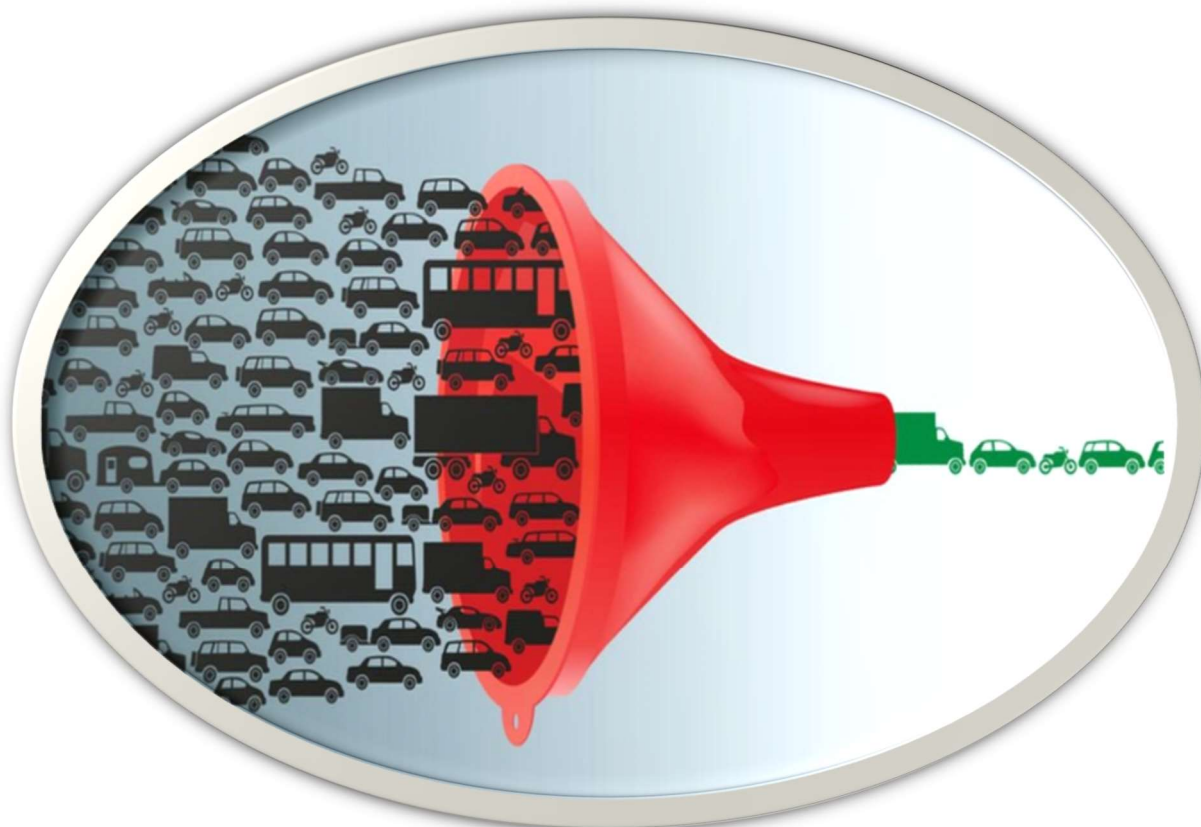


# **R E P O R T**

## **ON**

### **AMBIENT NOISE MONITORING IN**

### **METRO CITIES OF MAHARASHTRA-2023**



**MAHARASHTRA POLLUTION CONTROL BOARD**

**Kalpataru Point, 3<sup>rd</sup> Floor, Sion (East), Mumbai-400022**

**Website: [www.mpcb.gov.in](http://www.mpcb.gov.in)**

**December- 2023**

## PREFACE

Urban noise pollution poses a critical threat to human and animal well-being, demanding immediate attention and action. With millions affected globally, this pervasive issue induces significant stress and disturbance. The escalating problem can be attributed to the forces of urbanization, population growth, and technological advancements. The persistent presence of noise not only disrupts sleep but also contributes to worry, fatigue, elevated blood pressure, and reduced productivity. Various factors contribute to noise pollution, encompassing social events, industrial operations, residential activities, and diverse forms of traffic (air, rail, and road). However, the most prominent and distressing source in urban settings is the incessant traffic noise and unnecessary honking from vehicles.




In response to this pressing concern, the Maharashtra Pollution Control Board (MPCB) undertook an Ambient Noise Level Monitoring Programme across 27 municipal corporations in the state. The study involved continuous monitoring at 104 locations over a 24-hour period, encompassing both day (06:00 am to 10:00 pm) and night (10:30 pm to 6:00 am), conducted over two days—Sunday, December 17, 2023, a non-working day, and Monday, December 18, 2023, a working day.

This report provides an in-depth analysis of the recorded data from the study. Metrics such as Leq daytime, Leq nighttime, L10, L50, L90, Lmax, and Lmin are utilized to quantify results in dB(A), with comparisons against standard limits for the corresponding zones (Industrial, Commercial, Residential, or Silence).

The field monitoring for this study was conducted by M/s Ashwamedh Engineers and Consultants, Nashik, with support from all Regional offices of the Board. Noteworthy contributions were received from the State Police, Traffic Police Media, and NGOs, providing substantial support during surveillance. The Board's APC division spearheaded the study, handling all aspects, including planning, coordination, and report preparation. Special acknowledgment is extended to Dr. V.M Motghare (Joint Director, Air) and Mr. Prakash Jadhav for their invaluable contributions to the study.

December 2023

  
(Dr. Avinash Dhakne, I.A.S)  
Member Secretary

## CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>7</b>
1.1	MEASUREMENT SCALE .....	7
<b>2</b>	<b>NOISE LEVEL MEASUREMENT .....</b>	<b>8</b>
2.1	NOISE DESCRIPTORS.....	10
<b>3</b>	<b>OBJECTIVES.....</b>	<b>11</b>
<b>4</b>	<b>METHODOLOGY OF PROJECT.....</b>	<b>13</b>
<b>5</b>	<b>RESULTS.....</b>	<b>15</b>
5.1	MUMBAI.....	15
5.2	NAVI MUMBAI.....	20
5.3	THANE.....	22
5.4	PUNE .....	25
5.5	NASHIK.....	28
5.6	AURANGABAD .....	30
5.7	NAGPUR .....	33
5.8	KALYAN .....	36
5.9	AMARAVATI .....	39
5.10	JALGAON .....	42
5.11	KOLHAPUR .....	44
5.12	SANGLI .....	46
5.13	MIRA-BHAYANDER .....	48
5.14	VASAI-VIRAR .....	50
5.15	ULHASNAGAR.....	52
5.16	BHIWANDI-NIZAMPUR.....	54
5.17	CHANDRAPUR.....	56
5.18	NANDED-WAGHALA.....	59
5.19	AHMEDNAGAR.....	61
5.20	DHULE.....	63
5.21	MALEGAON .....	65
5.22	PIMPRI-CHINCHWAD .....	67
5.23	PARBHANI .....	69
5.24	LATUR .....	71
5.25	AKOLA .....	73
5.26	SOLAPUR .....	75
5.27	PANVEL .....	77
<b>6</b>	<b>OBSERVATIONS.....</b>	<b>79</b>
<b>7</b>	<b>COMPARATIVE STUDY OF NOISE LEVELS .....</b>	<b>83</b>
<b>8</b>	<b>CONCLUSION.....</b>	<b>113</b>
<b>9</b>	<b>INITIATIVES TAKEN BY MPCB AND GOVERNMENT OF MAHARASHTRA TO REDUCE NOISE POLLUTION DURING DIWALI.....</b>	<b>115</b>
<b>10</b>	<b>RECOMMENDATIONS .....</b>	<b>117</b>
<b>11</b>	<b>DEFINITIONS .....</b>	<b>119</b>
<b>12</b>	<b>GLIMPSE OF THE EVENT.....</b>	<b>121</b>
<b>13</b>	<b>COMPARATIVE AMBIENT NOISE LEVELS DURING THE YEAR 2022 &amp; 2023 .....</b>	<b>129</b>
<b>14</b>	<b>ANNEXURES.....</b>	<b>139</b>
14.1	ANNEXURE I: DETAILED LIST OF STUDIED LOCATIONS .....	139
14.2	ANNEXURE II: NOISE POLLUTION (REGULATION & CONTROL) RULES, 2000 AMENDMENT DATED 21 <sup>ST</sup> APRIL, 2009 .....	142

## ABBREVIATIONS

CPCB Central Pollution Control Board

dB Decibel

dB(A) Decibels with “A” weighting

EPA Environmental Protection Act, 1986

Hz Hertz

MPCB Maharashtra Pollution Control Board

KHz Kilo Hertz

$L_{Aeq}$  Equivalent continuous A-weighted sound pressure level (dB)

$L_{max}$  Maximum sound pressure level (dB)

$L_{min}$  Minimum sound pressure level (dB)

SPL Sound Pressure Level

## 1 INTRODUCTION

Noise pollution, defined as disturbing or excessive noise with the potential to harm human or animal life, is a growing concern exacerbated by factors such as population growth, urbanization, and the increased use of powerful and mobile noise sources. This issue is particularly pronounced in contemporary urban settings, where rapid urbanization, industrialization, and population expansion contribute to elevated noise levels across various Indian cities. While noise pollution does not directly harm life-supporting systems like air, water, and soil, its adverse effects are more direct on human well-being. Traffic noise pollution, stemming from factors like increased vehicular traffic, inadequate road networks, and urbanization, has become a significant problem, with many cities surpassing prescribed noise standards.

The rise in urban noise levels is not solely attributable to vehicles and their honks; the presence of crowds on the roads and contributions from hawkers also play a substantial role. This environmental threat interferes with sleep, concentration, communication, and recreation, impacting residential, social, working, and learning environments. Noise pollution poses numerous potential health risks that are both pervasive and medically and socially significant. As a by-product of modern technological developments, noise extends both vertically and horizontally, with adverse effects on the environment, flora, wildlife, and human health, leading to issues such as stress, high blood pressure, speech impairment, and hearing loss. Unwanted or disturbing sounds from various sources, including industrial facilities, transportation, and construction activities, contribute to urban noise pollution, emphasizing the need for comprehensive noise management strategies and public awareness.

The Maharashtra Pollution Control Board has been researching the ambient noise levels in metropolitan areas throughout the state of Maharashtra for a long time in order to assess the effects of noise pollution. MPCB has carried out the ambient noise monitoring survey at 104 places throughout 27 Maharashtra Municipal Corporations for two days this year as well. viz. 17th December (non-working day) and 18th December (working day) 2023. The monitoring was carried out continuously for 24 hours during day time (06:00am to 10:00pm) and night time (10:00pm to 06:00am). The locations on the list fell into four categories: residential, business, industrial, and quiet zone. Following that, the measured noise levels were contrasted with the corresponding Noise Pollution (Regulation & Control) Rules, 2000 standards.

### 1.1 Measurement Scale

Typically, sound is composed of a large variety of frequencies. One of the elements that contributes to sound energy's ability to be perceived by the human ear is its distribution throughout the audible frequency "spectrum," which is roughly 20Hz–20kHz. The human ear has a wide dynamic range and is an extremely sensitive system. To accommodate this very large range, sound levels are measured using the **decibel (dB) scale**.

Theoretically, a sound level meter responds flatly, meaning that it behaves the same way over a range of frequencies. Since the human ear reacts differently at different frequencies than a sound level meter does, it is possible to employ a weighting, or filter, to make the meter behave more like the human ear. The most commonly used weighting is referred to as the 'A' weighting and readings are usually measured in dBA. The **"Sound Pressure Level" (SPL)** is

twenty times the logarithm to the base 10 of the ratio of the effective pressure (p) of a sound to the reference pressure (Pr) of 20 µPa. Thus the sound pressure level in dB =  $20 \log_{10} P/Pr$ .

## 2 NOISE LEVEL MEASUREMENT

Noise measurement is typically done using a sound level meter (SLM), which is a specialized device designed to quantify and assess the intensity of sound or noise. When conducting noise measurements, it's essential to follow established protocols to ensure accurate and representative results. Taking measurements from a tripod at a specific height and distance from the noise source is an important part of this process.

**a) Stability:** Tripods provide stability to the sound level meter, ensuring that it remains steady during measurements. This is crucial for obtaining accurate and reliable results, as any movement or vibration can introduce errors in the measurements.

**b) Height of Measurement:** It's common to take noise measurements at a height that corresponds to the average ear level of humans, which is typically about 1.2 to 1.5 meters (4 to 5 feet) above the ground. This height is chosen because it represents the typical position of a person's ears, making the measurements more relevant to human exposure.

**c) Distance from the Source:** When measuring noise, it's a good idea to set up your equipment about 10-13 feet away from the noisy thing you're checking. This distance is chosen because it helps us get a sense of how loud the noise is over an entire area, instead of just right next to the noisy thing itself. It's like stepping back from a speaker at a concert to get a better idea of how loud the music is in the whole room, rather than right next to the speaker where it's super loud.

**d) Safety:** When measuring noise levels at a close distance to a very loud source, the sound level meter could be damaged, and the person taking measurements could be at risk of hearing damage. Maintaining a safe distance ensures the equipment's longevity and the safety of the operator.

In some cases, such as industrial noise assessments, measurements may be taken at specific locations where people are likely to be exposed to noise. The measurements may be taken at ear level, closer to the source, or farther away depending on the specific circumstances and regulations governing noise exposure.

Ultimately, the choice of measurement height and distance from the source depends on the objectives of the measurement and the specific standards and guidelines being followed. Accurate and consistent measurements are essential for assessing and mitigating the impact of noise on human health and the environment.

**Noise is measured in decibels (dB):** A decibel is the standard for the measurement of noise. The zero on a decibel scale is at the threshold of hearing, the lowest sound pressure that can be heard. According to D.B. Smith, 20 dB is whisper, 40 dB is quiet office, 60 dB is normal conversation and 80 dB is the level at which sound becomes physically painful.

**Decibels (dBA):** 'A' symbol indicates a measurement of a logarithmic scale. In each case, the actual measurement 'a' is compared to a fixed reference level 'r' and the "decibel" value is

defined to be  $10 \log_{10} (a/r)$ . 'A' weighing filters out lower frequencies very severely. Fast responses closely match to the simulations of Human ear sensitivity.

**Leq (Equivalent Continuous Sound Level):** Leq is the preferred method to describe sound levels that vary over time, resulting in a single decibel value that takes into account the total sound energy over the period of time of interest.

**Leq - equivalent continuous sound level:** Sound levels often fluctuate over a wide range with time. For example, in the middle of the night, the level might go down as low as 30dB(A) with occasional passing vehicles of 70dB(A) or more. Later comes the dawn chorus followed by the general noises of the day before relative peace returns in the late evening.

