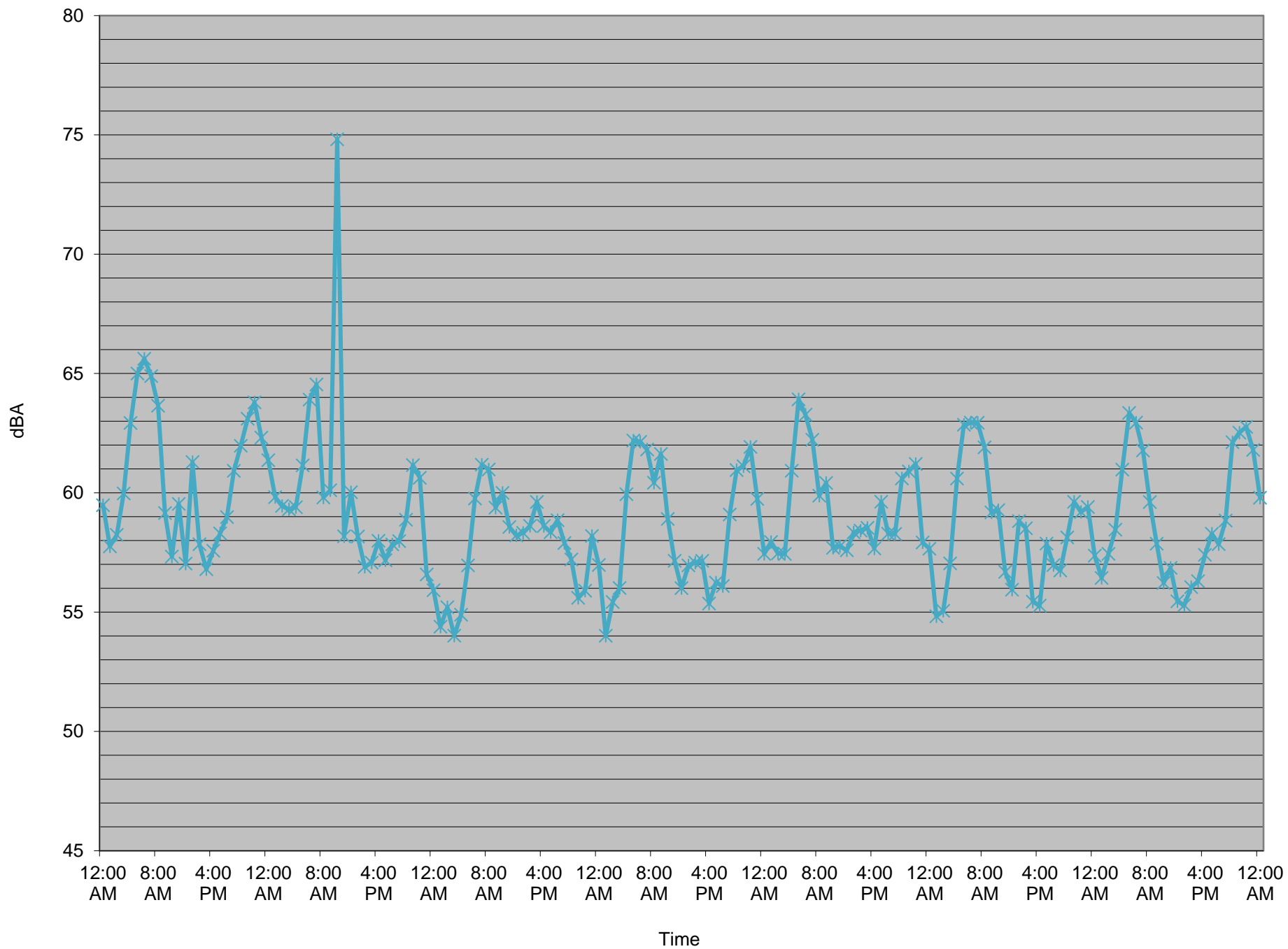
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dBA



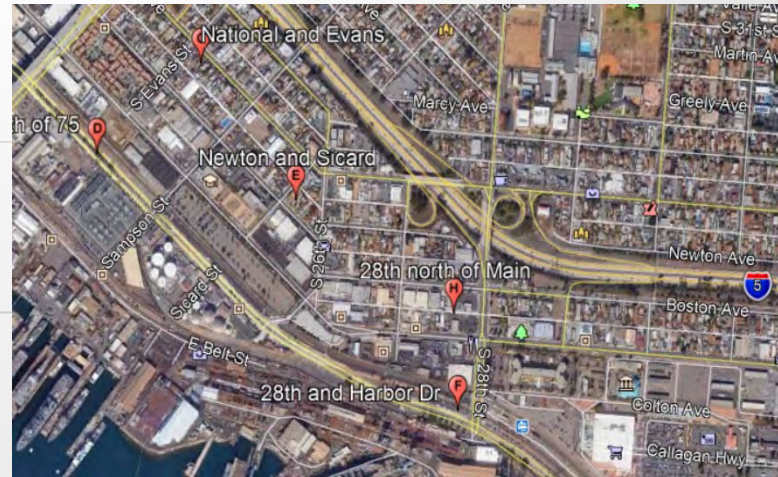
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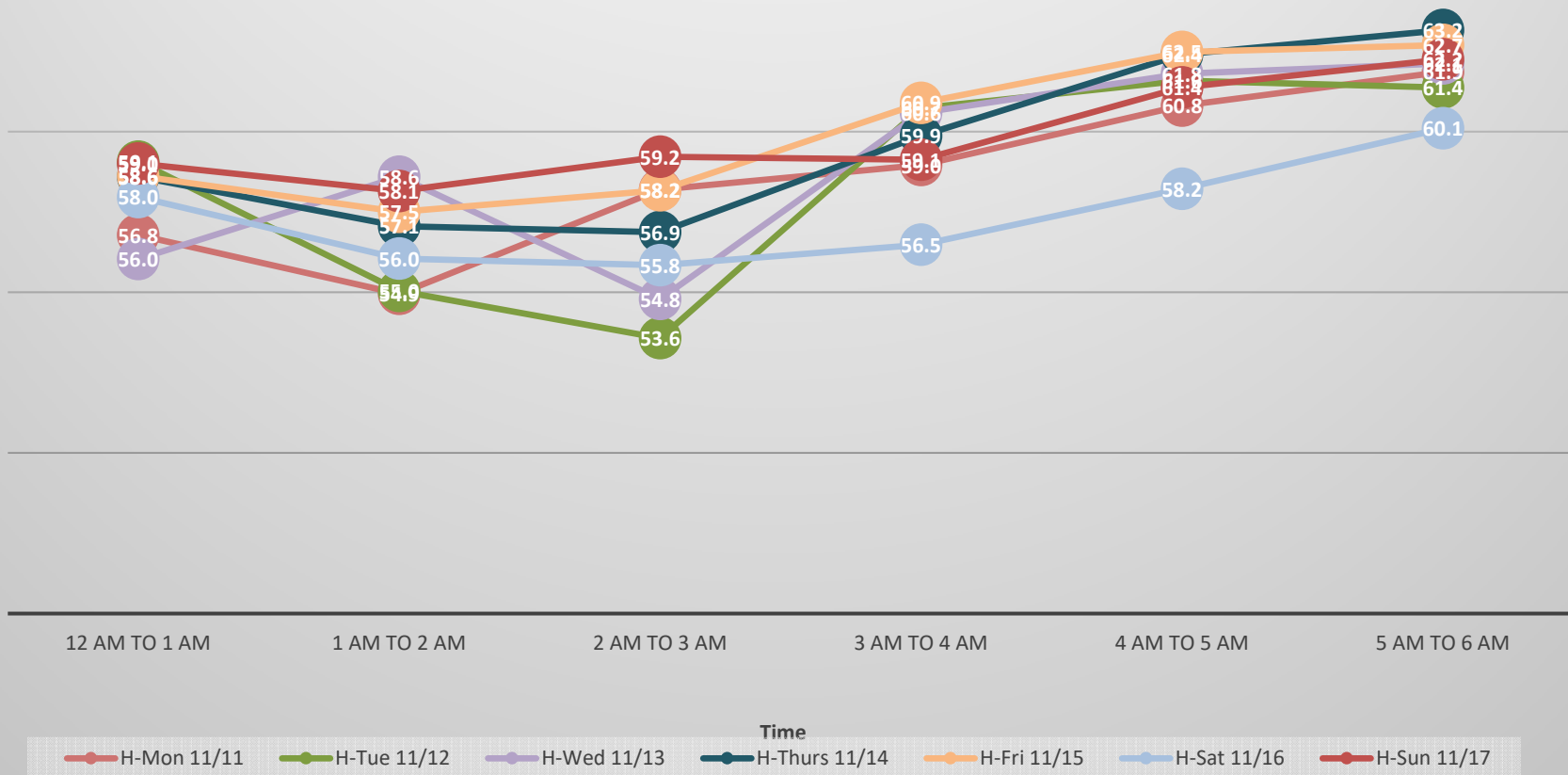


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - Hourly Intervals

Location H: 28th north of Main

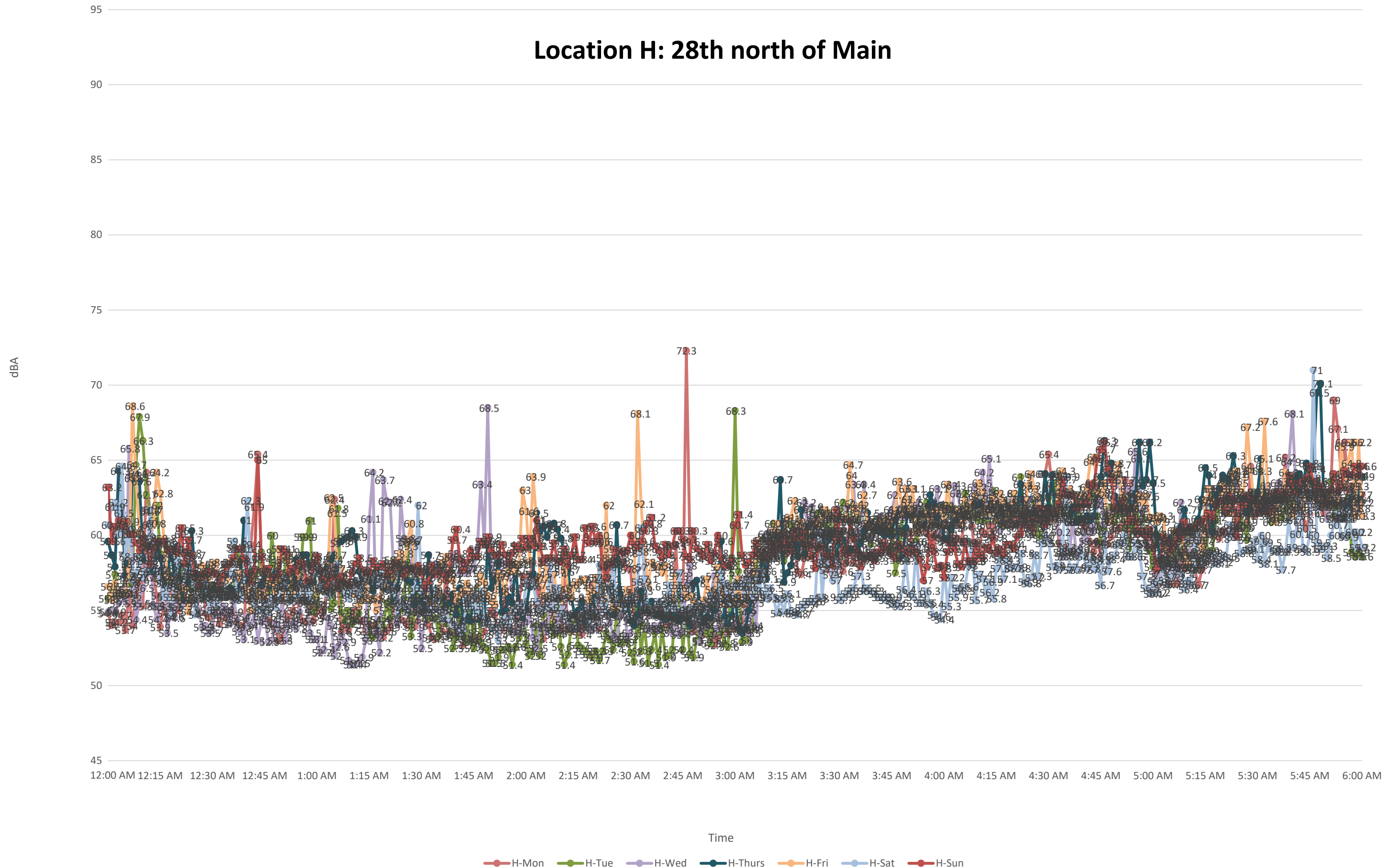


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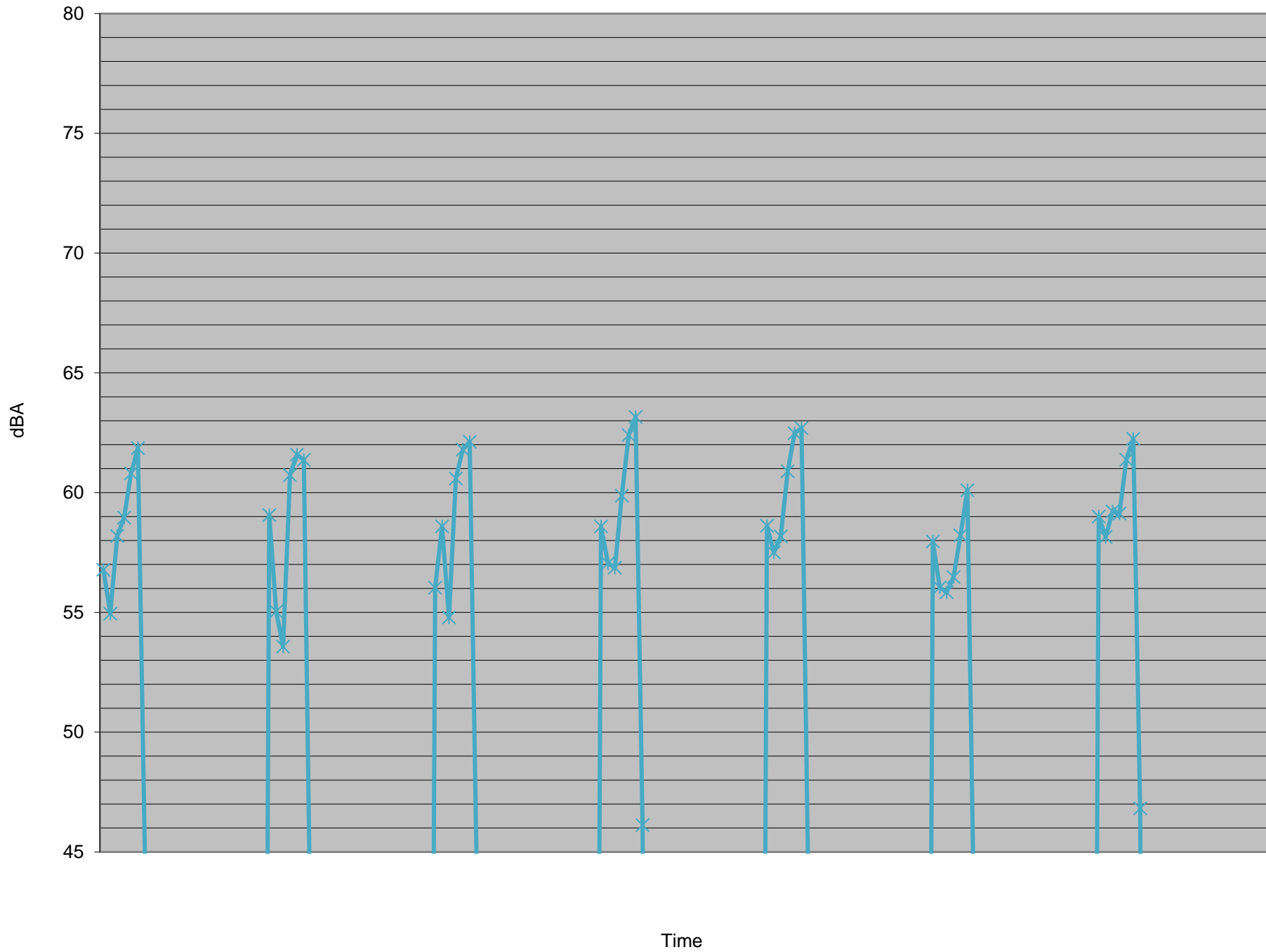


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Location H: 28th north of Main