Alternatively, it may be a festival location with different noise emissions (for eg, DJs, Dhols, music, firecrackers, etc.) throughout the day or week, with deliveries, intermittent compressors, and lots of varying noisy processes on top of the routine production noise levels. How do you measure these noise levels and come up with an overall value?

This is where the Leq or equivalent continuous Sound level or an average value of sound comes. When we say average, this is not a simple arithmetic average because we are measuring in decibels which are logarithmic values. So the sound level meter converts the dB values to sound pressure levels, adds them all up then divides by the number of samples and finally converts this equivalent level back to decibels - dBs.

**Lmax:** It is the highest time-weighted sound level measured by the meter during a given period of time (the maximum of the output of the time-weighted sound level equation above). The time constant used can be fast or slow

**Lmin:** It is the lowest time-weighted sound level measured by the meter over a given period of time (the minimum of the output of the time weighted sound level equation above). Just like for Lmax, the value is based on the time weighted sound level in dB. The time constant used can be fast or slow.

### **Noise Pollution (Regulation and Control) Rules, 2000**

The Noise Pollution (Regulation and Control) Rules, 2000 govern each type of noise pollution (Annexure. Prior to this, noise pollution and its causes were addressed by the Air (Prevention and Control of Pollution) Act of 1981.

- On February 14, 2000, the Union Government passed the Noise Pollution (Regulation and Control) Rules, 2000 in an effort to reduce the increasing ambient noise level coming from diverse sources in public areas. According to the authority granted to it by the Environment (Protection) Act of 1986, this was done.
- As stated in Rule 5 of the Noise Rules 2000, the use of loudspeakers and public address systems is restricted.
- Rule 5 was altered in 2010 to forbid the use of sound-producing equipment. Before using this technology in any of these situations, written consent is necessary.
- The District Magistrate, Police Commissioner, and any other person not below the level of Deputy Superintendent of Police are designated as the Noise Rules, 2000's implementing authorities.

- The State Government has the power to permit the use of loudspeakers on or during any annual religious or cultural celebration with a maximum duration of fifteen days. The hours between 10:00 p.m. and 12:00 a.m. are not suitable for such recreation.

## 2.1 Noise Descriptors

- **L<sub>Aeq</sub>** is used to quantify the noise where the  $L_p$  varies over time. In most situations, the  $L_{Aeq}$  is the most appropriate descriptor used to investigate environmental noise complaints.
- **The n-percent** exceeded level,  $L_n$ , is the sound pressure level exceeded for n percent of the time. In other words, for n percent of the time, the fluctuating sound pressure levels are higher than the  $L_n$  level.  $L_n$  can be obtained by analyzing a given noise by statistical means. The commonly used value of n for the n-percent exceeded level,  $L_n$ , are 10, 50, and 90.
- **L<sub>10</sub>** is the level exceeded for 10% of the time. For 10% of the time, the sound or noise has a sound pressure level above  $L_{10}$ . For the rest of the time, the sound or noise has a sound pressure level at or below  $L_{10}$ .
- **L<sub>50</sub>** is the level exceeded for 50% of the time. It is statistically the mid-point of the noise readings. It represents the median of the fluctuating noise levels.
- **L<sub>90</sub>** is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level. It is generally considered to be representing the background or ambient level of a noise environment.
- For a varying sound,  $L_{10}$  is greater than  $L_{50}$  which in turn is greater than  $L_{90}$ .

### 3 OBJECTIVES

The major objectives of the study are enlisted below:

- ❖ To monitor and assess the ambient noise levels at 104 locations in the metro cities of Maharashtra across 27 Municipal Corporations covering Industrial, Commercial, Residential & Silence zones at day time and night time.
- ❖ To assess the extent of the violation by comparing the measured noise levels against ambient noise standards (Noise Pollution (Regulation & Control) Rules, 2000)-Annexure II.
- ❖ To identify the significant contributors or factors of noise levels so as to take proper mitigation measures.
- ❖ To assist in developing policy to formulate legal action for punishment, prohibiting, and preventing noise pollution.
- ❖ To educate the public about the noise pollution and its negative impacts.

#### **4 METHODOLOGY OF PROJECT**

The ambient noise monitoring was carried out at Metropolitan cities in the state of Maharashtra for 104 locations covering 27 Municipal Corporations across Maharashtra. The monitoring was carried out for 2 days considering the noise that generate for the non-working day December 17, 2023 (Sunday), and the working day December 18, 2023 (Monday) for 24 hours. The noise monitoring was carried out using calibrated Sound Level Meters (Type-II).

The details of the number of noise monitoring locations in different Municipal Corporations are provided in **Table 4.1** below:

**Table 4.1: Noise Monitoring Locations in Metro/Major Cities of Maharashtra: 2023**

<b>Sr.</b>	<b>Municipal Corporation</b>	<b>Number of locations</b>
1.	Mumbai South	15
2.	Navi Mumbai	03
3.	Thane	05
4.	Pune	05
5.	Nashik	05
6.	Aurangabad	05
7.	Nagpur	05
8.	Kalyan	03
9.	Amravati	03
10.	Jalgaon	03
11.	Kolhapur	04
12.	Sangli	03
13.	Mira – Bhayander	03
14.	Vasai – Virar	03
15.	Ulhas nagar	03
16.	Bhiwandi – Nizampur	03
17.	Chandrapur	03
18.	Nanded – Waghala	03
19.	Ahmednagar	03
20.	Dhule	03
21.	Malegaon	03
22.	Pimpri – Chinchwad	03
23.	Parbhani	03
24.	Latur	03
25.	Akola	03
26.	Solapur	03
27.	Panvel	03
<b>Total no. of Locations</b>		<b>104</b>

The detailed list of locations is given in **Annexure I**.

## 5 RESULTS

Hourly Noise Levels on 17<sup>th</sup> and 18<sup>th</sup> December in Metropolitan cities at different locations in Maharashtra is given in **Annexure III**. The equivalent steady sound level of a noise energy-averaged over time was calculated represented as  $L_{eq}$  based on which the impact of noise created during the festival is measured. The formula for calculating  $L_{eq}$  is as given below:

$$L_{eq,T} = 10 \log \left( 1/n \sum_{i=1}^n 10^{\frac{L_i}{10}} \right)$$

where,  $L_i$  = levels observed at n equally spaced times during interval T

In the present study average noise values ( $L_{eq}$ ) of hourly data, day time (06:00am to 10:00pm) and night time (10:00pm to 06:00am) has been calculated to compare the results with the noise standards mentioned under Noise Pollution (Regulation & Control) Rules, 2000 for their respective zones i.e. Industrial, Commercial, Residential & Silence.

### 5.1 Mumbai

In Mumbai, a total of 15 locations were monitored continuously for 24 hours. The highest average noise level during day time on 17<sup>th</sup> December and 18<sup>th</sup> December 2023 was observed with 83.3dB(A) and 87.0dB(A) at Hindu Colony, Dadar and Mumba Devi temple, Mumbai respectively. During night time the highest noise level on 17th December was observed again at Hindu Colony, Dadar with 82.9dB(A) and on 18th December, it was observed highest at Malabar Hills with 76.1 dB(A).

**Table 5.1: Ambient Noise Levels in Mumbai**

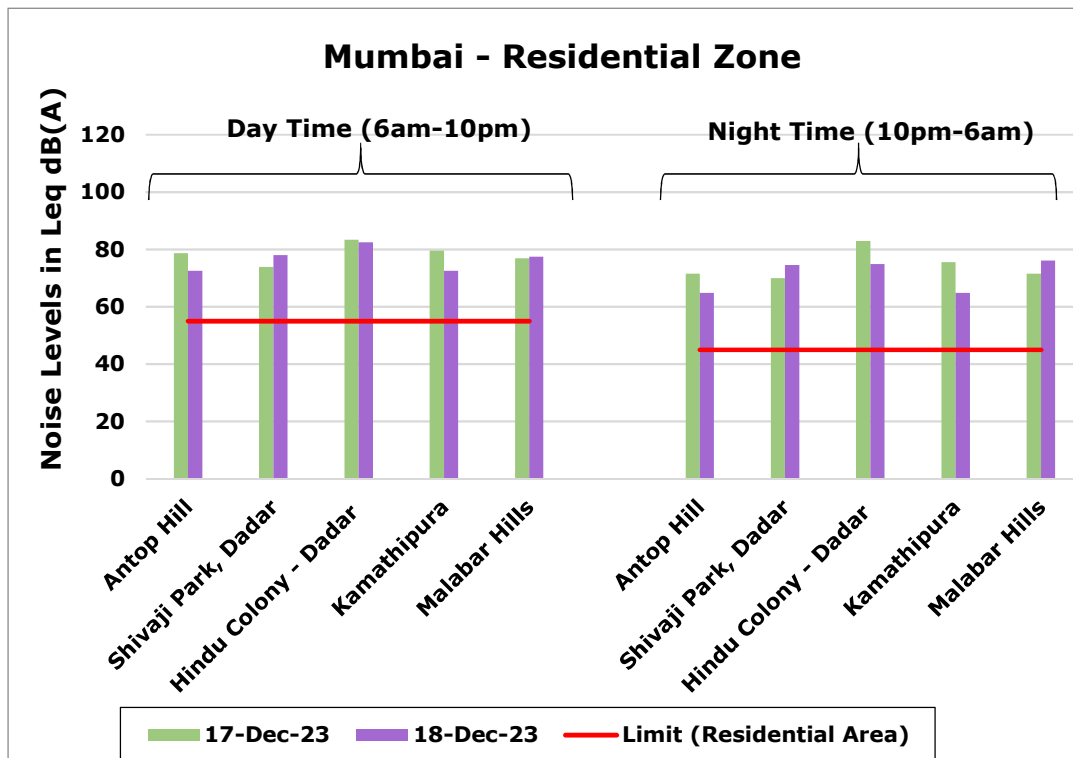
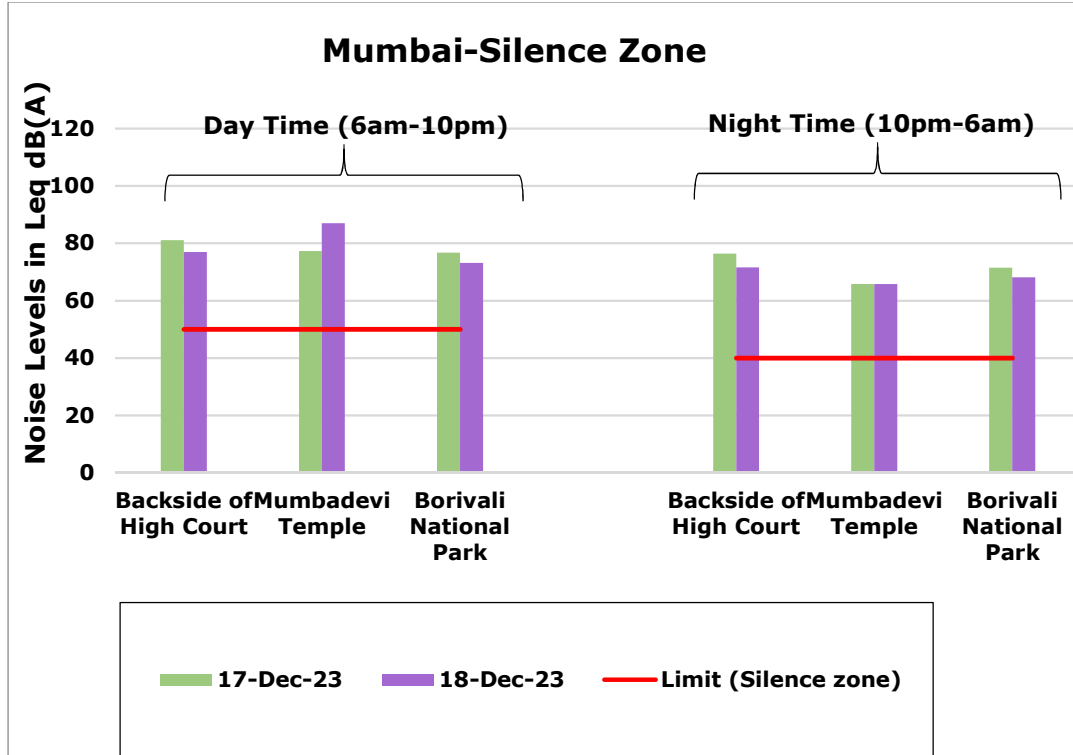
Ambient Noise Monitoring on 17th December 2023 – MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	$L_{eq}$	$L_{min}$	$L_{max}$	$L_{10}$	$L_{50}$	$L_{90}$	$L_{eq}$	$L_{min}$	$L_{max}$	$L_{10}$	$L_{50}$	$L_{90}$
Backside of High Court	81.1	50.4	89.6	85.3	79.2	59.8	76.4	36.1	88.4	81.3	49.1	40.0
Mumbadevi Temple	77.3	58.2	84.7	80.5	76.0	64.4	65.8	57.8	72.9	69.4	62.9	59.3
Borivali National Park	76.7	59.5	87.7	79.7	71.2	66.4	71.4	50.3	84.6	75.8	60.8	53.2
Antop Hill	78.7	44.3	94.8	82.5	69.2	51.4	71.5	50.5	84.6	75.5	60.4	53.3
Shivaji Park, Dadar	73.8	52.2	87.9	76.3	69.8	61.1	69.9	59.5	79.8	74.5	65.9	60.5