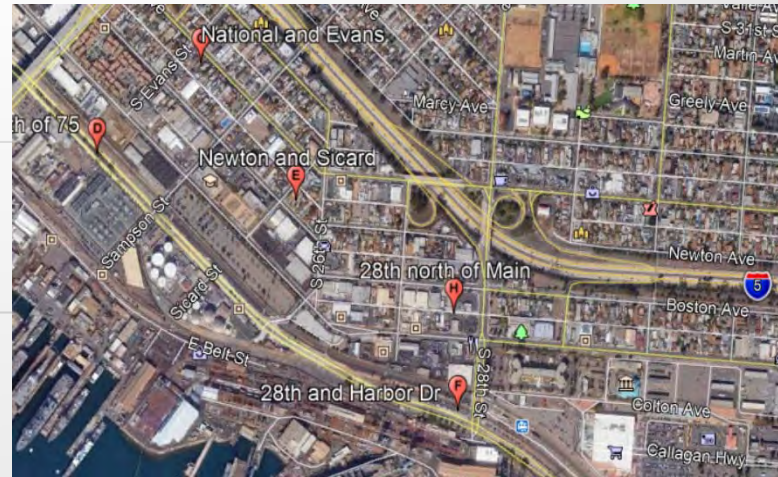


Barrio Logan Nighttime Noise - 11/11/19 to 11/17/19 - LOCATION H

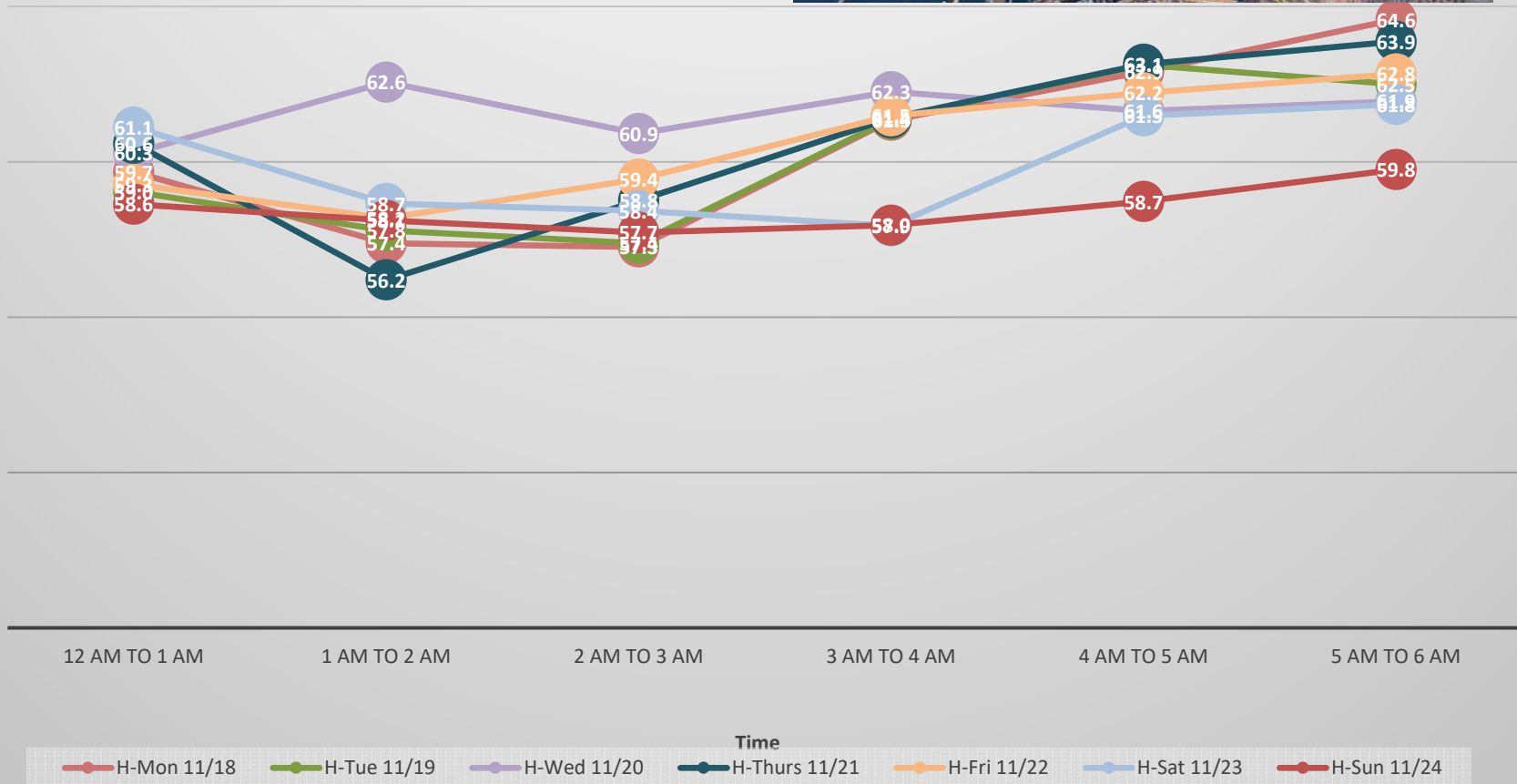


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Hourly Intervals

Location H: 28th north of Main

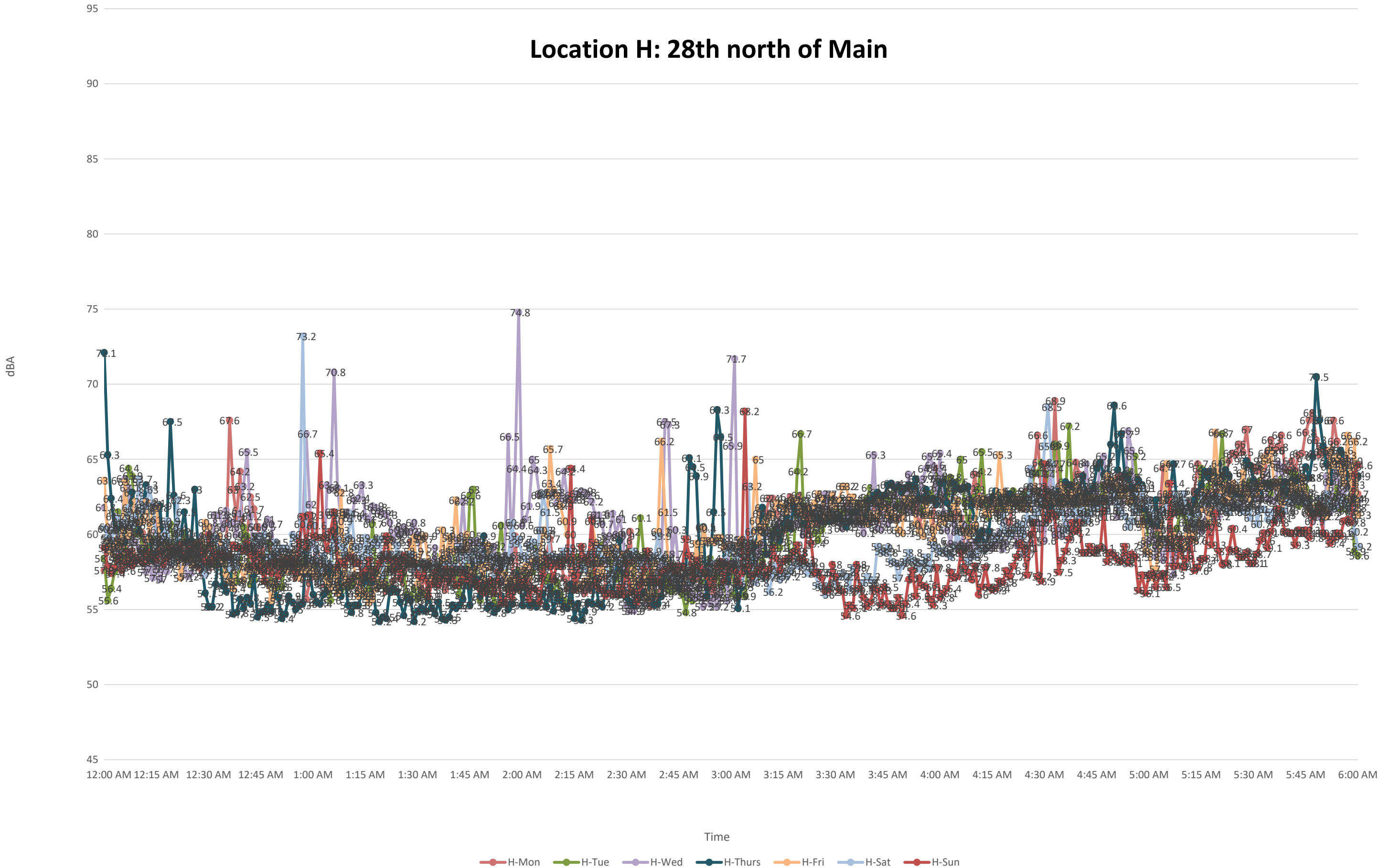


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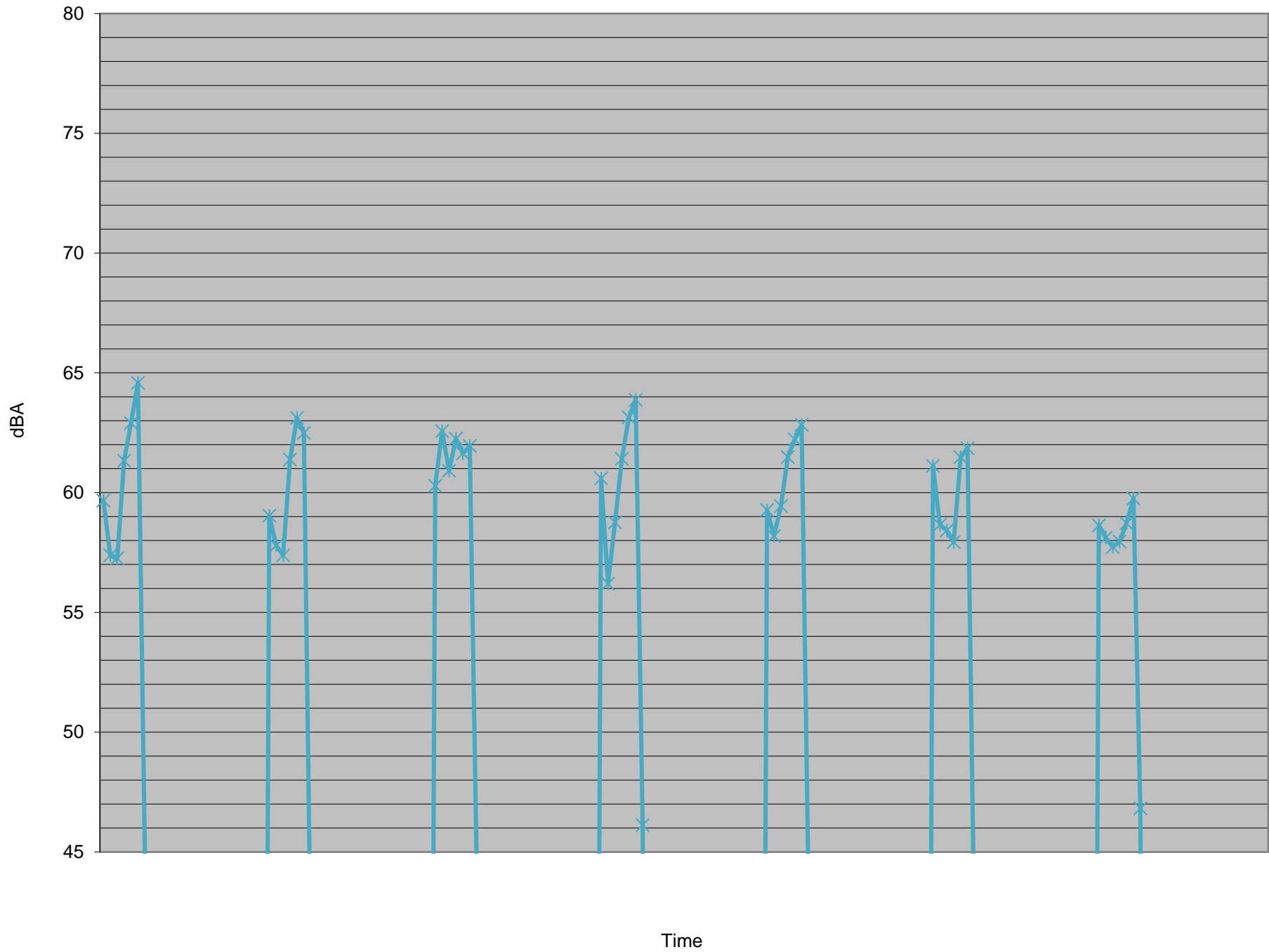


Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - Minute Intervals

Location H: 28th north of Main



Barrio Logan Nighttime Noise - 11/18/19 to 11/24/19 - LOCATION H





Appendix 4. City of San Diego Noise Ordinance



Article 9.5: Noise Abatement and Control

Division 4: Limits

(“Noise Level Limits, Standards and Control”

added 9–18–1973 by O–11122 N.S.)

(Retitled to “Limits” on 9–22–1976 by O–11916 N.S.)

§59.5.0401 Sound Level Limits

- (a) It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

TABLE OF APPLICABLE LIMITS

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
1. Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
2. Multi-Family Residential (Up to a maximum density of 1/2000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
3. All other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
4. Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
5. Industrial or Agricultural	any time	75

- (b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by Sections 59.5.0404 of this article.

- (c) Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of Part A. of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.
- (d) This section does not apply to firework displays authorized by permit from the Fire Department.
- (e) This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit, nor to any roller coaster operated on City-owned parkland.

(Amended 9-11-1989 by O-17337 N.S.)

(Amended 11-28-2005 by O-19446 N.S.; effective 2-9-2006.)

§59.5.0402 Motor Vehicles

- (a) Off-Highway
 - (1) Except as otherwise provided for in this article, it shall be unlawful to operate any motor vehicle of any type on any site, other than on a public street or highway as defined in the California Vehicle Code, in any manner so as to cause noise in excess of those noise levels permitted for on-highway motor vehicles as specified in the table for “45 mile-per-hour or less speed limits” contained in Section 23130 of the California Vehicle Code, and as corrected for distances set forth in subsection A.2. below.
 - (2) Corrections

The maximum noise level as the off-highway vehicle passes may be measured at a distance of other than fifty (50) feet from the center line of travel, provided the measurement is further adjusted by adding algebraically the applicable correction as follows:

Distance (Feet)	Correction (decibels)
25	-6
28	-5
32	-4
35	-3
40	-2
45	-1
50 (preferred distance)	0
56	+1
63	+2
70	+3
80	+4
90	+5
100	+6

(3) A measured noise level thus corrected shall be deemed in violation of this section if it exceeds the applicable noise-level limit as specified above.

(b) Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns.

(“Motor Vehicles” renumbered from Sec. 59.5.0403 on 9-22-1976 by O-11916 N.S.)

§59.5.0403 Watercraft

Violations for excessive noise of watercraft operating in waters under the jurisdiction of The City of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code. Permits issued by The City of San Diego for the operation of watercraft not in compliance with noise criteria of the Harbors and Navigation Code shall be reviewed and approved by the Administrator prior to issuance.

(“Watercraft” renumbered from Sec. 59.5.0407 and amended 9-22-1976 by O-11916 N.S.)

§59.5.0404 Construction Noise

- (a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.0104 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.
- (b) Except as provided in subsection C. hereof, it shall be unlawful for any person, including The City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- (c) The provisions of subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

(Amended 1-3-1984 by O-16100 N.S.)

(Amended 8-9-2019 by O-21114 N.S.; effective 9-8-2019.)

§59.5.0406 Refuse Vehicles and Parking Lot Sweepers

No person shall operate or permit to be operated a refuse compacting, processing, or collection vehicle between the hours of 7:00 p.m. to 6:00 a.m. or a parking lot sweeper between the hours of 7:00 p.m. to 7:00 a.m. in any residential area unless a permit has been applied for and granted by the Administrator.

(“Refuse Vehicles” added 9-18-1973 by O-11122 N.S.; amended 9-22-1976 by O-11916 N.S.)

(Amended 6-9-2010 by O-19960 N.S.; effective 7-9-2010.)



Appendix 5.

City of San Diego Resolution
R-2019-249
(Establish Five-ton Commercial Vehicle
Prohibitions in Barrio Logan)



RESOLUTION NUMBER R-_____

DATE OF FINAL PASSAGE _____

A RESOLUTION OF THE COUNCIL OF THE CITY OF
SAN DIEGO TO ESTABLISH FIVE-TON COMMERCIAL
VEHICLE PROHIBITIONS ON VARIOUS STREETS IN THE
COMMUNITY OF BARRIO LOGAN.

WHEREAS, San Diego Municipal Code section 85.04 authorizes the City Council to prohibit commercial vehicles on designated streets by resolution; and

WHEREAS, residents and the Environmental Health Coalition have petitioned the City to prohibit commercial vehicles with a rated capacity of five-tons or more from certain streets in the Barrio Logan community; and

WHEREAS, the Environmental Health Coalition presented the proposal to the Environment Committee on April 12, 2018. By unanimous vote, the Environment Committee requested that the City examine the proposal and return to the Environment Committee with the appropriate draft resolution or ordinance for consideration to implement the proposal; and

WHEREAS, City staff conducted analysis of traffic flow in the area and determined the proposal to prohibit commercial vehicles to be warranted in certain areas of Barrio Logan. In addition, the Port District, Caltrans, National City, and the Barrio Logan Planning Group support this proposal; and

WHEREAS, this proposal is being docketed for the City Council's consideration without returning to the Environment Committee as requested, which requires a suspension of Rule 6.9 of the Rules of Council regarding Committee hearings on resolutions and ordinances, by a two-thirds vote of the City Council pursuant to Rule 2.12; NOW, THEREFORE,

BE IT RESOLVED, by the Council of the City of San Diego, that Rule 6.9 is hereby suspended so that the City Council can consider this proposal without further consideration by the Environment Committee.

BE IT FURTHER RESOLVED, that a prohibition on five-ton commercial vehicles is established on the following streets:

- Main Street between 28th Street and 32nd Street,
- 29th Street between Boston Avenue and Main Street,
- 30th Street between Boston Avenue and Main Street,
- 31st Street between Boston Avenue and Main Street,
- Sigsbee Street between Logan Avenue and Harbor Drive,
- Beardsley Street between Main Street and Harbor Drive, and
- Boston Avenue between 28th Street and 32nd Street, with an exemption for commercial vehicles over five-tons but with a height over 13 feet 6 inches.

BE IT FURTHER RESOLVED, that the Chief Financial Officer is authorized to expend funds not to exceed \$1,319 from 100000 General Fund, Transportation & Storm Water Department – Street Division’s (211611) operating budget, for the installation of the necessary signs to establish the five-ton commercial vehicle prohibitions on the designated streets.

APPROVED: MARA W. ELLIOTT, City Attorney

By _____
Ryan P. Gerrity
Deputy City Attorney

TCZ:RPG:jls
11/15/2018
12/3/18 COR. COPY
Or.Dept:Transportation & Storm Water
C.C. No.: 3000011653

Doc. No.: 1878756

I certify that the foregoing Resolution was passed by the Council of the City of San Diego, at this meeting of _____.

ELIZABETH S. MALAND
City Clerk

By _____
Deputy City Clerk

Approved: _____
(date)

KEVIN L. FAULCONER, Mayor

Vetoed: _____
(date)

KEVIN L. FAULCONER, Mayor

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Appendix 6.

Port Environmental Advisory Committee Policy (BPC Policy No. 730)





(6)

BPC Policy No. 730

SUBJECT: PORT ENVIRONMENTAL ADVISORY COMMITTEE POLICY

PURPOSE: To review and provide input and recommendations on Port environmental programs and initiatives, and comment on funding projects aimed at improving the condition of the Bay and surrounding Port tidelands.

POLICY STATEMENT:

The Board of Port Commissioners (Board) is committed to protecting and improving the environmental conditions of San Diego Bay and Port tidelands (Bay). To that end, the Planning & Green Port program's (PGP) and Environmental Advisory Committee (EAC) were created and invested with the responsibility of ensuring the Port's compliance with environmental laws and regulations, as well as advising the Board on actions that can be taken to improve the condition of the Bay.

San Diego Bay is often referred to as the "Crown Jewel" of San Diego. Beneath its beautiful surface, the Bay serves a number of important ecological roles, serving as a spawning ground for many local fish species, acting as a key stopping point for a variety of bird species traveling along the Pacific Fly Way, and providing the discharge point for numerous creeks and rivers within the San Diego Bay watershed.

The Bay also has played an essential role in supporting the growth of the region's population and economy. In the past, fulfilling this role often has resulted in negative impacts on the Bay. For years, raw sewage and industrial wastes were discharged, untreated, into the waters of the Bay. Modern environmental laws, coupled with the corporate commitments of Port industry, have significantly reduced industrial sources of Bay pollution. Unfortunately, discharges continue in the form of urban runoff throughout San Diego Bay's extensive watershed.

The development of the Bay with hotels, roads and businesses has significantly altered the natural condition of the Bay. During the last 100 years, natural shoreline has been removed and replaced with artificial hard structures, a type of substrate not native to the Bay and of limited value to native wildlife. As a result, there has been a 70% loss of salt marsh, 84% loss of intertidal areas other than salt marsh, and a 42% loss of shallow subtidal zone habitats.

Improving the condition of the Bay cannot be accomplished solely through regulatory compliance. The restoration of the Bay to a more pristine condition requires efforts that



BPC Policy No. 730

are beyond mere regulatory compliance. This will require the concerted, coordinated efforts of all the stakeholders of the Bay - academia, environmental groups, government, Port tenants, and regulatory and resource agencies. The Board has created the EAC to function as a forum to provide the Board with input and recommendations for accomplishing the Port's strategic goal to "protect and improve the environmental conditions of San Diego Bay and the Tidelands."

This EAC Policy details the organization, structure and functioning of the Committee and management of the Environmental Fund.

ANALYSIS:

1. The Bay is the "Crown Jewel" of the San Diego region and a focal point in media descriptions of the San Diego region.
2. The Bay is an ecosystem which plays an important role in the broader, regional ecosystem, as illustrated by the U.S. Fish and Wildlife Service's designation of south San Diego Bay as a National Wildlife refuge. The Bay is home to 89 species of fish, seven endangered species and thousands of birds visiting San Diego during their annual migration along the Pacific Fly Way.
3. The Bay is an important economic resource for the region, supporting the U.S. Navy's Pacific Fleet, two marine terminals, three shipyards, other maritime industries, and 8,000 recreational boat slips, as well as a wide range of hotels, restaurants and convention facilities to support the tourism industry.
4. The Bay is the discharge point of urban runoff from throughout the San Diego Bay watershed, an area of 415 square miles and where 50% of the county's population lives or works.
5. The ecological and economic roles or "uses" of the Bay have not always been compatible. As a result, the Bay's sediments, home to organisms at the base of the food chain, contain "legacy" pollutants and historic habitat along the shoreline has been replaced by artificial concrete structures, including seawalls, which are inefficient as habitat.
6. The Port of San Diego has accepted the role of "environmental champion" of the Bay, responsible for the protection and enhancement of 2,508 acres of tideland and 2,860 acres of water in the Bay.



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7. The PGP and EAC were created to ensure that the Port is in compliance with environmental laws and regulations. PGP programs include but are not limited to: Green Port; Energy; Environmental Conservation; Environmental Protection, Planning, Aquaculture, Blue Technology; and Natural Resources. The PGP staffs the Committee and manages the Environmental Fund, awarding grants to environmental programs and projects.
8. The Port's environmental efforts are a regional investment, benefiting the entire county by supporting assets such as hotels and shipyards, which provide jobs and support businesses throughout the region. The Port also incurs significant costs associated with the impacts of pollution from the region entering the Bay via urban runoff.
9. The Bay is one of this region's most precious resources, and is an important fish nursery and a key stop over on the Pacific Flyway, for thousands of migratory birds. Protecting the bay and its resources is important throughout different stages of wildlife development. By protecting and enhancing these habitats, we are ensuring the long term sustainability of the bay's resources and doing so in a manner that creates resiliency to future impacts such as upstream pollution or sea level changes.
10. The Port adopted a Climate Action Plan (CAP) in 2013 to reduce greenhouse gas (GHG) emissions on Port tidelands. To achieve the goals, the CAP contains a palette of potential GHG reduction measures focusing on five key target areas: Transportation and Land Use, Energy Conservation and Efficiency, Alternative Energy Generation, Waste Reduction and Recycling, and Water Conservation and Recycling.

ENVIRONMENTAL ADVISORY COMMITTEE:

The EAC operates according to the guidelines for all Board advisory committees, as established in BPC Policy No. 018 (2008-273, 2 December 2008) and articulated in the Charter prepared specifically for the EAC. The purpose of this, and all other Port advisory committees, is to advise the Board. The EAC is advisory in nature and has no authority to negotiate for, represent, or commit the Port in any respect.

The membership of all committees is the prerogative of the Chair of the Board. In January of each calendar year, the incoming Chair establishes the slate of committees for that year and appoints the members of each. The EAC shall be composed of two (2) or three (3)



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members of the Board and representatives of stakeholder groups including, but not limited to: Port tenants; environmental advocacy groups; the U.S. Navy; regulatory agencies; resource agencies; member cities; academia; local business; and labor. EAC membership shall not exceed eighteen members (stakeholders and two or three commissioners). This diverse membership will allow the EAC to achieve the Board's goal of receiving input from a broad and balanced cross section of the community. EAC meetings are intended to encourage input from stakeholders and interaction with Port staff and Board members.

TERMS:

EAC membership is the prerogative of the Chair of the Board. It is the intent of the Board to control the terms of an individual's or organization's participation in order to: (1) provide an opportunity for as many qualified and willing individuals as possible to serve their community; (2) promote equal opportunity for membership; (3) most precisely match membership's expertise to the program's needs.

Should an EAC vacancy occur prior to the end of a member's term, the Chair may choose to appoint a replacement for the unexpired portion of that term and notify the Board of such action. There will be no alternate EAC members. EAC members shall receive no compensation for their services.

CONFLICTS OF INTEREST:

To the extent required by law, the EAC will operate in compliance with the Political Reform Act and Government Code section 1090 regarding conflicts of interest. EAC members with financial interests in projects coming before the EAC will be required to disclose the interest and abstain from any participation as to the matter. Members and their organizations seeking funding from the EAC will not be able to participate in the matter and may be subject to disqualifying requirements of Government Code section 1090.

Although Port District staff cannot provide legal advice to EAC members regarding potential conflicts of interest, staff will be available to provide members with information to assist members in making appropriate determinations.

FUNDING MECHANISMS:

Environmental regulatory programs are focused largely on preventing contamination of the air, water and land or on maintaining habitat for birds, fish and wildlife. Efforts to restore areas to historic conditions are more problematic, whether it is by the



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remediation of areas with legacy contamination or the recovery of lost wetlands. Although regulatory programs exist to effect these changes, in almost all cases their implementation is exceedingly slow and drawn out, often by technical and legal challenges and, thus, the success of such programs often is less than optimal.

The Board has developed a program to assist in funding environmental projects.

1. ENVIRONMENTAL FUND

Purpose: The purpose of the Environmental Fund (Fund) is to fund projects that address air, water and sediment quality, sustainability and climate action planning, natural resources and endangered species management, habitat creation, restoration or protection, reclaiming natural shoreline conditions, environmental education, research and monitoring, and/or other issues in the Bay and/or the tidelands.

Project Selection: Projects will be identified and reviewed by staff of PGP. In evaluating a project, staff will determine if it meets the objectives identified by the EAC.

In selecting projects, staff will address questions such as, but not limited to:

- Will the project create new habitat for fish or birds?
- Will the project restore historic habitat that has been lost through development or other means?
- Will the project remediate, or hasten the move towards remediation, of a contaminated area of the Bay?
- Will the project enhance the public's enjoyment of the Bay without impacting the environment?
- Will the project improve air quality in the region?
- Will the project reduce energy, waste and/or water use?
- Will the project improve environmental decision-making?
- Will the project prevent contamination of the Bay?
- Will the project resolve a regulatory impasse which has prevented, or significantly slowed, the restoration of the Bay?
- Is the project located within the Bay, or is it of direct benefit to the Bay and the surrounding region?



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Project Approval: In order for a project to receive funding, whether partial, in-kind, or complete, the project must be approved by the Board. Neither staff nor the EAC has the authority to act on behalf of the Board. The Board is the ultimate and final decision maker on all matters related to the expenditure of funds.

Funding: Each year, the Board shall set aside $\frac{1}{2}$ of 1% of the Port District's projected gross revenues for that year. For the purpose of this calculation, gross revenue shall not include anticipated grants from any source or any other restricted revenue source. Such money set aside shall be expended for specific environmental projects or allocated to a fund set aside within the Port District Revenue Fund for environmental projects within the Port District.

The Port Act allows the maintenance of a single, general fund (Port Act, Section 10) and does not allow the creation and maintenance of multiple funds. The Board can choose to set aside money for an Environmental Fund within the Port District Revenue Fund. Money so set aside may be accumulated for more than one year, but its use, from year-to-year, will be subject to the discretion of the Board.

Staff will recommend projects to the EAC, which will provide comments. Staff will then make a recommendation to the Board to approve funding for projects.

1. Seek funding from sources other than the Fund, and/or
2. Seek matching funds from other sources.

RESOLUTION NUMBER AND DATE: 2018-063, dated April 10, 2018 (Supersedes BPC Policy 730, Resolution 2013-27, dated February 12, 2013; Resolution 2010-96, dated June 8, 2010; Resolution 2010-34, dated March 2, 2010; Resolution 2007-138, dated 10 July 2007; and Resolution 2006-111, dated 6 June 2006)

(2)

RESOLUTION 2018-063

RESOLUTION AUTHORIZING CHANGES TO BOARD OF PORT COMMISSIONERS POLICY NO. 730, THE PORT ENVIRONMENTAL ADVISORY COMMITTEE POLICY, TO REFLECT CURRENT ENVIRONMENTAL PROGRAMS, TO INCLUDE OTHER NON-SUBSTANTIVE ADMINISTRATIVE UPDATES, AND TO RESCIND THE TENANT ENVIRONMENTAL COMPLIANCE LOAN PROGRAM FOR WHICH NO APPLICATIONS HAVE BEEN RECEIVED SINCE BOARD ADOPTION OF THE PROGRAM IN 2001

WHEREAS, the San Diego Unified Port District (District) is a public corporation created by the legislature in 1962 pursuant to Harbors and Navigation Code Appendix 1, (Port Act); and

WHEREAS, on June 6, 2006, pursuant to resolution #2006-111, the Board of Port Commissioners (BPC) adopted Policy No. 730, the current Port Environmental Advisory Committee (EAC) Policy; and

WHEREAS, BPC Policy No. 730 outlines the organization, structure and functions of the EAC; management of the Environmental Fund; and the Tenant Environmental Compliance Loan Program; and

WHEREAS, BPC Policy No. 730 also details the Tenant Environmental Compliance Loan Program (Loan Program), which was adopted by the BPC on April 4, 2001, by resolution #2001-66, to provide low interest loans to tenants to support environmental remediation or environmental enhancement projects; and

WHEREAS, District staff propose updates to BPC Policy No. 730 to make it consistent with current District Planning & Green Port programs emphasizing the importance of the San Diego Bay for natural resources and the adoption of the Climate Action Plan; and

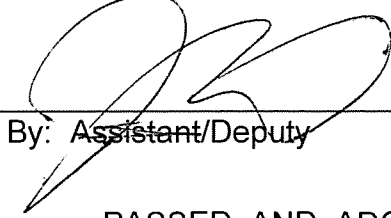
WHEREAS, District staff also recommends rescinding the tenant loan program, since no applications have been received since its inception in 2001; and

WHEREAS, on April 5, 2018 the EAC reviewed the proposed updates to BPC Policy No. 730 and concurred that these changes are appropriate; and

WHEREAS, a redline strikeout version of District staff's proposed revisions to BPC Policy No. 730 are included as Attachment A to the corresponding agenda sheet.

NOW, THEREFORE, BE IT RESOLVED that the Board of Port Commissioners of the San Diego Unified Port District hereby approves the changes to BPC Policy No. 730 as set forth in Attachment A to the corresponding agenda sheet.

APPROVED AS TO FORM AND LEGALITY:
GENERAL COUNSEL



By: Assistant/Deputy

PASSED AND ADOPTED by the Board of Port Commissioners of the San Diego Unified Port District, this 10th day of April, 2018, by the following vote:

AYES: Bonelli, Castellanos, Malcolm, Merrifield, Moore, Valderrama, and Zucchet

NAYS: None.

EXCUSED: None.

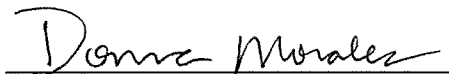
ABSENT: None.

ABSTAIN: None.



Rafael Castellanos, Chairman
Board of Port Commissioners

ATTEST:



Donna Morales
District Clerk

(Seal)



File #:2018-0089

DATE: April 10, 2018

SUBJECT:

RESOLUTION AUTHORIZING CHANGES TO BOARD OF PORT COMMISSIONERS POLICY NO. 730, THE PORT ENVIRONMENTAL ADVISORY COMMITTEE POLICY, TO REFLECT CURRENT ENVIRONMENTAL PROGRAMS, TO INCLUDE OTHER NON-SUBSTANTIVE ADMINISTRATIVE UPDATES, AND TO RESCIND THE TENANT ENVIRONMENTAL COMPLIANCE LOAN PROGRAM FOR WHICH NO APPLICATIONS HAVE BEEN RECEIVED SINCE BOARD ADOPTION OF THE PROGRAM IN 2001

EXECUTIVE SUMMARY:

The Board of Port Commissioners (Board) is committed to protecting and improving the environmental conditions of San Diego Bay and Port tidelands (Bay). To that end, Planning & Green Port programs (PGP) were created to ensure the San Diego Unified Port District (District) is in compliance with environmental regulations, and the Environmental Advisory Committee (EAC) was created to advise the Board with respect to the protection and improvement of the condition of the Bay.

On June 6, 2006, per resolution #2006-111, the Board adopted Policy No. 730, the Port Environmental Advisory Committee Policy. The policy outlines the organization, structure and functions of the EAC; management of the Environmental Fund; and the Tenant Environmental Compliance Loan Program. The policy details the membership of the EAC; the purpose of the Environmental Fund - to fund projects that address air, water and sediment quality, sustainability and climate action planning, natural resources and endangered species management, habitat creation, restoration or protection, reclaiming natural shoreline conditions, environmental education, research and monitoring, and/or other issues in the Bay and/or the tidelands. The policy also details the Tenant Environmental Compliance Loan Program (Loan Program), which was adopted by the Board on April 4, 2001, by resolution #2001-66, to provided low interest loans to tenants to support environmental remediation or environmental enhancement projects. No loan applications have been received for the Loan Program since its inception in 2001.

Changes to Policy #730 include updating the language to reflect current District Planning & Green Port programs including the importance of the Bay for natural resources and the adoption of the Climate Action Plan. Changes also include rescinding the tenant loan program, since no applications have been received since its inception in 2001.

On April 5, 2018 the EAC reviewed the proposed revisions to BPC Policy No. 730 and recommended approval of these changes to the Board. A redline strikeout version of the proposed revisions to BPC

Policy No. 730 are included as Attachment A.

Staff recommends that the Board adopt a resolution to amend BPC Policy No. 730 as set forth in Attachment A.

RECOMMENDATION:

Adopt a resolution authorizing changes to BPC Policy No. 730, the Port Environmental Advisory Committee Policy, to reflect current environmental programs, to include other non-substantive administrative updates, and to rescind the Tenant Environmental Compliance Loan Program for which no applications have been received since Board adoption of the Loan Program in 2001.

FISCAL IMPACT:

The proposed Board action does not present any fiscal impact to the District.

COMPASS STRATEGIC GOALS:

This agenda item supports the following Strategic Goal(s).

- A Port that the public understands and trusts.
- A Port with a healthy and sustainable bay and its environment.
- A Port with a comprehensive vision for Port land and water uses integrated to regional plans.
- A Port that is a safe place to visit, work and play.

DISCUSSION:

Background

On June 6, 2006, per resolution 2006-111, the Board adopted Policy 730, the Port Environmental Advisory Committee policy, which created the EAC and the Environmental Fund. Since the Board is committed to protecting and improving the environmental conditions of Bay they created the EAC and PGP programs. The PGP programs were created and invested with the responsibility of ensuring the District's compliance with environmental laws and regulations, and the EAC was created to advise the Board on actions that can be taken to improve the condition of the Bay.

San Diego Bay is often referred to as the "Crown Jewel" of San Diego. Beneath its beautiful surface, the Bay performs a number of important ecological roles, serving as a spawning ground for many local fish species, acting as a key stopping point for a variety of bird species traveling along the Pacific Fly Way, and providing the discharge point for numerous creeks and rivers within the San Diego Bay watershed.