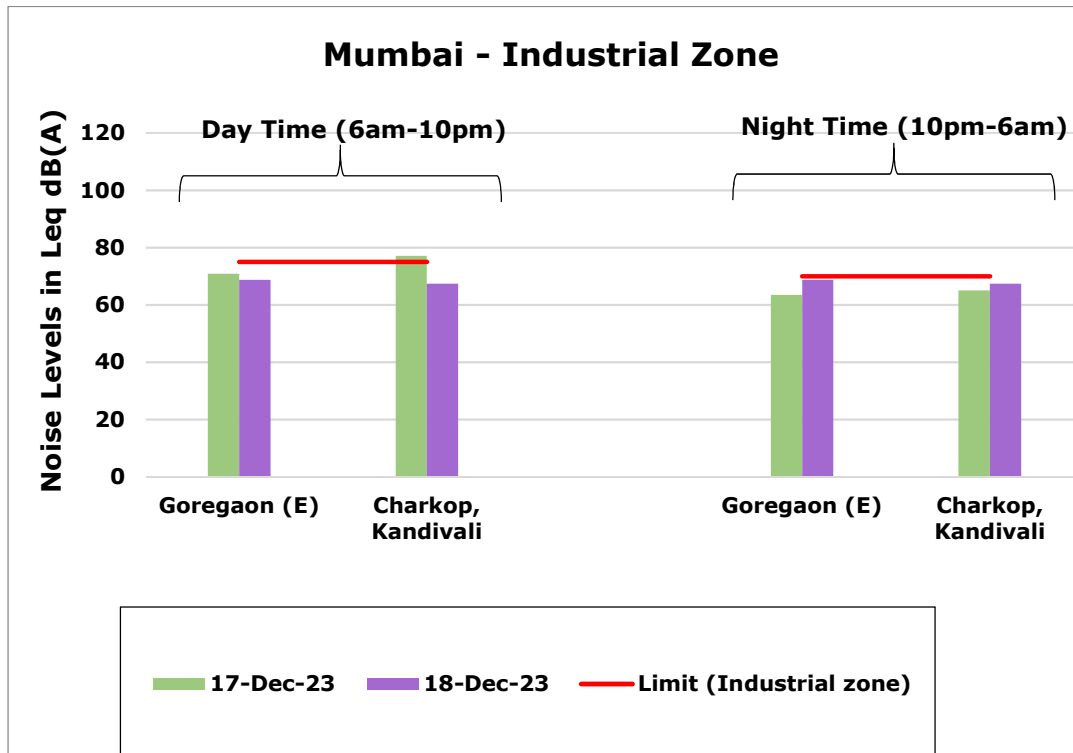
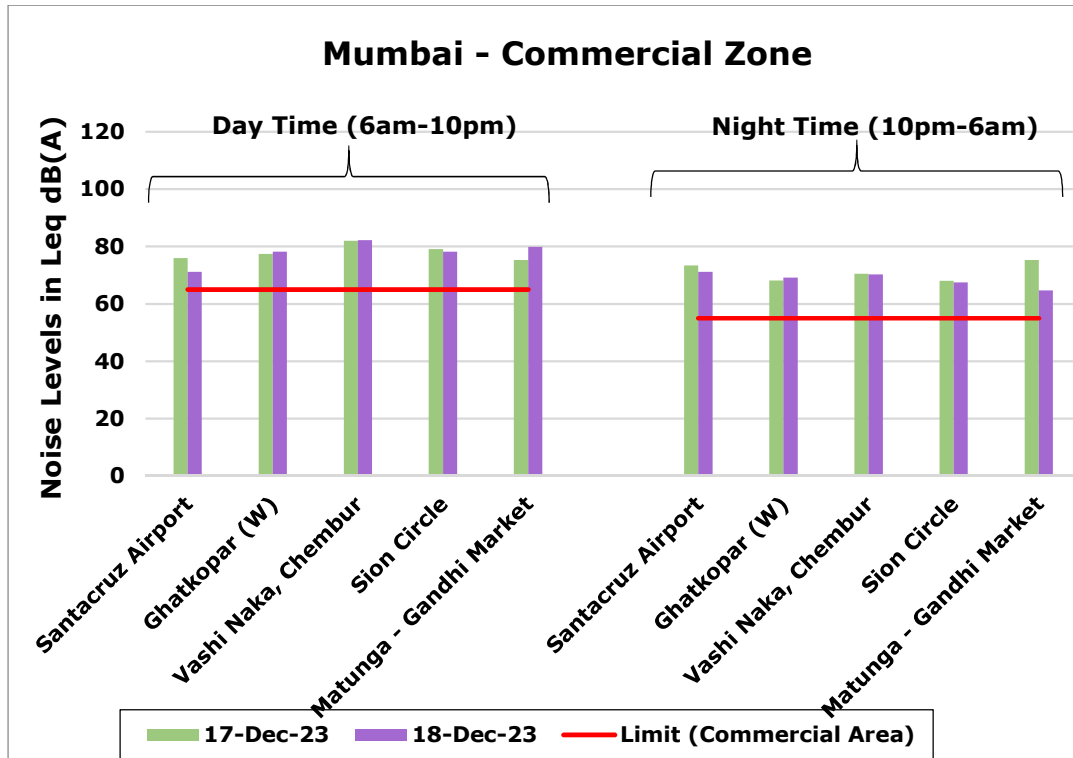
Ambient Noise Monitoring on 17th December 2023 – MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Santacruz Airport	75.9	58.2	87.3	79.5	71.2	66.2	73.4	56.4	86.7	75.5	68.5	60.8
Ghatkopar (W)	77.4	48.0	88.0	82.0	72.0	59.0	68.1	43.4	78.7	71.4	56.4	46.4
Vashi Naka, Chembur	82.0	62.9	89.9	87.1	76.8	69.6	70.5	42.8	82.7	73.9	59.4	49.1
Goregaon (E)	70.8	56.4	79.6	74.2	69.7	62.4	63.5	54.9	71.7	67.0	61.4	56.8
Charkop, Kandivali	77.1	56.9	86.2	81.5	73.6	63.7	65.0	44.1	75.4	69.5	53.6	46.4
Sion	79.0	58.2	88.3	82.3	77.3	71.6	68.0	41.4	78.7	71.1	54.5	46.4
Hindu Colony	83.3	61.5	94.4	86.7	78.6	68.3	82.9	53.1	92.9	88.2	76.0	65.0
Matunga	75.3	35.5	85.8	79.8	67.8	52.4	74.9	45.0	88.9	75.0	63.7	53.2
Kamathipura	79.5	54.8	89.9	84.4	74.7	64.9	75.5	47.5	86.6	80.2	60.1	51.1
Malabar Hills	76.9	30.4	88.5	81.9	69.2	49.2	71.5	50.5	84.6	75.5	60.4	53.3

Ambient Noise Monitoring on 18th December 2023– MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Backside of High Court	76.9	57.3	87.7	80.3	70.1	62.0	71.6	50.5	84.6	75.5	62.4	53.3
Mumbadevi Temple	87.0	59.5	93.6	90.8	84.1	68.8	65.8	57.8	72.9	69.4	62.9	59.3
Borivali National Park	73.1	59.3	78.7	78.4	68.3	64.2	68.1	52.2	78.7	69.4	62.4	55.4

Ambient Noise Monitoring on 18th December 2023– MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Antop Hill	72.5	59.0	83.6	74.9	69.9	64.1	64.8	53.7	71.9	69.4	62.8	55.7
Shivaji Park, Dadar	78.0	50.2	89.2	81.9	71.7	55.8	74.5	45.6	87.5	76.7	57.6	48.3
Santacruz Airport	77.7	63.0	89.4	79.4	75.4	68.6	71.1	50.5	84.6	74.7	60.3	53.3
Ghatkopar (W)	78.2	48.7	89.1	82.6	73.5	59.6	69.1	45.8	79.0	73.4	60.2	48.3
Vashi Naka, Chembur	82.2	64.9	89.7	87.4	77.5	69.5	70.2	42.3	84.6	73.2	62.2	50.1
Goregaon (E)	69.8	56.4	76.6	72.4	68.9	66.1	68.7	64.0	72.8	71.6	67.8	64.9
Charkop, Kandivali	80.6	60.7	89.9	85.1	73.6	65.8	67.4	60.3	76.5	71.6	64.4	61.7
Sion	78.2	48.7	89.1	82.6	73.5	59.6	67.4	60.0	76.0	71.5	64.2	61.6
Hindu Colony	82.5	55.8	94.4	87.2	74.1	67.2	74.9	45.7	89.0	76.0	57.5	50.1
Matunga	79.8	45.7	89.9	84.8	74.8	58.0	64.6	43.2	73.8	69.1	59.9	48.6
Kamathipura	72.5	59.0	83.6	74.9	69.9	64.1	64.8	53.4	71.9	69.4	62.9	55.7
Malabar Hills	77.4	36.3	89.7	79.9	68.3	55.3	76.1	42.7	86.0	79.9	70.5	54.4

Chart 5.1: Ambient Noise Levels in Mumbai





## 5.2 Navi Mumbai

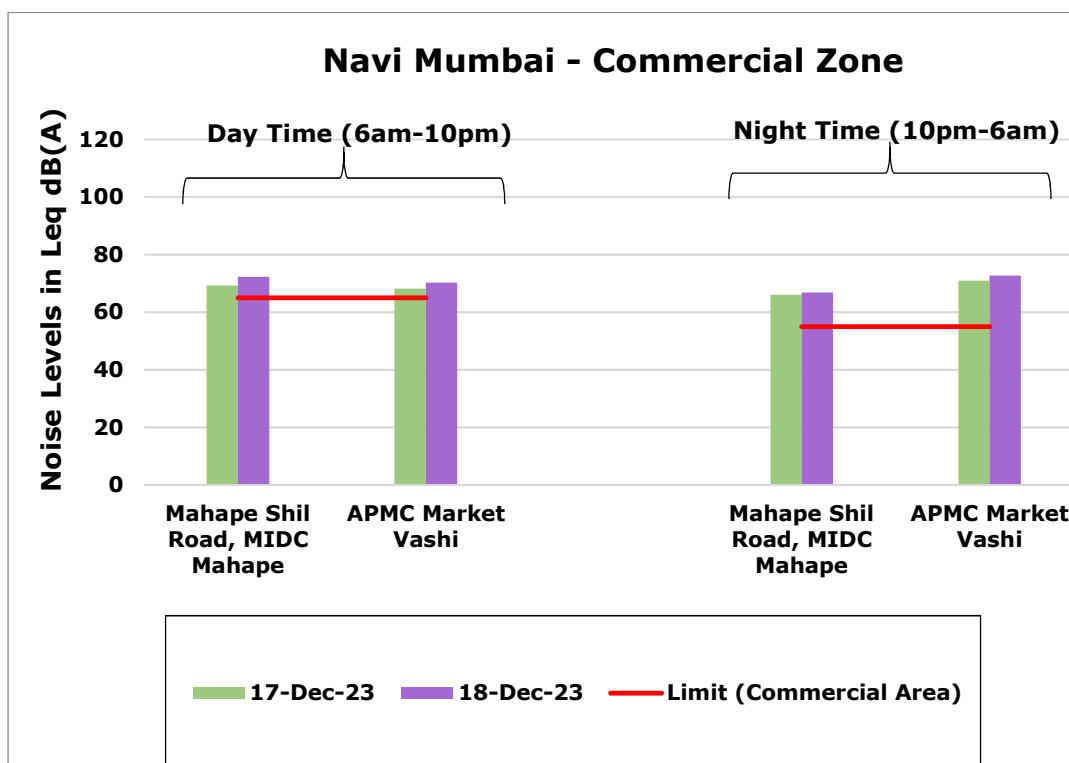
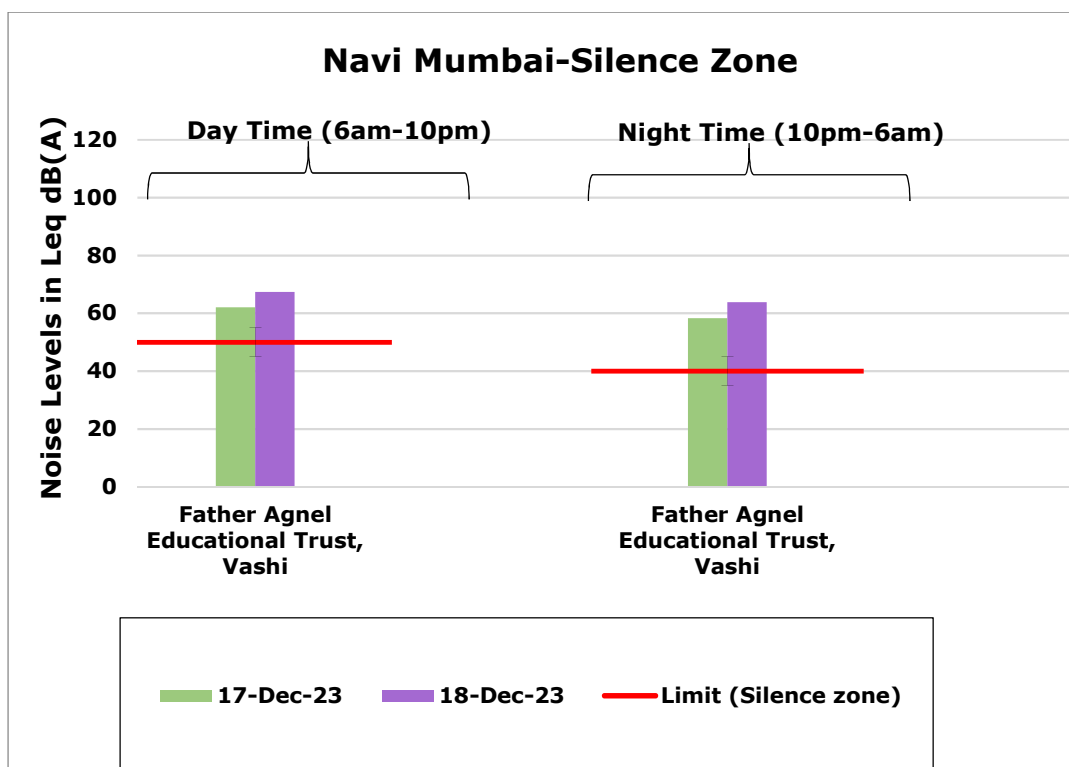
In Navi Mumbai a total of three locations were monitored. The highest noise level during day time on 17th December and 18th December 2023 was observed with 69.3dB(A) and 72.3dB(A) both at Mahape Shil Road. During night time, the highest noise level 70.9dB(A) and 72.7dB(A) respectively) on both days of monitoring was observed at APMC Market, Vashi.

**Table 5.2: Ambient Noise Levels in Navi Mumbai**

Ambient Noise Monitoring on 17th December 2023 - Navi Mumbai												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Mahape Shil Road	69.3	53.9	77.3	73.4	66.8	59.8	66.0	58.4	74.3	69.3	63.4	58.9
APMC Market Vashi	68.1	56.7	77.6	71.3	66.6	62.3	70.9	63.2	76.9	73.1	69.7	65.9
Father Agnel Educational Trust, Vashi	62.0	44.3	68.2	65.7	60.6	49.3	58.3	41.1	65.7	62.2	55.1	48.1

Ambient Noise Monitoring on 18th December 2023 - Navi Mumbai												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Mahape Shil Road	72.3	54.3	82.4	76.4	69.4	61.3	66.8	58.4	73.8	70.2	64.3	60.4
APMC Market Vashi	70.2	57.6	79.1	74.1	67.8	63.5	72.7	61.9	79.6	76.2	69.8	64.6
Father Agnel Educational Trust, Vashi	67.4	49.6	74.5	70.6	66.2	58.3	63.8	48.4	74.3	67.2	61.2	52.4

Chart 5.2: Ambient Noise Levels in Navi Mumbai



### 5.3 Thane

In Thane a total of 5 locations were monitored. The highest noise level during day time on 17th December is observed at Pokharan road i.e. 82.0 dB(A) and on 18th December, the Gaondevi mandir, Naupada was the loudest with 78.6 dB(A). However, during night time, the highest noise level on both the days was observed at Gaondevi mandir, Naupada and Tembhi Naka with 81.5 dB(A) and 72.9 dB(A) respectively.