The restoration of the Bay to a more pristine condition may require efforts that extend beyond mere regulatory compliance. The Board created the EAC to advise and to provide the Board with input and recommendations for accomplishing the District's strategic goal to "protect and improve the environmental conditions of San Diego Bay and the Tidelands."

Proposed changes to BPC Policy No. 730 include updating the policy to reflect current Planning & Green Port programs, Energy; Environmental Conservation; Environmental Protection, Planning, Aquaculture and Blue Technology. Additional language includes the importance of San Diego Bay to natural resources and the Port adaption of a Climate Action Plan and its goals.

Environmental Fund

Changes to the Environmental Fund purpose statement reflect current Planning & Green Port programs and include the addition of habitat restoration, climate action planning, endangered species management, environmental education and research and monitoring.

Tenant Environmental Compliance Loan Program

The goal of the Loan Program was to achieve environmental compliance and produce an overall environmental benefit to the Bay. The Loan Program was created by the Board in 2001 by resolution #2001-66, dated April 3, 2001, and amended by resolution #2001-273, dated December 11, 2001. The Loan Program would have provided low interest loans to Port tenants to support environmental remediation or tenant environmental enhancement projects. A tenant, who qualified for a loan, could apply for a maximum amount of \$100,000, at a low fixed interest rate, payable over 5 years.

No tenant loan applications have been received since the loan program was established in 2001. Staff conducted outreach with the Port Tenants Association which did not voice any object to the rescission of the program since no tenant has applied for the Loan Program.

Conclusion

Staff recommends the Board approve changes to BPC Policy No. 730 as set forth in Attachment A. The proposed changes include updating the policy based on current Planning & Green Port programs, along with other non-substantive administrative updates, and to rescind the language providing the tenant loan program.

General Counsel's Comments:

The Office of the General Counsel reviewed this agenda and the proposed changes to BPC Policy No. 730 as to form and legality.

Environmental Review:

The Board direction or action, including without limitation, a resolution authorizing changes to BPC Policy No. 730, Port Environmental Advisory Committee Policy does not constitute an "approval" or a "project" under the definitions set forth in California Environmental Quality Act (CEQA) Guidelines Sections 15352 and 15378 because no direct or indirect changes to the physical environment would occur. CEQA requires that the District adequately assess the environmental impacts of projects and reasonably foreseeable activities that may result from projects prior to the approval of the same. Any project developed as a result of Board's action or direction that requires the District or the Board's discretionary approval resulting in a physical change to the environment will be analyzed in accordance with CEQA prior to such approval. CEQA review may result in the District, in its sole and absolute discretion, requiring implementation of mitigation measures, adopting an alternative,

including without limitation, a “no project alternative” or adopting a Statement of Overriding Consideration, if required. The current Board direction in no way limits the exercise of this discretion. Therefore, no further CEQA review is required.

In addition, this Board item complies with Section 87 of the Port Act, which allows for the establishment and maintenance of those lands for open space, ecological preservation and habitat restoration. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, the proposed Board direction or action is consistent with the Public Trust Doctrine.

The proposed Board direction or action does not allow for “development,” as defined in Section 30106 of the California Coastal Act, or “new development,” pursuant to Section 1.a. of the District’s Coastal Development Permit (CDP) Regulations because they will not result in, without limitation, a physical change, change in use or increase the intensity of uses. Therefore, issuance of a Coastal Development Permit or exclusion is not required. However, development within the District requires processing under the District’s CDP Regulations. Future development, as defined in Section 30106 of the Coastal Act, will remain subject to its own independent review pursuant to the District’s certified CDP Regulations, PMP, and Chapters 3 and 8 of the Coastal Act. The Board’s direction or action in no way limits the exercise of the District’s discretion under the District’s CDP Regulations. Therefore, issuance of a CDP or exclusion is not required at this time.

Equal Opportunity Program:

Not applicable.

PREPARED BY:

Eileen Maher
Principal, Environmental Conservation
Planning & Green Port

Heather Kramp
Assistant Planner
Planning & Green Port

Attachment(s):

Attachment A: BPC Policy No. 730 Port Environmental Advisory Committee Policy (redlined copy)



BPC Policy No. 730

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SUBJECT: PORT ENVIRONMENTAL ADVISORY COMMITTEE POLICY

PURPOSE: To review and provide input and recommendations on Port environmental programs and initiatives, and comment on funding projects aimed at improving the condition of the Bay and surrounding Port tidelands, ~~and provide a Tenant Environmental Compliance Loan Program.~~

POLICY STATEMENT:

The Board of Port Commissioners (Board) is committed to protecting and improving the environmental conditions of San Diego Bay and Port tidelands (Bay). To that end, the Planning & Green Port program's an Environmental Services Department (ESD)(PGP) and Environmental Advisory Committee (EAC) were created and invested with the responsibility of ensuring the Port's compliance with environmental laws and regulations, as well as advising the Board on actions that can be taken to improve the condition of the Bay.

San Diego Bay is often referred to as the "Crown Jewel" of San Diego. Beneath its beautiful surface, the Bay serves a number of important ecological roles, serving as a spawning ground for many local fish species, acting as a key stopping point for a variety of bird species traveling along the Pacific Fly Way, and providing the discharge point for numerous creeks and rivers within the San Diego Bay watershed.

The Bay also has played an essential role in supporting the growth of the region's population and economy. In the past, fulfilling this role often has resulted in negative impacts on the Bay. For years, raw sewage and industrial wastes were discharged, untreated, into the waters of the Bay. Modern environmental laws, coupled with the corporate commitments of Port industry, have significantly reduced ~~some~~ industrial sources of Bay pollution. Unfortunately, discharges continue in the form of urban runoff ~~from businesses and homes~~ throughout San Diego Bay's extensive watershed.

The development of the Bay with hotels, roads and businesses has significantly altered the natural condition of the Bay. During the last 100 years, natural shoreline has been removed and replaced with artificial hard structures, a type of substrate not native to the Bay and of limited value to native wildlife. As a result, there has been a 70% loss of salt marsh, 84% loss of intertidal areas other than salt marsh, and a 42% loss of shallow subtidal zone habitats.

Improving the condition of the Bay cannot be accomplished solely through regulatory



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compliance. The restoration of the Bay to a more pristine condition requires efforts that are beyond mere regulatory compliance-. This will require the concerted, coordinated efforts of all the stakeholders of the Bay - academia, environmental groups, government, Port tenants, and regulatory and resource agencies. The Board has created the ~~Environmental Advisory Committee (EACCommittee)~~ to function as a forum to provide the Board with input and recommendations for accomplishing the Port's strategic goal to "protect and improve the environmental conditions of San Diego Bay and the Tidelands."

This ~~EACCommittee~~ Policy details the organization, structure and functioning of the Committee and management of the Environmental Fund.

ANALYSIS:

1. The Bay is the "Crown Jewel" of the San Diego region and a focal point in media descriptions of the San Diego region.
2. The Bay is an ecosystem which plays an important role in the broader, regional ecosystem, as illustrated by the U.S. Fish and Wildlife Service's designation of south San Diego Bay as a National Wildlife refuge. The Bay is home to 89 species of fish, seven endangered species and thousands of birds visiting San Diego during their annual migration along the Pacific Fly Way.
3. The Bay is an important economic resource for the region, supporting the U.S. Navy's Pacific Fleet, two marine terminals, three shipyards, other maritime industries, and 8,000 recreational boat slips, as well as a wide range of hotels, restaurants and convention facilities to support the tourism industry.
4. The Bay is the discharge point of urban runoff from throughout the San Diego Bay watershed, an area of 415 square miles and where 50% of the county's population lives or works.
5. The ecological and economic roles or "uses" of the Bay have not always been compatible. As a result, the Bay's sediments, home to organisms at the base of the food chain, contain "legacy" pollutants and historic habitat along the shoreline has been replaced by artificial concrete structures, including seawalls, which are inefficient as habitat.



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6. The Port of San Diego has accepted the role of “environmental championsteward” of the Bay, responsible for the protection and enhancement of 2,508 acres of tideland and 2,860 acres of water in the Bay.
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- 8.10.The Port adopted a Climate Action Plan (CAP) in 2013 to reduce greenhouse gas (GHG) emissions on Port tidelands. To achieve the goals, the CAP contains a palette of potential GHG reduction measures focusing on five key target areas: Transportation and Land Use, Energy Conservation and Efficiency, Alternative Energy Generation, Waste Reduction and Recycling, and Water Conservation and Recycling.

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ENVIRONMENTAL ADVISORY COMMITTEE:

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BPC Policy No. 730

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The membership of all committees is the prerogative of the Chair of the Board. In January of each calendar year, the incoming Chair establishes the slate of committees for that year and appoints the members of each. The EACCommittee shall be composed of two (2) or three (3) members of the Board and representatives of stakeholder groups including, but not limited to: Port tenants; environmental advocacy groups; the U.S. Navy; regulatory agencies; resource agencies; member cities; academia; local business; and labor. EACCommittee membership shall not exceed eighteen members (stakeholders and two or three commissioners). This diverse membership will allow the EACCommittee to achieve the Board's goal of receiving input from a broad and balanced cross section of the community. EACCommittee meetings are intended to encourage input from stakeholders and interaction with Port staff and Board members.



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Should a EACCommittee vacancy occur prior to the end of a member's term, the Chair may choose to appoint a replacement for the unexpired portion of that term and notify the Board of such action. There will be no alternate EACCommittee members. EACCommittee members shall receive no compensation for their services.

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Although Port District staff cannot provide legal advice to EAC Committee members regarding potential conflicts of interest, staff will be available to provide members with information to assist members in making appropriate determinations.

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1. ENVIRONMENTAL FUND

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Project Selection: Projects will be identified and reviewed by staff of PGP. ~~the ESD Projects to be considered will be ranked on a Project List (List), which will be revised and/or updated as new potential projects are identified or other projects are removed.~~ In evaluating a project ~~for inclusion on the List~~, staff will determine if it meets the objectives identified by the EACCommittee.

In selecting projects, staff will address questions such as, but not limited to:

- Will the project create new habitat for fish or birds?
- Will the project restore historic habitat that has been lost through development or other means?
- Will the project remediate, or hasten the move towards remediation, of a contaminated area of the Bay?
- Will the project enhance the public's enjoyment of the Bay without impacting the environment?
- Will the project improve air quality in the region?
- Will the project reduce energy, waste and/or water use?
- Will the project improve environmental decision-making?
- Will the project prevent contamination of the Bay?
- Will the project resolve a regulatory impasse which has prevented, or significantly slowed, the restoration of the Bay?
- Is the project located within the Bay, or is it of direct benefit to the Bay and the surrounding region?

Project Approval: In order for a project to receive funding, whether partial, in-kind, or complete, the project must be approved by the Board. Neither staff nor the EACCommittee has the authority to act on behalf of the Board. The Board is the ultimate and final decision maker on all matters related to the



BPC Policy No. 730

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expenditure of funds.

Funding: Each year, the Board shall set aside $\frac{1}{2}$ of 1% of the Port District's projected gross revenues for that year. For the purpose of this calculation, gross revenue shall not include anticipated grants from any source or any other restricted revenue source. Such money set aside shall be expended for specific environmental projects or allocated to a fund set aside within the Port District Revenue Fund for environmental projects within the Port District.

The Port Act allows the maintenance of a single, general fund (Port Act, Section 10) and does not allow the creation and maintenance of multiple funds. The Board can choose to set aside money for an Environmental Fund within the Port District Revenue Fund. Money so set aside may be accumulated for more than one year, but its use, from year-to-year, will be subject to the discretion of the Board.

Staff will recommend projects to the EACCommittee, which will provide comments. Staff will then make a recommendation to the Board to approve funding for projects.