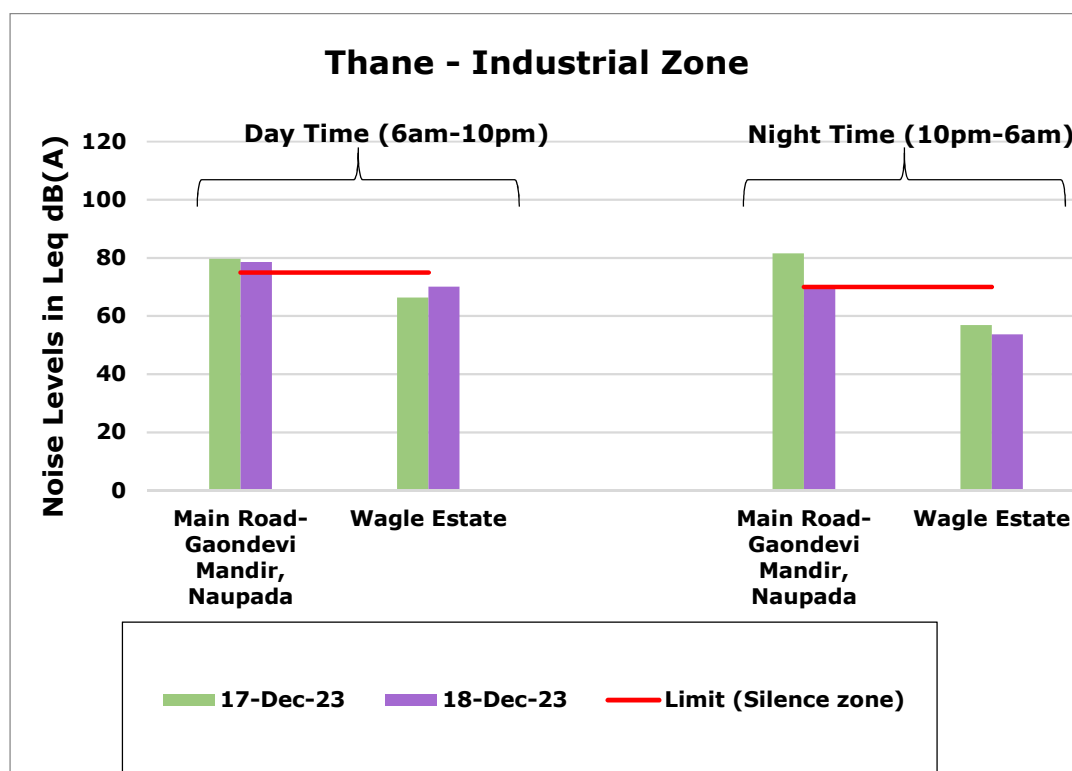
**Table 5.3: Ambient Noise Levels in Thane**

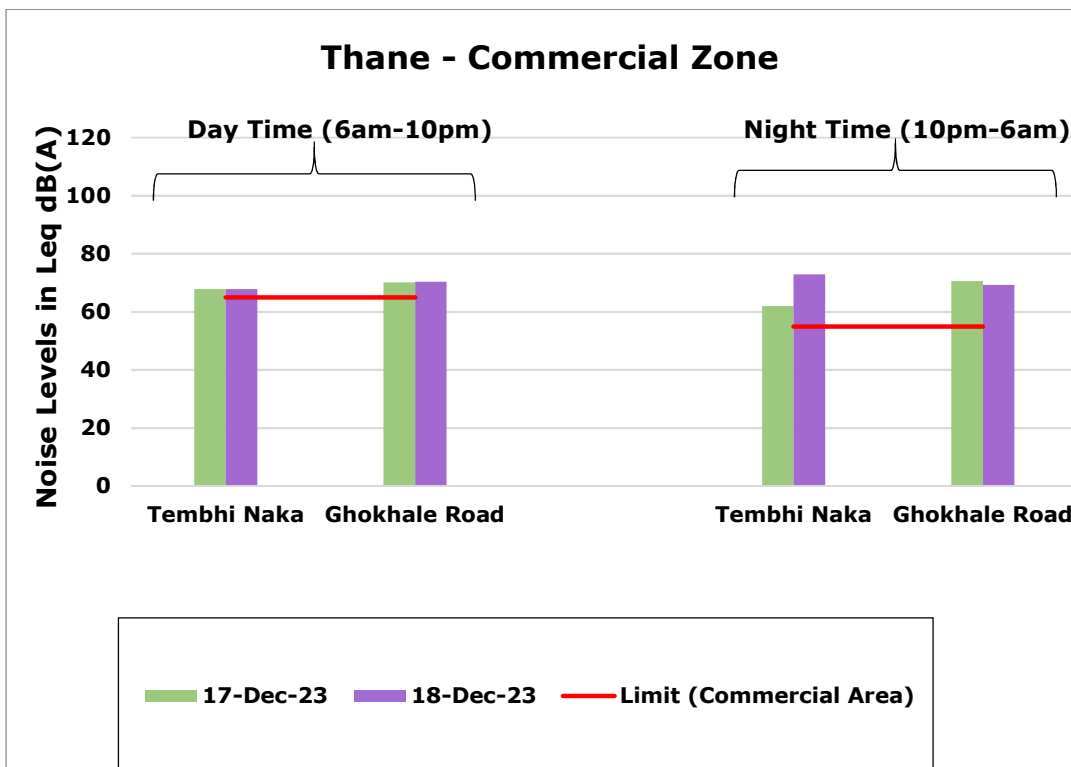
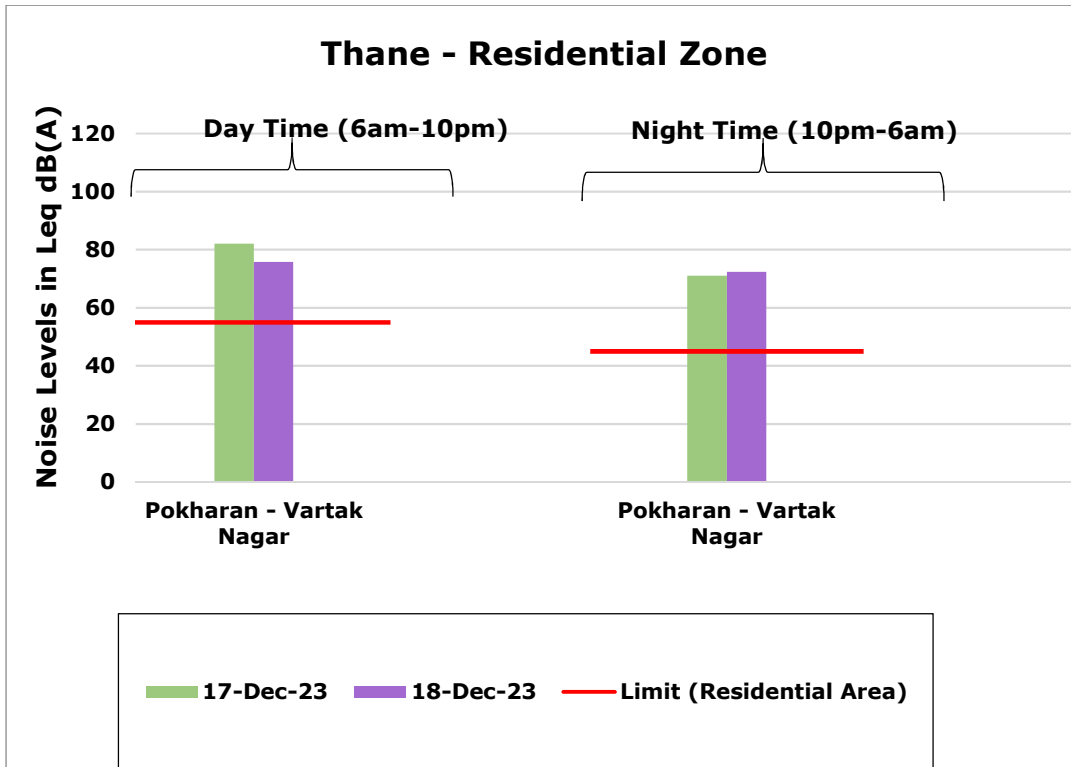
Ambient Noise Monitoring on 17th December 2023- THANE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Main Road-Gaondevi Mandir	79.7	60.0	95.2	80.5	74.6	65.4	81.5	62.0	95.2	84.1	74.2	63.4
Tembhi Naka	67.8	49.0	79.4	70.1	64.9	57.4	62.0	49.0	69.7	66.4	57.8	51.8
Ghokhale Road	70.1	51.4	78.9	73.8	68.4	63.2	70.6	58.1	83.4	74.1	68.8	64.0
Pokharan	82.0	62.1	90.7	85.3	78.3	68.1	71.0	50.3	79.6	76.5	60.3	52.2
Wagle Estate	66.3	40.4	76.2	71.2	59.5	47.8	56.9	40.4	72.2	60.9	50.4	43.8

Ambient Noise Monitoring on 18th December 2023 - THANE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Main Road-Gaondevi Mandir	78.6	43.1	89.7	80.9	76.4	62.8	70.0	41.4	79.4	75.6	59.9	47.9
Tembhi Naka	67.8	49.2	79.4	70.1	64.9	57.4	72.9	41.2	85.6	76.3	51.9	42.9
Ghokhale Road	70.3	58.9	78.9	74.5	68.4	62.9	69.2	49.0	83.4	73.1	57.4	52.9
Pokharan	75.8	55.2	87.3	79.7	71.2	65.4	72.3	51.2	86.7	75.3	58.5	52.4

Ambient Noise Monitoring on 18th December 2023 - THANE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Wagle Estate	70.1	45.7	79.5	74.5	64.4	50.4	53.7	42.9	64.8	57.7	49.6	45.1

Chart 5.3: Ambient Noise Levels in Thane





## 5.4 Pune

Five locations were monitored in Pune region. During both days of monitoring, Pune University road was observed as noisiest with 76.0dB(A) on 17th December and 77.7dB(A) on 18th December 2023.

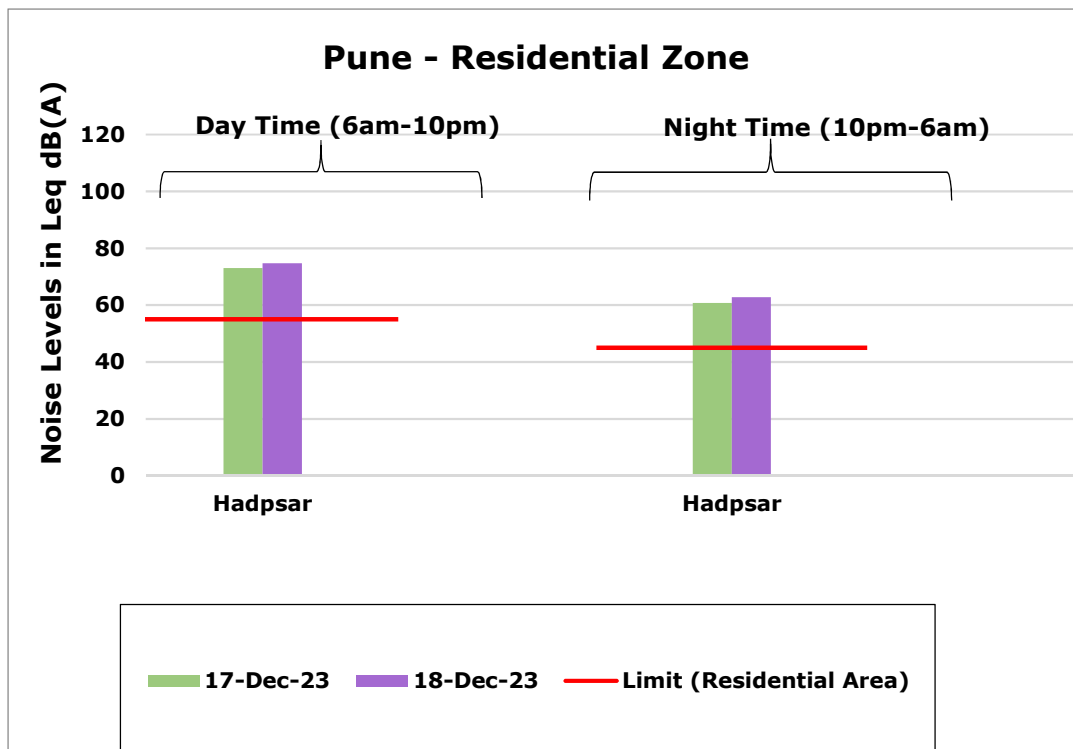
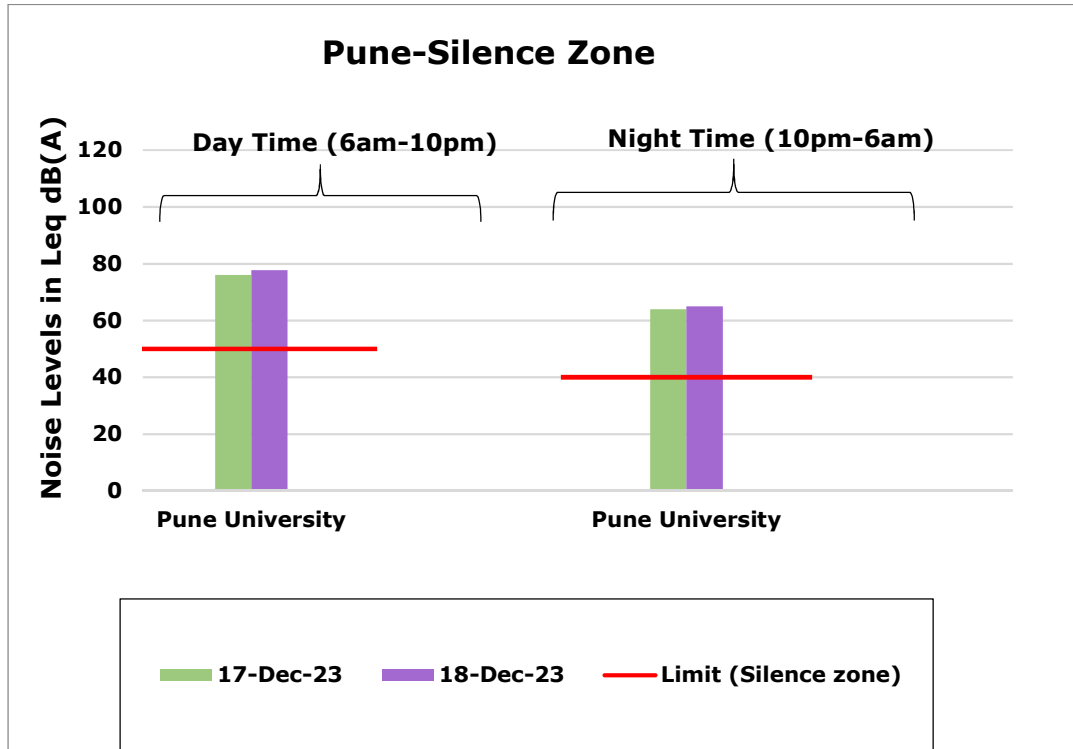
However, during night time of 17th December, the highest noise level 63.9dB(A) was recorded at Pune University and on 18th December, again Pune University was observed with the highest noise level of 65.0dB(A).