1. Seek funding from sources other than the Fund, and/or
2. Seek matching funds from other sources.

2. ~~TENANT ENVIRONMENTAL COMPLIANCE LOAN PROGRAM~~

~~Purpose:~~ ~~The goal of the Environmental Loan Program is to achieve environmental compliance and produce an overall environmental benefit to the Bay.~~

~~Background:~~ ~~The Port Tenants' Environmental Compliance Loan Program (Loan Program) was created by the Board in 2001 (Docket No. 43239, December 21, 2004, approved by resolution 2001-66, dated April 3, 2001, and amended by resolution 2001-273, dated December 11, 2001). The Loan Program provides a low cost source of funds to Port tenants to support environmental remediation or tenant environmental enhancement. The Port makes available to its tenants low interest loans for projects that will improve the environmental conditions of the Bay. Tenants may qualify for a maximum amount of \$100,000 at a low fixed interest rate, payable over 5 years.~~

~~Project Selection:~~ ~~Proposals are evaluated by a committee, which includes representatives from several Port departments, the Port Tenants Association and the Environmental Health Coalition.~~

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BPC Policy No. 730

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~~———— In selecting projects, the Tenant Environmental Loan Committee will consider answers to such questions as:~~

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- ~~• Will the proposed project further protect the natural resources of the Bay?~~
- ~~• Will the project enhance the survivability of marine or bird life, increase the visibility of endangered species and/or allow the survival of currently absent species?~~
- ~~• Will the project allow the removal of contamination from the Bay?~~
- ~~• Will the project result in an increase in the quality of the water, sediment and/or air quality of the area?~~

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~~**Project Approval:** Recommended projects are submitted by the selection committee to the Committee, who will make a recommendation to the Board. The Board has sole discretion to award funds.~~

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~~**Funding:** Loans are made available through a lending institution. A fixed interest rate for the life of the loan will be fixed on the day the loan is dispersed. The loan rate will be the interest-earning rate paid by the lending institution to the Port on the collateralized certificate of deposit, securing the loan plus one hundred twenty-five basis points (1.25%). The term is a maximum of five years.~~

RESOLUTION NUMBER AND DATE: 2013-27, dated February 12, 2013 (Supersedes BPC Poly 730, Resolution 2010-96; dated June 8, 2010; Resolution 2010-34, dated March 2, 2010; 2007-138, 10 July 2007 and (Supersedes Resolution 2006-111, 6 June 2006)

DRAFT

RESOLUTION 20xx-xxx

RESOLUTION AUTHORIZING CHANGES TO BOARD OF PORT COMMISSIONERS POLICY NO. 730, THE PORT ENVIRONMENTAL ADVISORY COMMITTEE POLICY, TO REFLECT CURRENT ENVIRONMENTAL PROGRAMS, TO INCLUDE OTHER NON-SUBSTANTIVE ADMINISTRATIVE UPDATES, AND TO RESCIND THE TENANT ENVIRONMENTAL COMPLIANCE LOAN PROGRAM FOR WHICH NO APPLICATIONS HAVE BEEN RECEIVED SINCE BOARD ADOPTION OF THE PROGRAM IN 2001

WHEREAS, the San Diego Unified Port District (District) is a public corporation created by the legislature in 1962 pursuant to Harbors and Navigation Code Appendix 1, (Port Act); and

WHEREAS, on June 6, 2006, pursuant to resolution #2006-111, the Board of Port Commissioners (BPC) adopted Policy No. 730, the current Port Environmental Advisory Committee (EAC) Policy; and

WHEREAS, BPC Policy No. 730 outlines the organization, structure and functions of the EAC; management of the Environmental Fund; and the Tenant Environmental Compliance Loan Program; and

WHEREAS, BPC Policy No. 730 also details the Tenant Environmental Compliance Loan Program (Loan Program), which was adopted by the BPC on April 4, 2001, by resolution #2001-66, to provide low interest loans to tenants to support environmental remediation or environmental enhancement projects; and

WHEREAS, District staff propose updates to BPC Policy No. 730 to make it consistent with current District Planning & Green Port programs emphasizing the importance of the San Diego Bay for natural resources and the adoption of the Climate Action Plan; and

WHEREAS, District staff also recommends rescinding the tenant loan program, since no applications have been received since its inception in 2001; and

WHEREAS, on April 5, 2018 the EAC reviewed the proposed updates to BPC Policy No. 730 and concurred that these changes are appropriate; and

20xx-xxx

WHEREAS, a redline strikeout version of District staff's proposed revisions to BPC Policy No. 730 are included as Attachment A to the corresponding agenda sheet.

NOW, THEREFORE, BE IT RESOLVED that the Board of Port Commissioners of the San Diego Unified Port District hereby approves the changes to BPC Policy No. 730 as set forth in Attachment A to the corresponding agenda sheet.

APPROVED AS TO FORM AND LEGALITY:
GENERAL COUNSEL

By: Assistant/Deputy

PASSED AND ADOPTED by the Board of Port Commissioners of the San Diego Unified Port District, this 10th day of April, 2018, by the following vote:



Appendix 7.

Board of Port Commissioners Policy No. 725







(6)

San Diego Unified Port District

Document No. **53637**

Filed **JUN 27 2008**
Office of the District Clerk

BPC Policy No. 725

SUBJECT: TRANSITION ZONE POLICY

PURPOSE: It is the mission of the San Diego Unified Port District in accordance with the Port Act and Coastal Act to sustain regional maritime capacity balanced with environmental stewardship of the tidelands. The purpose of this policy is to protect maritime industrial lands and provide a transition to adjoining residential areas by establishing general guidelines to encourage the creation of transition zones between industrial lands and residential neighborhoods.

POLICY STATEMENT:

In recognition of the need to protect maritime and maritime related uses and preserve thousands of jobs provided by businesses in the waterfront industrial zones, a balance needs to be established between the needs of these industrial businesses and historic residential areas along the waterfront. It is imperative that conflicts from incompatible land uses be minimized. A Transition Zone would provide the needed balance while promoting the goals and objectives of adjacent community planning activities. To this end, the District is committed to work with the City of San Diego, the City of National City and community stakeholders to develop long term planning and land use guidelines and/or community specific plans that create Transition Zones between the District's industrial properties and residential neighborhoods.

The District will work with appropriate member cities to incorporate Transition Zone land use zoning and appropriate principles contained in the attached Working Waterfront Group "Concept for Transition Zone and Distribution Zone Policy" into member cities' general and community plans. The District will also work with State and Federal legislators and other agencies as appropriate including but not limited to the Coastal Commission, Air Pollution Control District, San Diego Association of Governments, and California Air Resources Board to assist in implementing a transition zone. The District may also acquire property to support maritime industrial uses or easements to preclude development of incompatible land uses within desired Transition Zone areas as it deems appropriate with or without public private partnerships.

RESOLUTION NUMBER AND DATE: 2008-112, dated June 10, 2008

**Working Waterfront Group
Concept for Transition Zone and Distribution Zone Policy**

Under the Port Act, the mission of the San Diego Unified Port District includes the sustainment of regional maritime capacity *and* mandated service as the environmental steward of the tidelands. Today, we have the opportunity to effectively integrate our long term planning and land use objectives with the goals developed by the adjacent neighborhood community groups and residents.

The Residents and Community Stakeholders adjacent to our Port industrial properties deserve our utmost consideration as we formulate long-term strategies for the preservation of our waterfront jobs base and maritime economic engine. With environmentally sensitive planning, residential neighborhoods, green spaces and transportation corridors can be created and enhanced to achieve quality of life improvements for those that live and work in our tidelands community. Further, the opportunity exists to create graceful transitions between historic residential areas and the waterfront industrial zones that provide training and sustaining jobs to 42,000 families within the region.

In recognition of the need to preserve the thousands of jobs provided by those businesses in the waterfront industrial zones, we must achieve a balance between the needs of business, residential and recreational users of the waterfront. It is imperative that we prevent, as much as possible, conflicts that might result from incompatible land uses. A transition zone would provide the needed balance while promoting the goals and objectives of adjacent community planning activities.

To accomplish these objectives, the Unified Port of San Diego and the cities of National City and San Diego should establish transition zones between industrial land and residential neighborhoods. A properly planned transition zone is critical to the sustained growth and health of all the constituencies that make up the working waterfront. In furtherance of these objectives, the Unified Port of San Diego and the City of National City should also establish a distribution zone to address the area commonly known as the National Distribution Center.

The primary purpose in developing this long-term strategy is to create the balance necessary to protect the neighboring residential areas from the impacts of industrial uses. Striking this balance benefits the working waterfront by providing greater certainty over the future uses, and benefits the residences by providing greater protection to their quality of life. The development of transition zones for various areas within the cities of National City and San Diego will individually recognize the particular factors relevant to each city.

All parties recognize the unique considerations applicable to the City of National City, and will account for these considerations in developing that particular transition zone and distribution zone. Accordingly, the parties acknowledge the importance of preserving residential neighborhoods by preventing industrial creep, allowing the continuance of existing businesses that benefit the City of National City, enhancing economic opportunity and revenue generation which includes the opportunity for large-scale, economically beneficial businesses to establish themselves within the transition zone area of the City of National City, and, most importantly, enhancing the quality of life for residents of the City of National City by providing greater resident and visitor serving areas along or near the bay. These factors will drive the formation of both the transition zone area and distribution zone area for the City of National City.

Definition of Transition Zone

The Working Waterfront Group proposes that the Port, the City of San Diego, the City of National City and community stakeholders develop land use guidelines and community or specific plans that create transition zones from the Port's industrial properties to the bordering residential neighborhoods. The specific area under consideration should include those lands from the northern boundary of the Tenth Avenue Marine Terminal south to the Sweetwater Channel, bounded on the west by the Port tidelands, extending east from the existing tidelands to the adjacent residential neighborhoods. The transition zone is defined in maps identified as Exhibits A and B, attached to this policy document. The width of the Transition Zone shall vary to accommodate community plans, city development plans, existing structures, and zoning, forming an irregular, tailored, eastern boundary.

The transition zone should be a sequence of graduated land uses that serve to insulate and protect the integrity and environmental health of residential areas and concurrently preserve the maritime industrial jobs cluster. Typically this could be accomplished by a "transition zone" comprised of uses including but not strictly limited to, office space and greenbelt area adjacent to residential areas, bordering streets, transit corridors and boulevards, parking and high-quality maritime administrative office facilities. In regard to the City of National City, the factors identified in the above section will drive the uses in the transition zone. Use of those factors will achieve the objectives of the Working Waterfront Group, protect National City residents, and enhance the economic sustainability and quality of life for National City.

The transition zone areas are delineated on the maps attached as Exhibits A (San Diego) and B (National City). These maps delineate the intended boundaries of the transition zones and shall not be affected by land purchases by the Port within these zones.

Definition of Distribution Zone

The Working Waterfront Group proposes that the Port, the City of National City and community stakeholders develop land use guidelines and land use plans that create a distribution zone for that property commonly known as the National Distribution Center. The specific area under consideration should include the following uses, which strive to balance the needs of the Working Waterfront Group, the Port, the City of National City, and National City residents: tourist and visitor serving, retail, commercial, recreational, maritime industrial staging, intermodal transfer, warehousing, and cargo assembly,

The distribution zone area is delineated on the map attached as Exhibit B (National City). This map delineates the intended boundaries of the distribution zone.

Key Principles

A transition zone policy should adhere to the following key principles:

- Transition zones should provide mandated separation between industrial and residential land uses, safeguarding the environmental health of the regional neighborhoods and residents.
- Transition zones should protect and enhance the existing and prospective operations of the businesses governed by City plans, Community Group plans, and the Port Master Plan to include visitor serving, commercial, retail, industrial, working-waterfront, and maritime-related, job-producing industries.
- Transition zones should only permit uses that do not pose a health risk to sensitive receptor land uses adjacent to or in the near proximity.

- Transition zones should incentivize measures that reduce health risks, noise, traffic, and non-renewable energy consumption.
- Transition zone development in San Diego should be limited to the following uses: parking, office buildings and greenbelt areas.
- The Transition Zone areas of National City may also include existing industrial areas, existing businesses, and other appropriate land use designations including retail/commercial businesses, recreational areas and visitor serving business uses designated by the City of National City.
- Consistent with the above principles, transition zones should make the highest and best use of land.

A distribution zone policy should adhere to the following key principles:

- The distribution zone area should include the following uses: tourist and visitor serving, retail, commercial, recreational, maritime industrial staging, intermodal transfer, warehousing, and cargo assembly.
- The distribution zone should only permit uses that do not pose a health risk to sensitive receptor land uses adjacent to or in the near proximity.

Areas of Engagement

The Working Waterfront Group's primary strategy is to work with Port cities to establish zoning regulations and planning policies that incorporate the stated transition zone and distribution zone principles.

While this document is not a land use planning document, the Working Waterfront Group does seek to encourage the adoption of land use policies and plans consistent with this document. In addition, the Working Waterfront Group's proposed policy is limited to those areas specifically discussed in this document, and does not propose to affect or modify those areas outside of the transition zone or distribution zone.

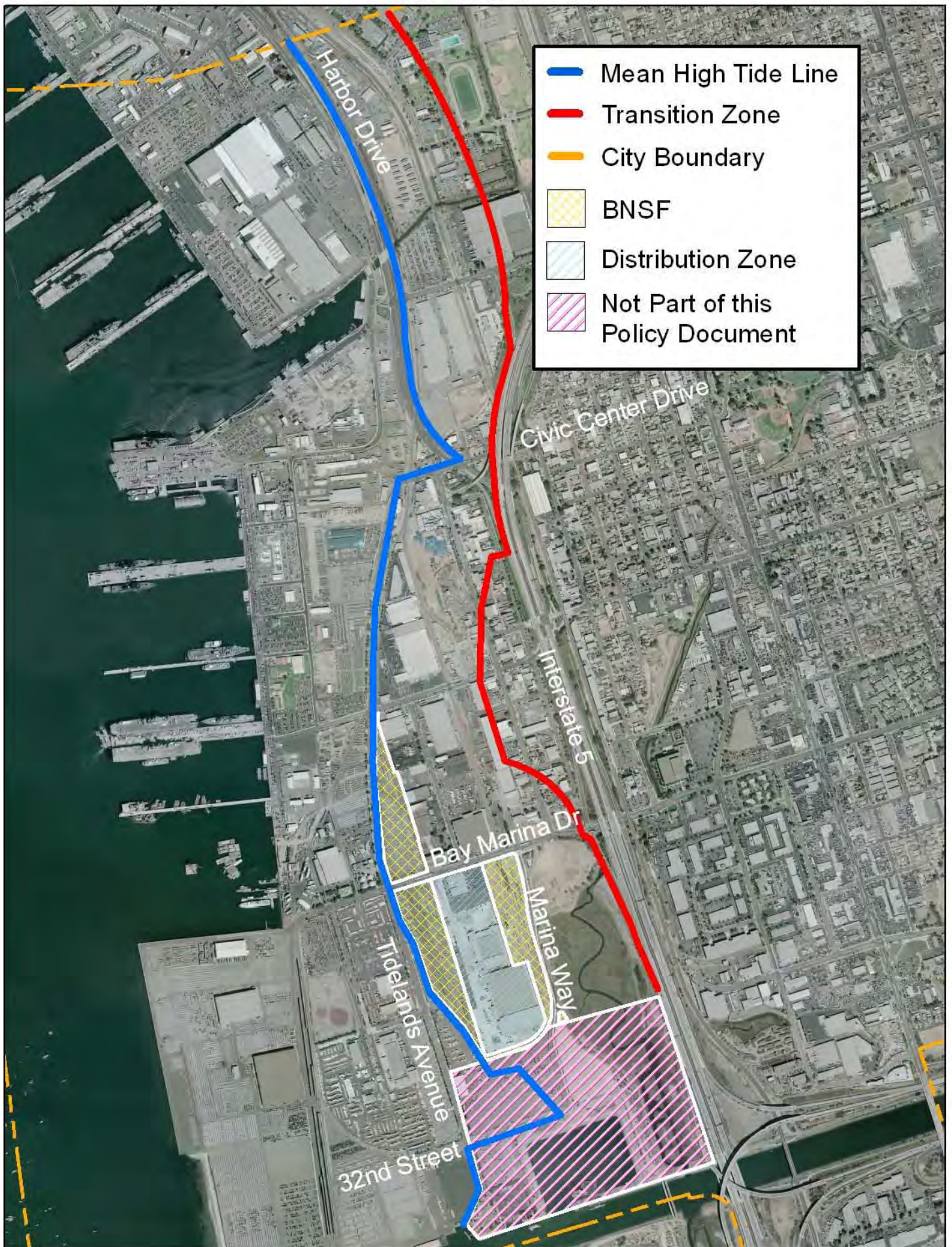
Specifically, the WWG will participate in the following decision making bodies and processes:

- Request that the Board of Port Commissioners adopt the concept stated in this white paper.
- Request that language be added to the San Diego General Plan Update to institutionalize the principles outlined above.
- Request that community or specific plan updates for neighborhoods near the working waterfront reflect these principles.
- Request that the Air Pollution Control District consider these principles in its decision making process.
- Request that the California Air Resources Board consider these principles in its decision making process.
- Meet with city council members from Port member cities to brief them on the transition zone policy.

The Port is encouraged to secure parcels within the desired transition zones with the concurrence of the affected cities and apply the standards inherent to the Port's Charter, thereby allowing not only sustained maritime use on existing Port lands but promoting development that will constitute environmentally compatible, non-residential land uses from the industrial zone to the eastern boundary of the transition zone. The San Diego Unified Port District shall encourage public / private partnerships in order to secure and develop these parcels.



National City
Harbor District



53637

Re Adoption of BPC Policy 725,]]
Transition Zone Policy]]

RESOLUTION 2008-112

BE IT RESOLVED by the Board of Port Commissioners of the San Diego Unified Port District, as follows:

That Board of Port Commissioners Policy No. 725, Transition Zone Policy, a copy of which shall be placed on file in the office of the District Clerk, is hereby adopted.

ADOPTED this 10th day of June, 2008.

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6/10/08

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Appendix 8.

FRA Standards (49 CFR, Volume 4, Part 210)



isolated events. On the other hand, violations involving willful actions and/or posing serious health, safety, or environmental threats should ordinarily result in enforcement actions, regardless of the entity's size.

Once FRA has assessed a civil penalty, it is authorized to adjust or compromise the initial penalty claims based on a wide variety of mitigating factors, unless FRA must terminate the claim for some reason. FRA has the discretion to reduce the penalty as it deems fit, but not below the statutory minimums. The mitigating criteria FRA evaluates are found in the railroad safety statutes and SBREFA: The severity of the safety or health risk presented; the existence of alternative methods of eliminating the safety hazard; the entity's culpability; the entity's compliance history; the entity's ability to pay the assessment; the impacts an assessment might exact on the entity's continued business; and evidence that the entity acted in good faith. FRA staff attorneys regularly invite small entities to present any information related to these factors, and reduce civil penalty assessments based on the value and integrity of the information presented. Staff attorneys conduct conference calls or meet with small entities to discuss pending violations, and explain FRA's view on the merits of any defenses or mitigating factors presented that may have resulted or failed to result in penalty reductions. Among the "other factors" FRA considers at this stage is the promptness and thoroughness of the entity's remedial action to correct the violations and prevent a recurrence. Small entities should be sure to address these factors in communications with FRA concerning civil penalty cases. Long-term solutions to compliance problems will be given great weight in FRA's determinations of a final settlement offer.

Finally, under FRA's Safety Assurance and Compliance Program (SACP), FRA identifies systemic safety hazards that continue to occur in a carrier or shipper operation, and in cooperation with the subject business, develops an improvement plan to eliminate those safety concerns. Often, the plan provides small entities with a reasonable time frame in which to make improvements without the threat of civil penalty. If FRA determines that the entity has failed to comply with the improvement plan, however, enforcement action is initiated.

FRA's small entity enforcement policy is flexible and comprehensive. FRA's first priority in its compliance and enforcement activities is public and employee safety. However, FRA is committed to obtaining compliance and enhancing safety with reasoned, fair methods that do not inflict undue hardship on small entities.

[68 FR 24894, May 9, 2003]

PART 210—RAILROAD NOISE EMISSION COMPLIANCE REGULATIONS

Subpart A—General Provisions

Sec.

210.1 Scope of part.

210.3 Applicability.

210.5 Definitions.

210.7 Responsibility for noise defective railroad equipment.

210.9 Movement of a noise defective locomotive, rail car, or consist of a locomotive and rail cars.

210.11 Waivers.

210.13 Penalty.

Subpart B—Inspection and Testing

210.21 Scope of subpart.

210.23 Authorization.

210.25 Measurement criteria and procedures.

210.27 New locomotive certification.

210.29 Operation standards (moving locomotives and rail cars).

210.31 Operation standards (stationary locomotives at 30 meters).

210.33 Operation standards (switcher locomotives, load cell test stands, car coupling operations, and retarders).

APPENDIX A TO PART 210—SUMMARY OF NOISE STANDARDS, 40 CFR PART 201

APPENDIX B TO PART 210—SWITCHER LOCOMOTIVE ENFORCEMENT POLICY

AUTHORITY: Sec. 17, Pub. L. 92-574, 86 Stat. 1234 (42 U.S.C. 4916); sec. 1.49(o) of the regulations of the Office of the Secretary of Transportation, 49 CFR 1.49(o).

SOURCE: 48 FR 56758, Dec. 23, 1983, unless otherwise noted.

Subpart A—General Provisions

§ 210.1 Scope of part.

This part prescribes minimum compliance regulations for enforcement of the Railroad Noise Emission Standards established by the Environmental Protection Agency in 40 CFR part 201.

§ 210.3 Applicability.

(a) Except as provided in paragraph (b) of this section, the provisions of this part apply to the total sound emitted by moving rail cars and locomotives (including the sound produced by refrigeration and air conditioning units that are an integral element of such equipment), active retarders,

§210.5

switcher locomotives, car coupling operations, and load cell test stands, operated by a railroad as defined in 45 U.S.C. 22, under the conditions described in this part and in 40 CFR part 201.

(b) The provisions of this part do not apply to—

- (1) Steam locomotives;
- (2) Street, suburban, or interurban electric railways unless operated as a part of the general railroad system of transportation;
- (3) Sound emitted by warning devices, such as horns, whistles, or bells when operated for the purpose of safety;
- (4) Special purpose equipment that may be located on or operated from rail cars;
- (5) As prescribed in 40 CFR 201.10, the provisions of 40 CFR 201.11 (a) and (b) and (c) do not apply to gas turbinepowered locomotives or any locomotive type that cannot be connected by any standard method to a load cell; or
- (6) Inert retarders.

[48 FR 56758, Dec. 23, 1983, as amended at 54 FR 33228, Aug. 14, 1989]

§210.5 Definitions.

(a) *Statutory definitions.* All terms used in this part and defined in the Noise Control Act of 1972 (42 U.S.C. 4901 et seq.) have the definition set forth in that Act.

(b) *Definitions in standards.* All terms used in this part and defined in §201.1 of the Railroad Noise Emission Standards, 40 CFR 201.1, have the definition set forth in that section.

(c) *Additional definitions.* As used in this part—

Administrator means the Federal Railroad Administrator, the Deputy Administrator, or any official of FRA to whom the Administrator has delegated authority to act in the Administrator's stead.

Consist of a locomotive and rail cars means one or more locomotives coupled to a rail car or rail cars.

FRA means the Federal Railroad Administration.

Inert retarder means a device or system for holding a classified cut of cars and preventing it from rolling out the bottom of a railyard.

49 CFR Ch. II (10–1–10 Edition)

Inspector means FRA inspectors or FRA specialists.

Noise defective means the condition in which railroad equipment is found to exceed the Railroad Noise Emission Standards, 40 CFR part 201.

Railroad equipment means rail cars, locomotives, active retarders, and load cell test stands.

Standards means the Railroad Noise Emission Standards, 40 CFR part 201. (See appendix A in this part for a listing.)

§210.7 Responsibility for noise defective railroad equipment.

Any railroad that uses railroad equipment that is noise defective or engages in a car coupling operating that results in excessive noise according to the criteria established in this part and in the Standards is responsible for compliance with this part. Subject to §210.9, such railroad shall—

- (a) Correct the noise defect;
- (b) Remove the noise defective railroad equipment from service; or
- (c) Modify the car coupling procedure to bring it within the prescribed noise limits.

§210.9 Movement of a noise defective locomotive, rail car, or consist of a locomotive and rail cars.

A locomotive, rail car, or consist of a locomotive and rail cars that is noise defective may be moved no farther than the nearest forward facility where the noise defective conditions can be eliminated only after the locomotive, rail car, or consist of a locomotive and rail cars has been inspected and been determined to be safe to move.

§210.11 Waivers.

(a) Any person may petition the Administrator for a waiver of compliance with any requirement in this part. A waiver of compliance with any requirement prescribed in the Standards may not be granted under this provision.

(b) Each petition for a waiver under this section must be filed in the manner and contain information required by 49 CFR part 211.

(c) If the Administrator finds that a waiver of compliance applied for under paragraph (a) of this section is in the public interest and is consistent with

Federal Railroad Administration, DOT

§ 210.25

railroad noise abatement and safety, the Administrator may grant a waiver subject to any condition he deems necessary. Notice of each waiver granted, including a statement of the reasons therefor, will be published in the FEDERAL REGISTER.

§ 210.13 Penalty.

Any person who operates railroad equipment subject to the Standards in violation of any requirement of this part or of the Standards is liable to penalty as prescribed in section 11 of the Noise Control Act of 1972 (42 U.S.C. 4910), as amended.

Subpart B—Inspection and Testing

§ 210.21 Scope of subpart.

This subpart prescribes the compliance criteria concerning the requirements for inspection and testing of railroad equipment or operations covered by the Standards.

§ 210.23 Authorization.

(a) An inspector is authorized to perform any noise test prescribed in the Standards and in the procedures of this part at any time, at any appropriate location, and without prior notice to the railroad, for the purpose of determining whether railroad equipment is in compliance with the Standards.

(b)(1) An inspector is authorized to request that railroad equipment and appropriate railroad personnel be made available for a passby or stationary noise emission test, as prescribed in the Standards and in the procedures of this part, and to conduct such test, at a reasonable time and location, for the purpose of determining whether the railroad equipment is in compliance with the Standards.

(2) If the railroad has the capability to perform an appropriate noise emission test, as prescribed in the Standards and in the procedures of this part, an inspector is authorized to request that the railroad test railroad equipment. The railroad shall perform the appropriate test as soon as practicable.

(3) The request referred to in this paragraph will be in writing, will state the grounds upon which the inspector has reason to believe that the railroad equipment does not conform to the

Standards, and will be presented to an appropriate operating official of the railroad.

(4) Testing or submission for testing is not required if the cause of the noise defect is readily apparent and the inspector verifies that it is corrected by the replacement of defective components or by instituting a normal maintenance or repair procedure.

(c)(1) An inspector is authorized to inspect or examine a locomotive, rail car, or consist of a locomotive and rail cars operated by a railroad, or to request that the railroad inspect or examine the locomotive, rail car, or consist of a locomotive and rail cars, whenever the inspector has reason to believe that it does not conform to the requirements of the Standards.

(2) An inspector may request that a railroad conduct an inspection or examination of a locomotive, rail car, or consist of a locomotive and rail cars on the basis of an excessive noise emission level measured by a passby test. If, after such inspection or examination, no mechanical condition that would result in a noise defect can be found and the inspector verifies that no such mechanical condition exists, the locomotive, rail car, or consist of a locomotive and rail cars may be continued in service.

(3) The requests referred to in this paragraph will be in writing, will state the grounds upon which the inspector has reason to believe that the locomotive, rail car, or consist of a locomotive and rail cars does not conform to the Standards, and will be presented to an appropriate operating official of the railroad.

(4) The inspection or examination referred to in this paragraph may be conducted only at recognized inspection points or scheduled stopping points.

§ 210.25 Measurement criteria and procedures.

The parameters and procedures for the measurement of the noise emission levels are prescribed in the Standards.

(a) Quantities measured are defined in § 201.21 of the Standards.

(b) Requirements for measurement instrumentation are prescribed in § 201.22 of the Standards. In addition,

§210.27

49 CFR Ch. II (10–1–10 Edition)

the following calibration procedures shall be used:

(1)(i) The sound level measurement system including the microphone shall be calibrated and appropriately adjusted at one or more nominal frequencies in the range from 250 through 1000 Hz at the beginning of each series of measurements, at intervals not exceeding 1 (one) hour during continual use, and immediately following a measurement indicating a violation.