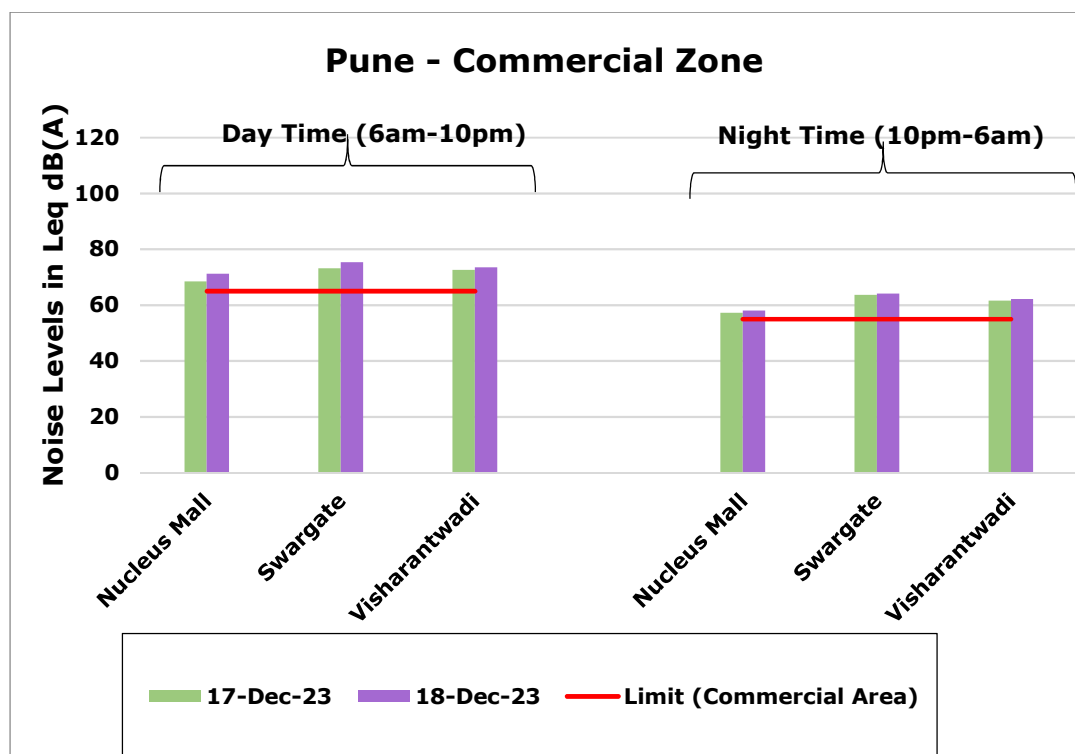
**Table 5.4: Ambient Noise Levels in Pune**

Ambient Noise Monitoring on 17th December 2023- PUNE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Nucleus Mall	68.5	50.7	79.3	71.9	66.0	57.2	57.2	42.8	64.7	61.5	52.3	44.9
Pune University	76.0	58.4	83.4	78.9	75.2	67.1	63.9	43.3	72.1	69.8	52.0	44.7
Swargate	73.2	62.3	81.6	76.8	71.4	65.4	63.7	43.3	73.3	69.2	51.6	45.1
Hadpsar	73.0	58.4	82.4	76.3	71.1	64.2	60.7	42.9	72.1	65.5	49.8	43.3
Visharantwadi	72.6	57.6	80.6	77.2	70.0	62.8	61.6	42.3	71.6	65.4	51.8	43.8

Ambient Noise Monitoring on 18th December 2023- PUNE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Nucleus Mall	71.2	52.8	79.6	74.6	67.5	60.9	58.0	42.2	67.8	63.3	48.0	43.6
Pune University	77.7	61.9	84.7	79.9	77.4	71.3	65.0	43.3	73.3	70.6	50.7	45.0
Swargate	75.3	64.7	81.5	78.9	74.5	68.7	64.1	43.8	72.5	70.1	51.7	44.1
Hadpsar	74.7	57.2	81.4	78.4	73.6	66.2	62.7	43.8	72.2	68.7	50.8	44.7
Visharantwadi	73.5	56.0	79.8	77.4	71.5	64.7	62.2	43.8	70.8	66.3	55.4	44.5

Chart 5.4: Ambient Noise Levels in Pune





## 5.5 Nashik

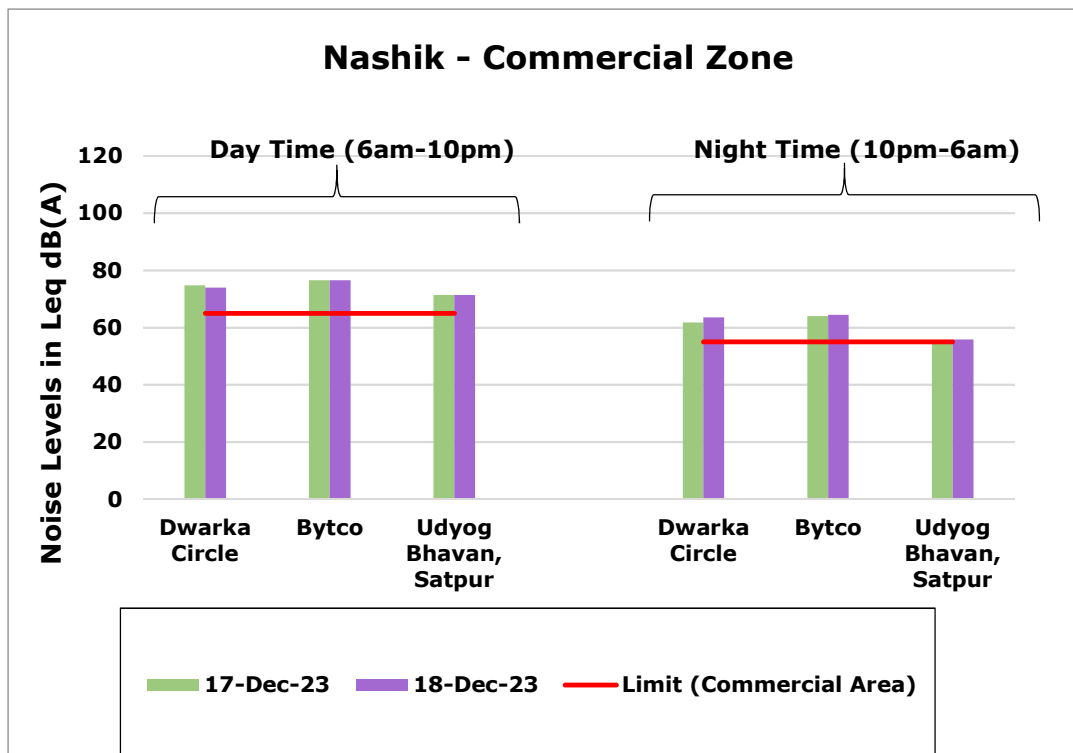
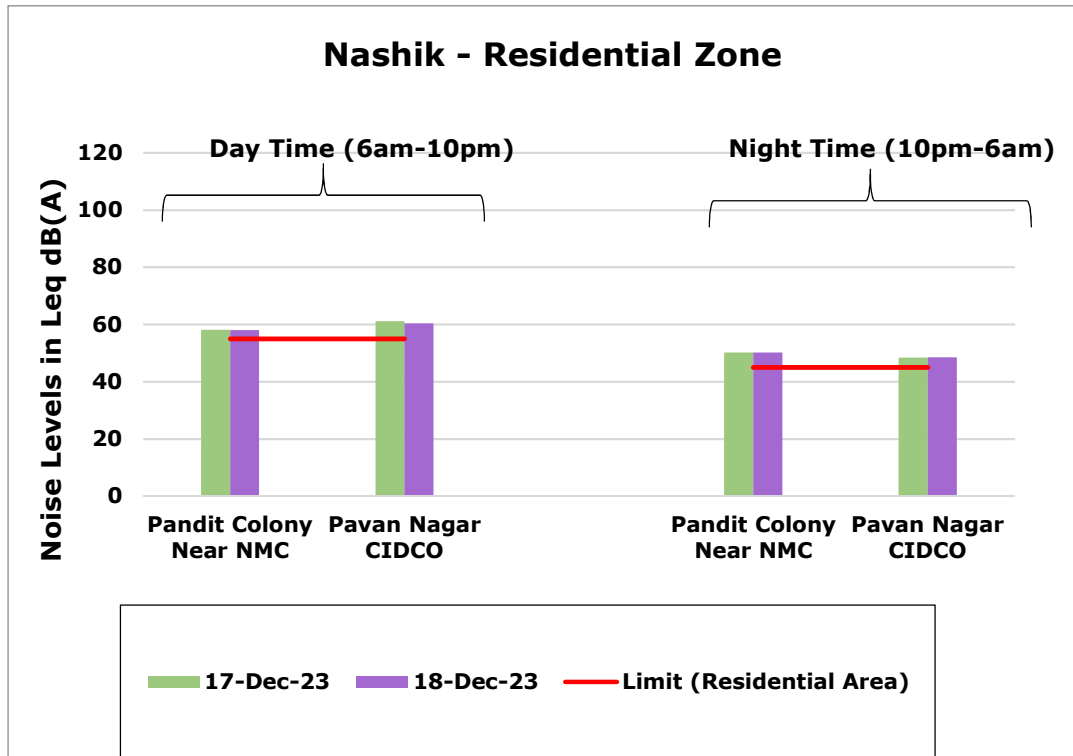
In Nashik also, we have monitored five locations. The highest noise level during day time on 17th and 18th December 2023 was observed with 76.5 dB(A) at Bytco. During night time the highest noise level on both the days was observed at Bytco, with 64.0 dB(A) and 64.4dB(A) respectively.

**Table 5.5: Ambient Noise Levels in Nashik**

Ambient Noise Monitoring on 17th December 2023- NASHIK												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dwarka Circle	74.7	67.0	79.0	76.0	75.0	70.0	61.7	54.0	66.0	65.0	60.0	55.9
Pandit Colony Near NMC	58.1	42.0	68.0	63.0	53.0	46.0	50.2	42.0	56.0	54.0	49.0	43.0
Pavan Nagar CIDCO	61.1	42.0	68.0	65.0	60.0	48.9	48.4	41.0	53.0	51.1	48.0	42.9
Bytco	76.5	70.0	81.0	79.0	76.0	72.0	64.0	55.0	69.0	68.0	61.5	56.0
Udyog Bhavan, Satpur	71.4	63.0	76.0	74.0	71.0	68.0	55.6	48.0	62.0	58.0	54.0	49.0

Ambient Noise Monitoring on 18th December 2023- NASHIK												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dwarka Circle	74.0	62.0	79.0	76.0	74.0	69.0	63.5	57.0	71.0	66.1	61.0	58.0
Pandit Colony Near NMC	58.0	42.0	68.0	63.0	53.0	46.0	50.2	42.0	56.0	54.0	48.0	43.0
Pavan Nagar CIDCO	60.4	42.0	66.0	64.0	58.0	49.9	48.5	41.0	53.0	52.0	47.0	43.0
Bytco	76.5	70.0	81.0	79.0	76.0	72.0	64.4	56.0	69.0	67.0	64.0	59.0
Udyog Bhavan, Satpur	71.4	65.0	76.0	74.0	70.5	68.0	55.8	48.0	62.0	60.0	54.0	48.9

Chart 5.5: Ambient Noise Levels in Nashik



## 5.6 Aurangabad

Five locations were monitored for Aurangabad region. The highest average noise level on 17th December, during day time was observed at Nirala Bazaar with 61.6dB(A). On 18th December, the highest average noise level during day time was observed at Swami Vivekanand College with 67.0 dB(A) and during night time the highest noise level was also observed at Swami Vivekanand College with 49.6 dB(A).

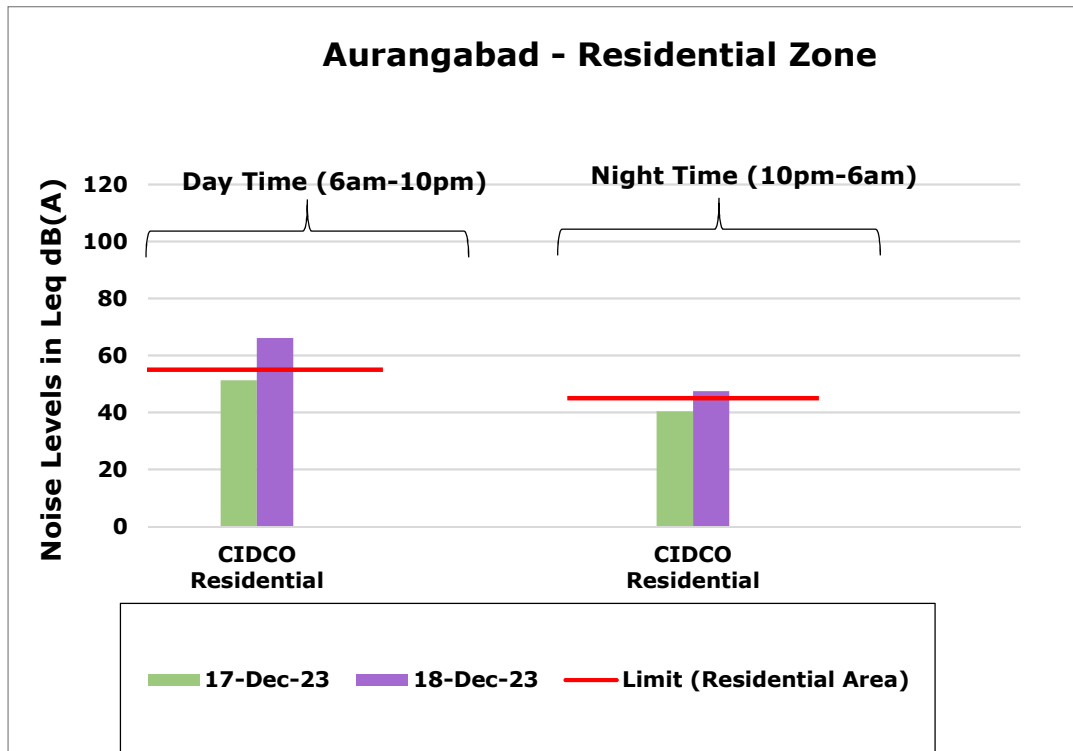
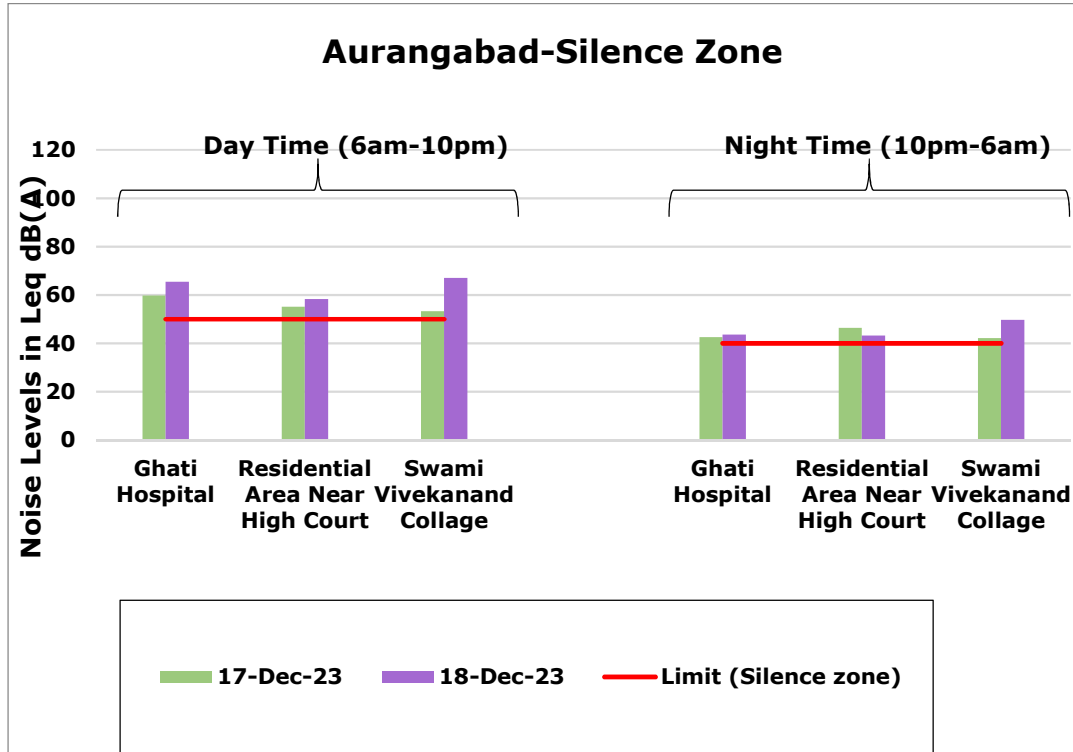
**Table 5.6: Ambient Noise Levels in Aurangabad**

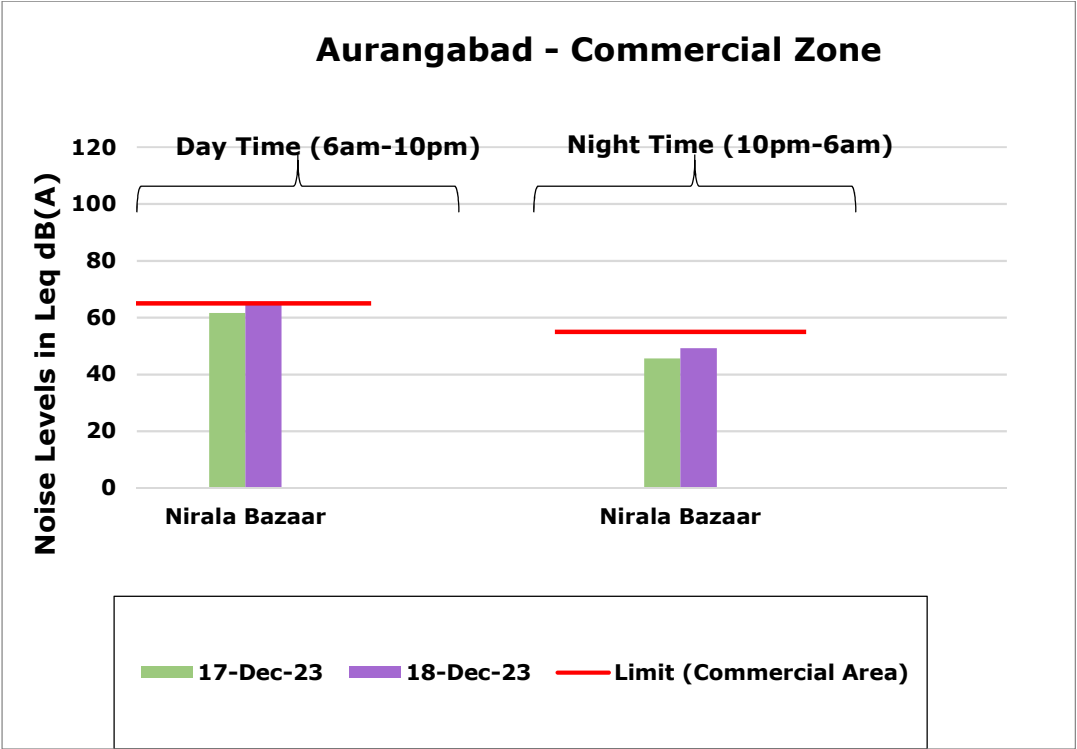
Ambient Noise Monitoring on 17th December 2023- AURANGABAD												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Ghati Hospital	59.7	40.0	68.0	63.0	59.0	45.0	42.5	34.0	49.0	45.1	41.0	37.9
Nirala Bazaar	61.6	41.0	66.0	65.0	61.0	51.0	45.6	34.0	54.0	50.1	41.0	38.9
CIDCO N-9	51.3	41.0	56.0	54.0	51.0	45.0	40.3	34.0	43.0	42.0	40.0	38.0
Residential Area near High Court	55.1	41.0	65.0	58.0	53.0	46.0	46.3	37.0	53.0	51.0	42.0	40.0
Swami Vivekanand College	53.2	39.0	61.0	58.0	51.0	41.0	42.1	37.0	48.0	45.1	41.0	38.9

Ambient Noise Monitoring on 18th December 2023- AURANGABAD												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Ghati Hospital	65.4	40.0	70.0	69.0	65.0	45.0	43.6	37.0	49.0	47.0	42.0	40.0
Nirala Bazaar	65.0	42.0	69.0	68.0	65.0	48.9	49.2	40.0	55.0	51.0	48.0	42.0
CIDCO N-9	66.1	41.0	71.0	69.0	66.0	52.0	47.4	39.0	54.0	51.0	45.0	40.9
Residential Area near High Court	58.2	40.0	66.0	62.0	57.0	44.0	43.1	38.0	48.0	46.0	42.0	40.0

Swami Vivekanand College	67.0	41.0	72.0	70.0	67.0	50.9	49.6	40.0	55.0	54.0	46.0	41.0
--------------------------	------	------	------	------	------	------	------	------	------	------	------	------

Chart 5.6: Ambient Noise Levels in Aurangabad





## 5.7 Nagpur

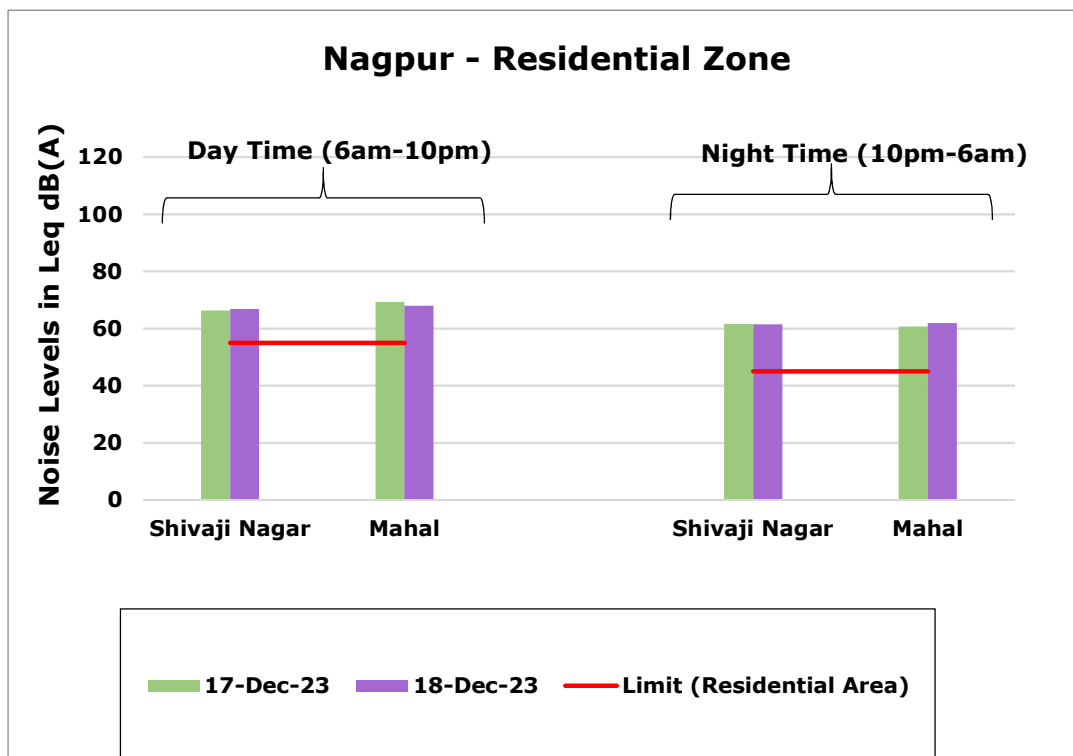
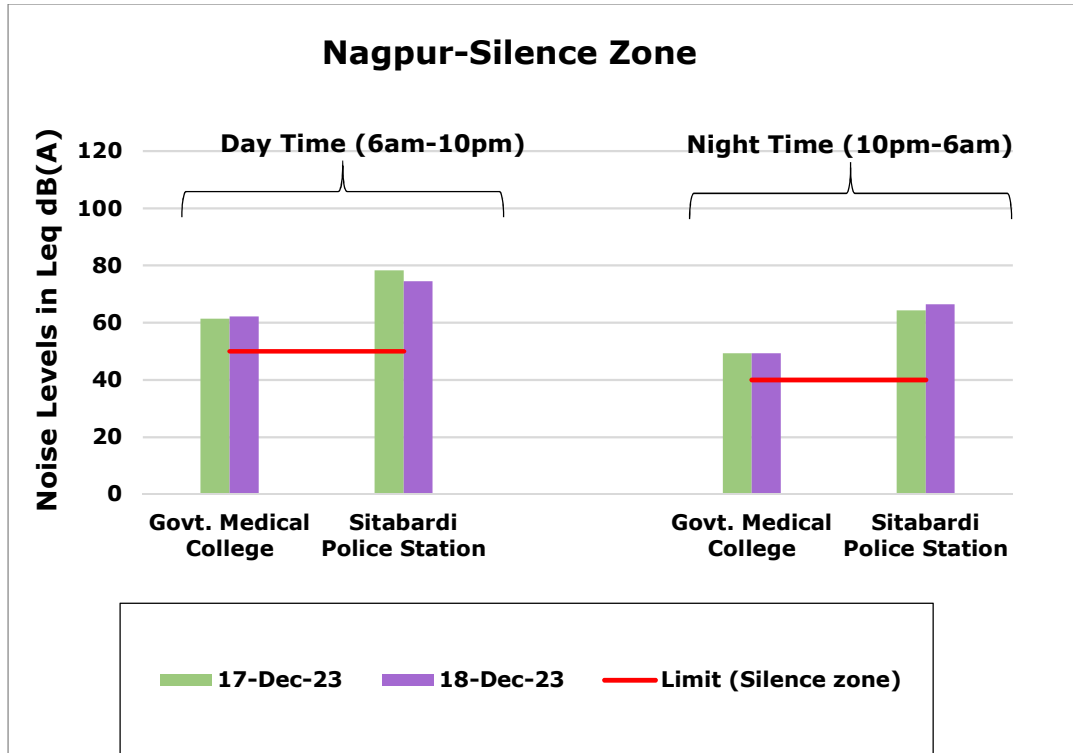
In Nagpur region also, noise levels were recorded at five different locations of the city. On 17th and 18th December, the highest noise level during daytime were observed at Sitabardi Police Station with 78.2 dB(A) and 74.4 dB(A) respectively. On both days during night time, the highest noise level was observed at Sitabardi Police Station.

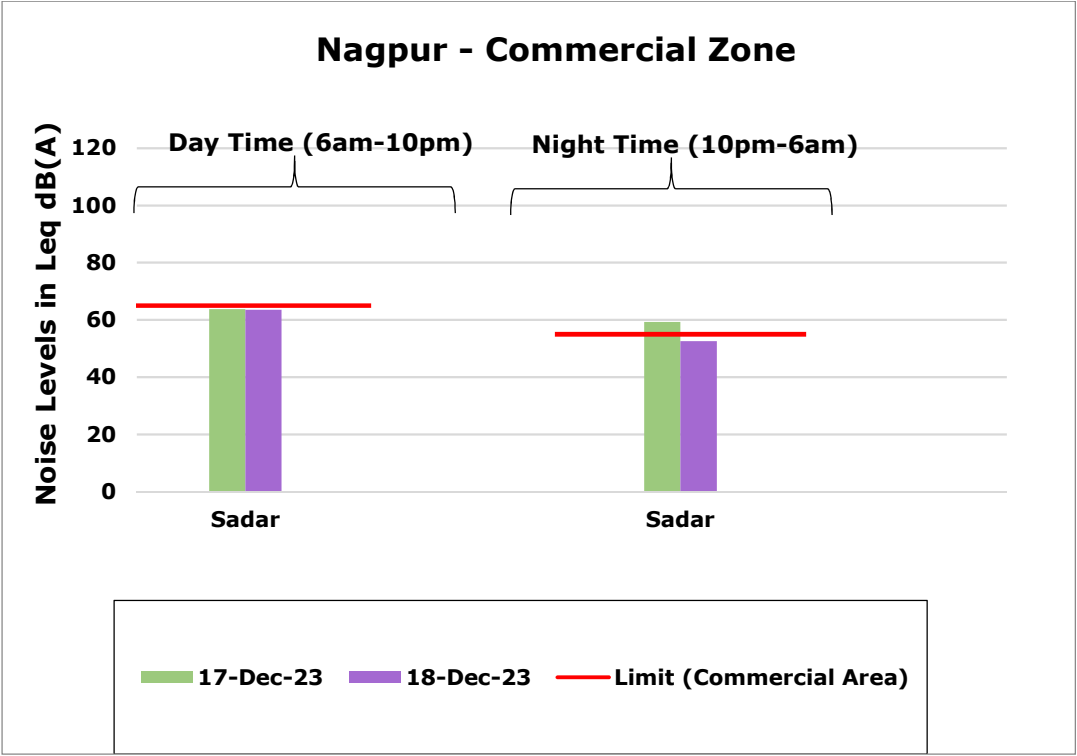
**Table 5.7: Ambient Noise Levels in Nagpur**