(ii) The sound level measurement system shall be checked not less than once each year by its manufacturer, a representative of its manufacturer, or a person of equivalent special competence to verify that its accuracy meets the manufacturer's design criteria.

(2) An acoustical calibrator of the microphone coupler type designed for the sound level measurement system in use shall be used to calibrate the sound level measurement system in accordance with paragraph (b)(1)(i) of this section. The calibration must meet or exceed the accuracy requirements specified in section 5.4.1 of the American National Standard Institute Standards, "Method for Measurement of Sound Pressure Levels," (ANSI S1.13-1971) for field method measurements.

(c) Acoustical environment, weather conditions, and background noise requirements are prescribed in §201.23 of the Standards. In addition, a measurement tolerance of 2 dB(A) for a given measurement will be allowed to take into account the effects of the factors listed below and the interpretations of these effects by enforcement personnel:

(1) The common practice of reporting field sound level measurements to the nearest whole decibel;

(2) Variations resulting from commercial instrument tolerances;

(3) Variations resulting from the topography of the noise measurement site;

(4) Variations resulting from atmospheric conditions such as wind, ambient temperature, and atmospheric pressure; and

(5) Variations resulting from reflected sound from small objects allowed within the test site.

§210.27 New locomotive certification.

(a) A railroad shall not operate a locomotive built after December 31, 1979, unless the locomotive has been certified to be in compliance with the Standards.

(b) The certification prescribed in this section shall be determined for each locomotive model, by either—

(1) Load cell testing in accordance with the criteria prescribed in the Standards; or

(2) Passby testing in accordance with the criteria prescribed in the Standards.

(c) If passby testing is used under paragraph (b)(2) of this section, it shall be conducted with the locomotive operating at maximum rated horsepower output.

(d) Each new locomotive certified under this section shall be identified by a permanent badge or tag attached in the cab of the locomotive near the location of the inspection Form F 6180.49. The badge or tag shall state:

(1) Whether a load cell or passby test was used;

(2) The date and location of the test; and

(3) The A-weighted sound level reading in decibels obtained during the passby test, or the readings obtained at idle throttle setting and maximum throttle setting during a load cell test.

§210.29 Operation standards (moving locomotives and rail cars).

The operation standards for the noise emission levels of moving locomotives, rail cars, or consists of locomotives and rail cars are prescribed in the Standards and duplicated in appendix A of this part.

(a) Measurements for compliance shall be made in compliance with the provisions of subpart C of the Standards and the following:

(1) Consists of locomotives containing at least one locomotive unit manufactured prior to December 31, 1979, shall be evaluated for compliance in accordance with §201.12(a) of the Standards, unless a locomotive within the consist is separated by at least 10 rail car lengths or 500 feet from other locomotives in the consist, in which case such separated locomotives may

be evaluated for compliance according to their respective built dates.

(2) Consists of locomotives composed entirely of locomotive units manufactured after December 31, 1979, shall be evaluated for compliance in accordance with § 201.12(b) of the Standards.

(3) If the inspector cannot establish the built dates of all locomotives in a consist of locomotives measured under moving conditions, evaluation for compliance shall be made in accordance with § 201.12(a) of the Standards.

(b) Noise emission standards for rail cars operating under moving conditions are contained in § 201.13 of the Standards and are stated in appendix A of this part. If speed measurement equipment used by the inspector at the time of the measurement is not operating within an accuracy of 5 miles per hour, evaluation for compliance shall be made in accordance with § 201.13(2) of the Standards.

(c) Locomotives and rail cars tested pursuant to the procedures prescribed in this part and in the Standards shall be considered in noncompliance whenever the test measurement, minus the appropriate tolerance (§ 210.25), exceeds the noise emission levels prescribed in appendix A of this part.

§ 210.31 Operation standards (stationary locomotives at 30 meters).

(a) For stationary locomotives at load cells:

(1) Each noise emission test shall begin after the engine of the locomotive has attained the normal cooling water operating temperature as prescribed by the locomotive manufacturer.

(2) Noise emission testing in idle or maximum throttle setting shall start after a 40 second stabilization period in the throttle setting selected for the test.

(3) After the stabilization period as prescribed in paragraph (a)(2) of this section, the A-weighted sound level reading in decibels shall be observed for an additional 30-second period in the throttle setting selected for the test.

(4) The maximum A-weighted sound level reading in decibels that is observed during the 30-second period of time prescribed in paragraph (a)(3) of

this section shall be used for test measurement purposes.

(b) The following data determined by any locomotive noise emission test conducted after December 31, 1976, shall be recorded in the "Remarks" section on the reverse side of Form F 6180.49:

(1) Location of test;

(2) Type of test;

(3) Date of test; and

(4) The A-weighted sound level reading in decibels obtained during the passby test, or the readings obtained at idle throttle setting and maximum throttle setting during a load cell test.

(c) Any locomotive subject to this part that is found not to be in compliance with the Standards as a result of a passby test shall be subjected to a load cell test or another passby test prior to return to service, except that no such retest shall be required if the cause of the noise defect is readily apparent and is corrected by the replacement of defective components or by a normal maintenance or repair procedure.

(d) The last entry recorded on Form F 6180.49 as required in paragraph (b) of this section shall be transcribed to a new Form FRA F 6180.49 when it is posted in the locomotive cab.

(e) Locomotives tested pursuant to the procedures prescribed in this part and in the Standards shall be considered in noncompliance wherever the test measurement, minus the appropriate tolerance (§ 210.25), exceeds the noise emission levels prescribed in appendix A of this part.

§ 210.33 Operation standards (switcher locomotives, load cell test stands, car coupling operations, and retarders).

(a) Measurement on receiving property of the noise emission levels from switcher locomotives, load cell test stands, car coupling operations, and retarders shall be performed in accordance with the requirements of 40 CFR part 201 and § 210.25 of this part.

(b) These sources shall be considered in noncompliance whenever the test measurement, minus the appropriate tolerance (§ 210.25), exceeds the noise emission levels prescribed in appendix A of this part.

APPENDIX A TO PART 210—SUMMARY OF NOISE STANDARDS, 40 CFR PART 201

Paragraph and section	Noise source	Noise standard— A weighted sound level in dB	Noise measure ¹	Measurement location
	<i>All Locomotives Manufactured on or Before 31 December 1979</i>			
201.11(a)	Stationary, Idle Throttle Setting	73	L _{max} (slow)	30 m (100 ft)
201.11(a)	Stationary, All Other Throttle Settings	93	.....do	Do.
201.12(a)	Moving	96	L _{max} (fast)	Do.
	<i>All Locomotives Manufactured After 31 December 1979</i>			
201.11(b)	Stationary, Idle Throttle Setting	70	L _{max} (slow)	Do.
201.11(b)	Stationary, All Other Throttle Settings	87	.....do	Do.
201.12(b)	Moving	90	L _{max} (fast)	Do.
201.11(c) and 201.12(c).	<i>Additional Requirement for Switcher Locomotives Manufactured on or Before 31 December 1979 Operating in Yards Where Stationary Switcher and other Locomotive Noise Exceeds the Receiving Property Limit of.</i>	65	L ₉₀ (fast) ²	Receiving property
201.11(c)	Stationary, Idle Throttle Setting	70	L _{max} (slow)	30 m (100 ft)
201.11(c)	Stationary, All Other Throttle Settings	87	.....do	Do.
201.12(c)	Moving	90	L _{max} (fast)	Do.
	<i>Rail Cars</i>			
201.13(1)	Moving at Speeds of 45 mph or Less	88	.....do	Do.
201.13(2)	Moving at Speeds Greater than 45 mph	93	.....do	Do.
	<i>Other Yard Equipment and Facilities</i>			
201.14	Retarders	83	L _{adjavemax} (fast)	Receiving property
201.15	Car-Coupling Operations	92	.....do	Do.
201.16	<i>Locomotive Load Cell Test Stands, Where the Noise from Locomotive Load Cell Operations Exceeds the Receiving Property Limits of.</i>	65	L ₉₀ (fast) ²	Do.
201.16(a)	Primary Standard	78	L _{max} (slow)	30 m (100 ft).
201.16(b)	Secondary Standard if 30-m Measurement Not Feasible.	65	L ₉₀ (fast)	Receiving property located more than 120 m from Load Cell.

¹ L_{max}=Maximum sound level; L₉₀=Statistical sound level exceeded 90% of the time; L_{adjavemax}=Adjusted average maximum sound level.

² L₉₀ must be validated by determining that L₁₀–L₉₉ is less than or equal to 4dB (A).

[48 FR 56758, Dec. 23, 1983; 49 FR 1521, Jan. 12, 1984]

APPENDIX B TO PART 210—SWITCHER LOCOMOTIVE ENFORCEMENT POLICY

The EPA standards require that the noise emissions from all switcher locomotives in a particular facility be less than prescribed levels measured at 30 meters, under all operating modes. This requirement is deemed to be met unless “receiving property” noise due to switcher locomotives exceeds 65 dB(A), when measured in accordance with subpart C of 40 CFR part 201. The 65 dB(A) receiving property standard is the “trigger” for requiring the 30-meter test of switcher locomotives.

The purpose underlying FRA’s enforcement of the noise standards is to reduce the impact of rail operations noise on receiving properties. In some instances, measures other than the 30-meter test approach may more effectively reduce the noise levels at

receiving properties; therefore, FRA enforcement efforts will focus on abatement procedures that will achieve a reduction of receiving property noise levels to less than 65 dB(A).

For example, a parked, idling locomotive, even if equipped with exhaust silencing that meets the stationary locomotive standard (30-meter test), may cause the receiving property standard to be exceeded if located on trackage adjacent to the receiving property. In that case, application of the 30-meter test to other switcher locomotives at the facility may not serve to reduce the receiving property noise level. On the other hand, operational changes by the railroad could significantly reduce receiving property noise levels. In such case, FRA would consider retesting after abatement measures have been taken. If the receiving property noise level is below the trigger and the

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abatement action is adopted, FRA would not make a 30-meter test of the switcher locomotives at the facility.

PART 211—RULES OF PRACTICE

Subpart A—General

Sec.

- 211.1 General.
- 211.3 Participation by interested persons.
- 211.5 Regulatory docket.
- 211.7 Filing requirements.
- 211.9 Content of rulemaking and waiver petitions.

Subpart B—Rulemaking Procedures

- 211.11 Processing of petitions for rulemaking.
- 211.13 Initiation and completion of rulemaking proceedings.
- 211.15 Notice and participation.
- 211.17 Publication and contents of notices.
- 211.19 Petitions for extensions of time to comment.
- 211.21 Consideration of comments received.
- 211.23 Additional public proceedings.
- 211.25 Hearings.
- 211.27 Publication of adopted rules and withdrawal of notices.
- 211.29 Petitions for reconsideration of a final rule.
- 211.31 Proceedings on petitions for reconsideration of a final rule.
- 211.33 Direct final rulemaking procedures.

Subpart C—Waivers

- 211.41 Processing of petitions for waiver of safety rules.
- 211.43 Processing of other waiver petitions.
- 211.45 Petitions for emergency waiver of safety rules.

Subpart D—Emergency Orders

- 211.47 Review procedures.

Subpart E—Miscellaneous Safety-Related Proceedings and Inquiries

- 211.51 Tests.
- 211.53 Signal applications.
- 211.55 Special approvals.
- 211.57 Petitions for reconsideration.
- 211.59 Proceedings on petitions for reconsideration.
- 211.61 Informal safety inquiries.

Subpart F—Interim Procedures for the Review of Emergency Orders

- 211.71 General.
- 211.73 Presiding officer; powers.
- 211.75 Evidence.
- 211.77 Appeal to the Administrator.

APPENDIX A TO PART 211—STATEMENT OF AGENCY POLICY CONCERNING WAIVERS RELATED TO SHARED USE OF TRACKAGE OR RIGHTS-OF-WAY BY LIGHT RAIL AND CONVENTIONAL OPERATIONS

AUTHORITY: 49 U.S.C. 20103, 20107, 20114, 20306, 20502-20504, and 49 CFR 1.49.

SOURCE: 41 FR 54181, Dec. 13, 1976, unless otherwise noted.

Subpart A—General

§211.1 General.

(a) This part prescribes rules of practice that apply to rulemaking and waiver proceedings, review of emergency orders issued under 45 U.S.C. 432, and miscellaneous safety-related proceedings and informal safety inquiries. The specific time limits for disposition of proceedings apply only to proceedings initiated after December 31, 1976, under the Federal Railroad Safety Act of 1970 (45 U.S.C. 421 et seq.). When warranted, FRA will extend these time limits in individual proceedings. However, each proceeding under the Federal Railroad Safety Act shall be disposed of within 12 months after the date it is initiated. A proceeding shall be deemed to be initiated and the time period for its disposition shall begin on the date a petition or application that complies with the requirements of this chapter is received by the person designated in §211.7.

(b) As used in this part—

(1) *Administrator* means the Federal Railroad Administrator or the Deputy Administrator or the delegate of either of them.

(2) *Waiver* includes exemption.

(3) *Safety Act* means the Federal Railroad Safety Act of 1970, as amended (45 U.S.C. 421 et seq.).

(4) *Docket Clerk* means the Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, 1200 New Jersey Avenue, SE., Mail Stop 10, Washington, DC 20590 or the Docket Clerk, U.S. Department of Transportation, Docket Operations (M-30), West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001.

(5) *Railroad Safety Board* means the Railroad Safety Board, Office of Safety, Federal Railroad Administration, Washington, DC 20590.



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