Ambient Noise Monitoring on 17th December 2023- NAGPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	Leq	Lmin	Lmax	L10	L50	L90	Leq	Lmin	Lmax	L10	L50	L90
Govt. Medical College	61.4	48.9	69.7	65.6	57.3	51.9	49.3	44.3	54.6	52.6	48.2	45.7
Sitabardi Police Station	78.2	48.5	86.5	81.2	77.5	60.2	64.3	40.0	79.5	63.2	51.0	41.2
Shivaji Nagar	66.2	47.2	74.7	70.4	63.1	54.3	61.5	51.2	69.7	65.3	59.5	54.1
Mahal	69.3	41.6	79.2	72.4	64.0	51.5	60.7	43.3	71.0	63.4	57.8	48.0
Sadar	63.7	51.3	71.1	66.8	62.1	57.2	59.2	40.1	67.6	64.1	55.5	45.1

Ambient Noise Monitoring on 18th December 2023- NAGPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	Leq	Lmin	Lmax	L10	L50	L90	Leq	Lmin	Lmax	L10	L50	L90
Govt. Medical College	62.1	48.9	68.7	65.8	60.1	52.3	49.3	44.3	54.5	52.6	48.0	45.7
Sitabardi Police Station	74.4	50.2	83.4	77.9	72.3	67.5	66.4	50.2	75.3	70.2	63.2	51.9
Shivaji Nagar	66.8	56.3	75.1	70.4	64.5	60.1	61.4	41.2	71.2	65.4	58.6	47.5
Mahal	67.9	41.6	79.2	73.3	63.8	51.3	61.9	43.0	77.0	63.9	57.7	48.9
Sadar	63.5	49.4	69.6	67.2	61.9	56.6	52.5	41.5	60.1	56.7	50.1	45.1

Chart 5.7: Ambient Noise Levels in Nagpur





## 5.8 Kalyan

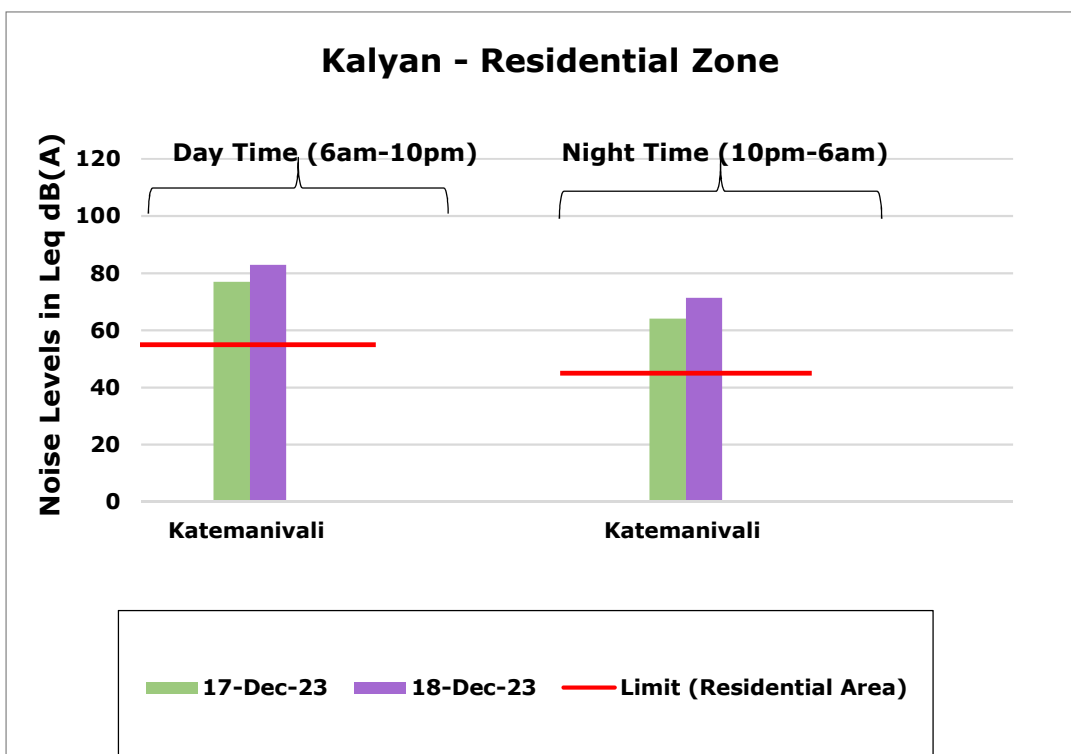
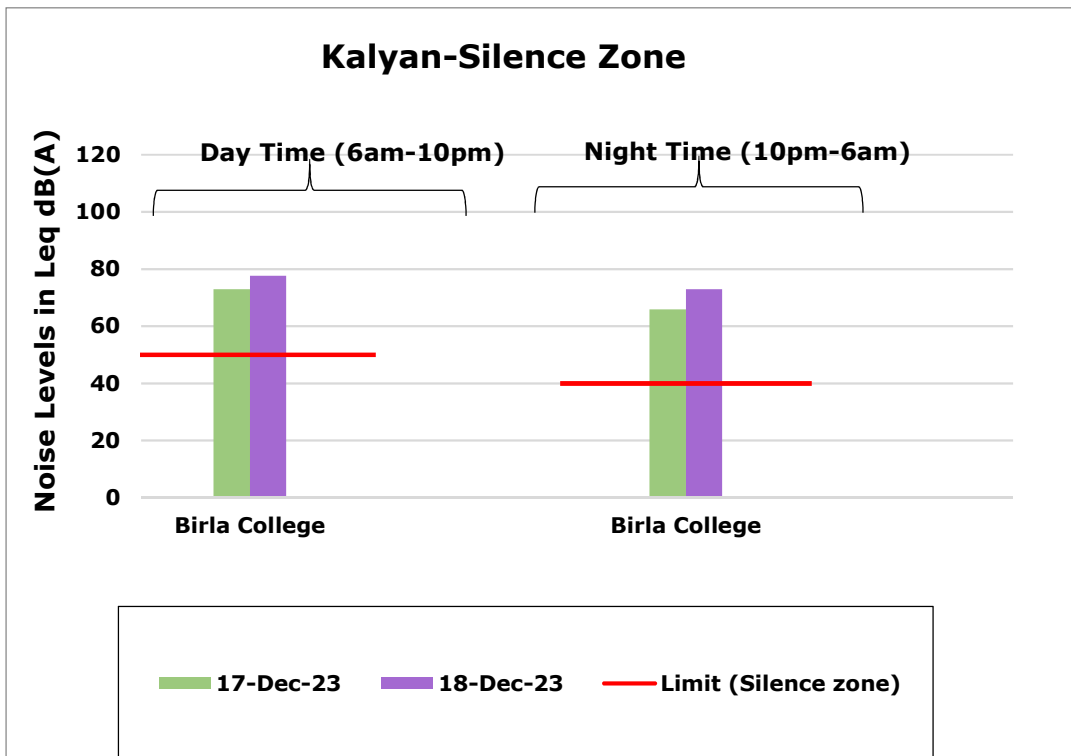
Three locations were monitored in Kalyan region. During day time on 17th December , the highest noise level 76.9dB(A) was recorded at Katemanivali and on 18th December also, Katemanivali was the noisiest with 82.9dB(A). During night time, the highest noise level was observed at Birla College on both the days of monitoring with 65.9 dB(A) and 72.9 dB(A) respectively.

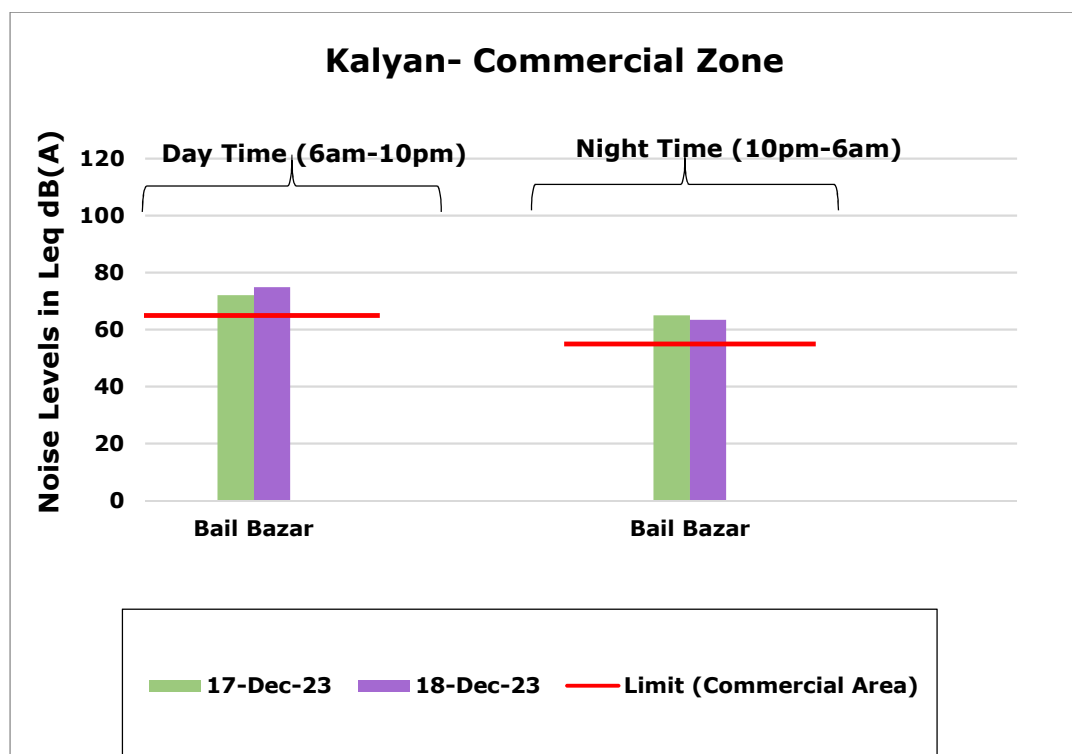
**Table 5.8: Ambient Noise Levels in Kalyan**

Ambient Noise Monitoring on 17th December 2023- KALYAN												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Katemanivali	76.9	41.5	86.2	81.0	73.2	48.3	64.1	41.5	75.8	72.2	52.6	44.8
Birla College	72.9	45.7	83.4	77.0	67.2	53.1	65.9	45.5	78.8	70.1	55.9	48.4
Bail Bazar	72.1	47.8	84.3	76.4	68.3	53.5	65.0	47.2	81.0	66.1	57.1	48.4

Ambient Noise Monitoring on 18th December 2023- KALYAN												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Katemanivali	82.9	46.2	90.9	86.9	81.1	58.3	71.3	41.5	82.5	76.0	57.8	46.4
Birla College	77.6	48.4	86.8	82.6	73.3	58.4	72.9	41.2	85.6	76.3	51.9	42.9
Bail Bazar	74.9	42.3	86.4	78.5	71.4	63.1	63.4	46.2	73.4	68.1	58.3	48.4

Chart 5.8: Ambient Noise Levels in Kalyan





## 5.9 Amaravati

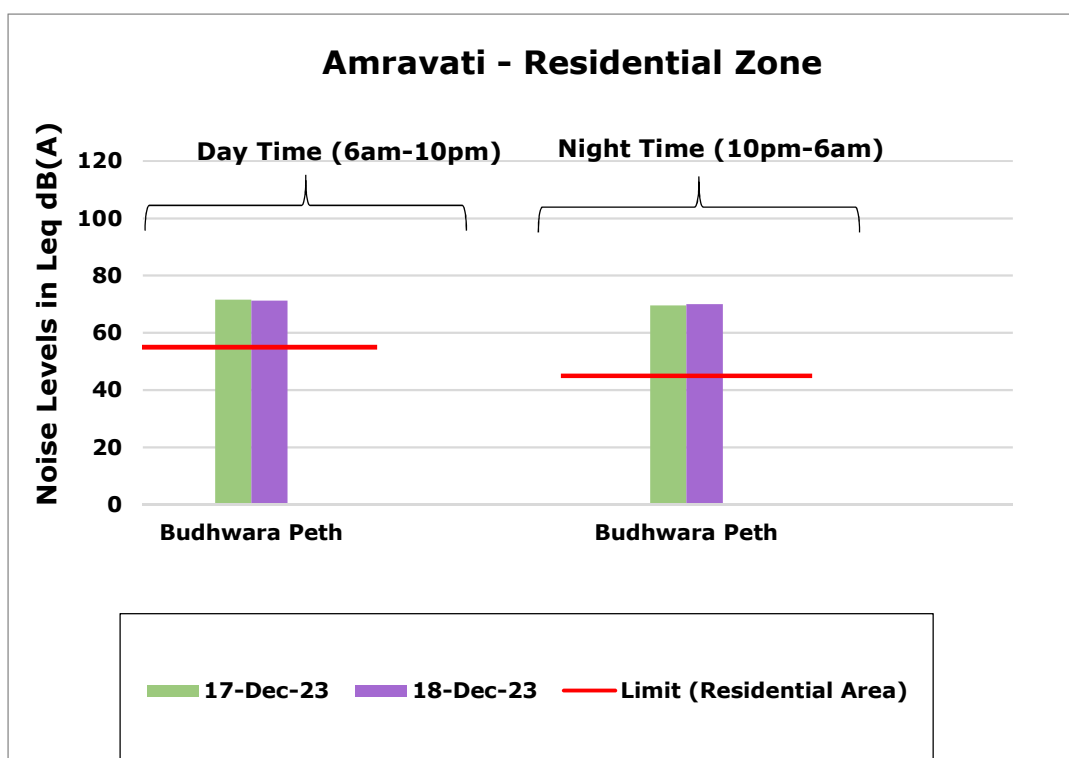
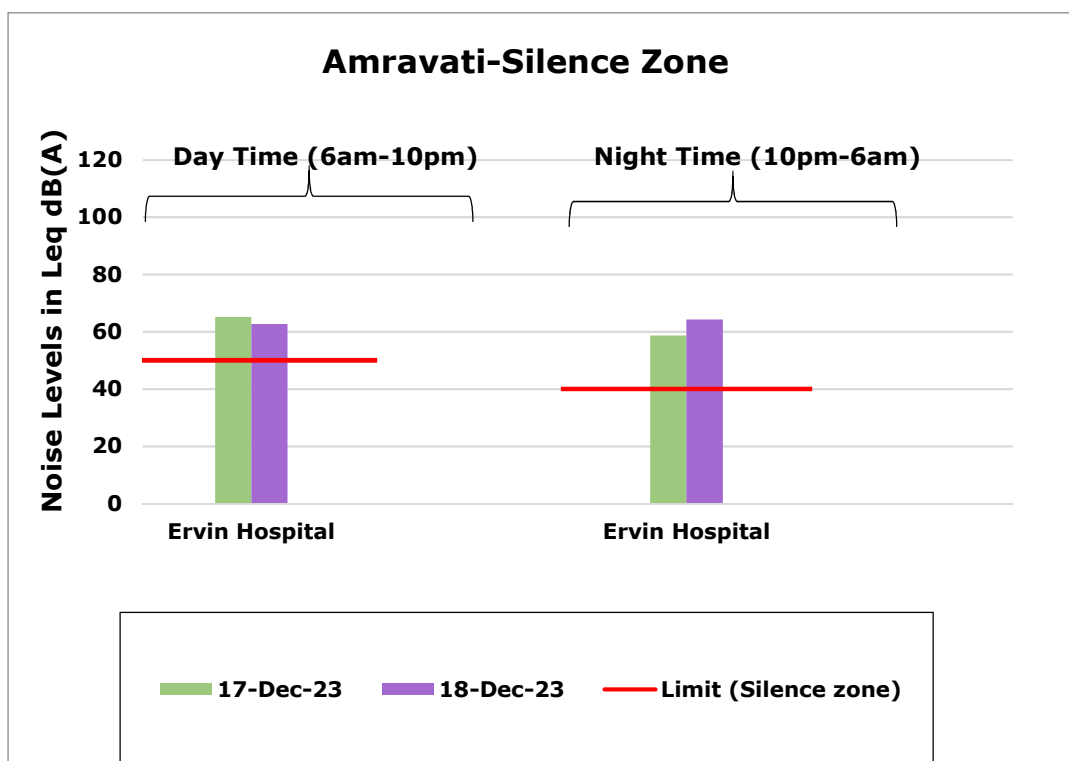
Three locations were monitored for Amravati region. It was observed that Rajkamal Chowk was the noisiest with highest noise levels on both days of monitoring both during day time with highest at 18<sup>th</sup> December 2023 with 75.1dB(A). During night time, Budhwara was the noisiest on both the days.

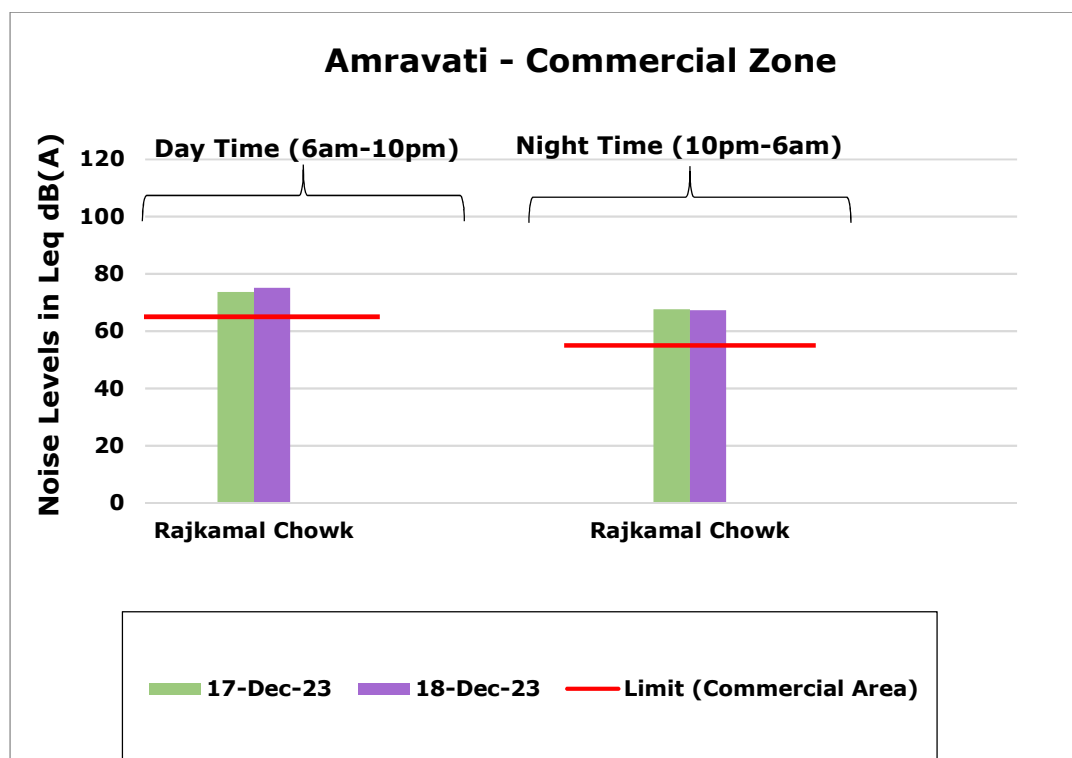
**Table 5.9: Ambient Noise Levels in Amaravati**

Ambient Noise Monitoring on 17th December 2023- AMRAVATI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Ervin Hospital Square	65.1	51.6	72.8	68.8	62.9	57.7	58.6	46.4	68.8	62.8	54.8	48.4
Budhwara	71.6	48.3	81.7	76.8	65.4	58.4	69.5	45.9	78.5	74.5	60.3	49.8
Rajkamal Chowk	73.6	58.7	80.2	77.1	72.3	66.2	67.6	42.7	77.2	71.9	62.8	55.3

Ambient Noise Monitoring on 18th December 2023- AMRAVATI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Ervin Hospital Square	62.7	43.6	77.0	66.2	59.8	49.8	64.2	55.4	69.5	67.4	63.2	58.7
Budhwara	71.2	50.2	82.7	75.9	65.3	56.2	70.0	46.9	80.4	74.5	60.0	50.1
Rajkamal Chowk	75.1	65.0	83.3	78.3	73.5	69.8	67.2	51.9	75.8	72.2	63.0	59.1

Chart 5.9: Ambient Noise Levels in Amaravati





### 5.10 Jalgaon

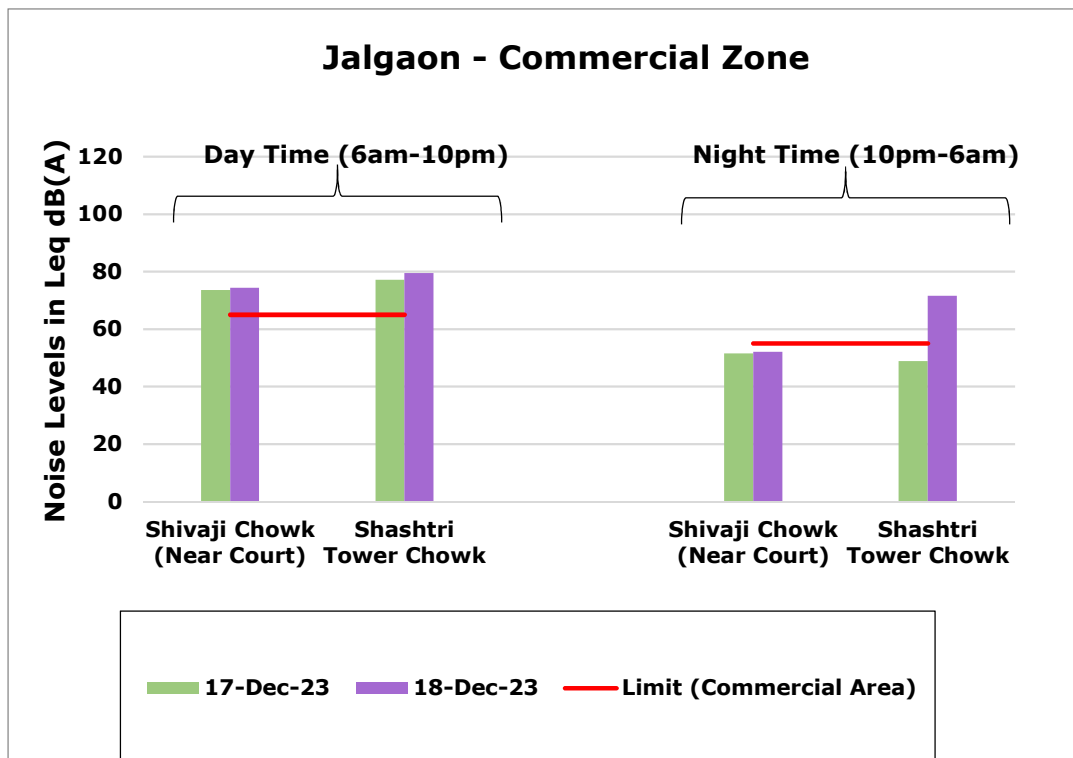
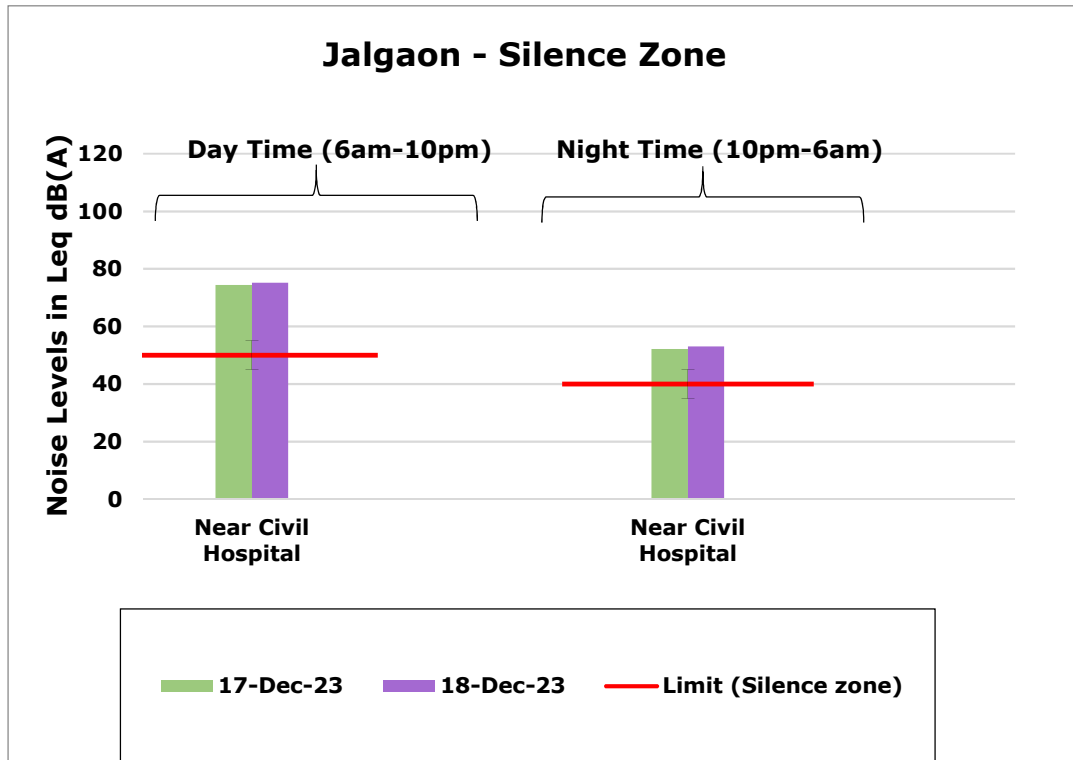
In Jalgaon region also, three locations were monitored. On both the days of monitoring, the highest noise level was observed at Shashtri Tower Chowk during day time. However, during night time, near Civil hospital with 52.1dB(A) on 17th December and on 18th December 2023, Shashtri Tower Chowk was observed with the highest noise level of 71.6dB(A).

**Table 5.10: Ambient Noise Levels in Jalgaon**

Ambient Noise Monitoring on 17th December 2023- JALGAON												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Near Civil Hospital	74.4	58.8	81.3	78.9	70.9	60.9	52.1	34.3	61.0	58.3	41.4	36.8
Shivaji Chowk	73.6	55.3	80.3	78.3	70.3	60.7	51.5	33.2	60.9	57.2	40.7	35.7
Shashtri Tower Chowk	77.1	33.8	88.2	80.6	72.3	39.2	48.8	34.1	62.5	52.3	40.3	35.1

Ambient Noise Monitoring on 18th December 2023- JALGAON												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Near Civil Hospital	75.2	55.9	82.4	79.6	71.4	61.3	53.0	35.4	62.1	59.0	42.5	37.5
Shivaji Chowk	74.3	53.6	83.7	78.3	71.2	59.5	52.1	32.1	62.2	57.9	40.3	34.6
Shashtri Tower Chowk	79.5	37.8	88.9	84.4	75.8	45.6	71.6	30.5	82.5	77.0	40.4	34.8

Chart 5.10: Ambient Noise Levels in Jalgaon



### 5.11 Kolhapur

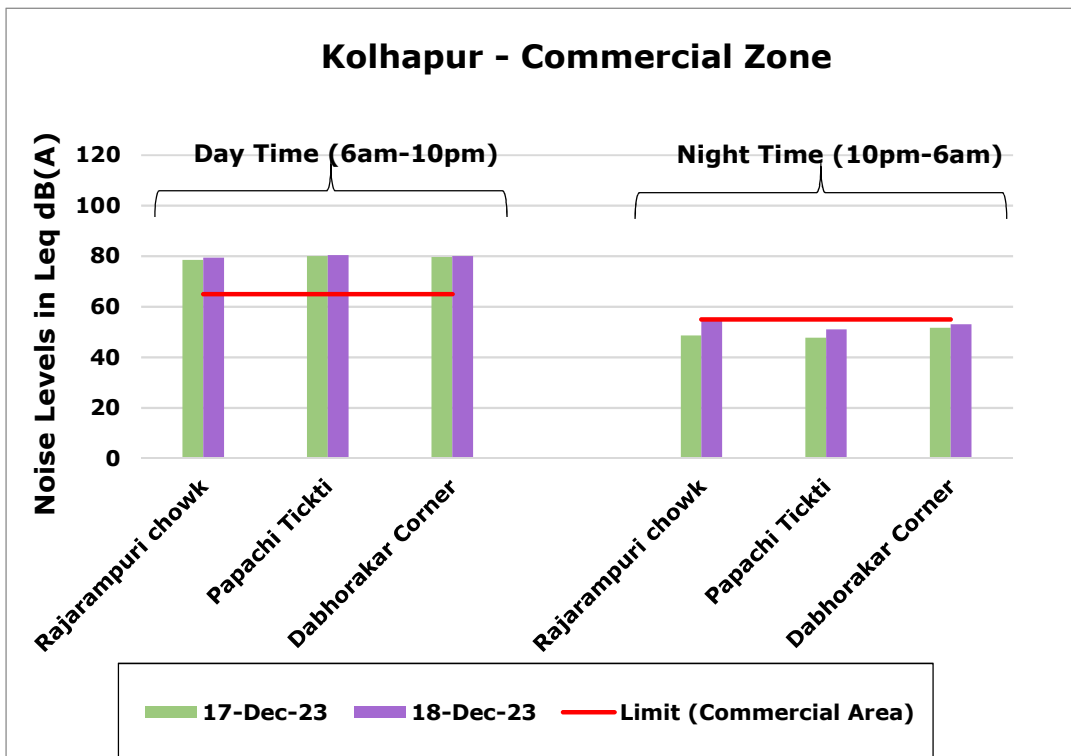
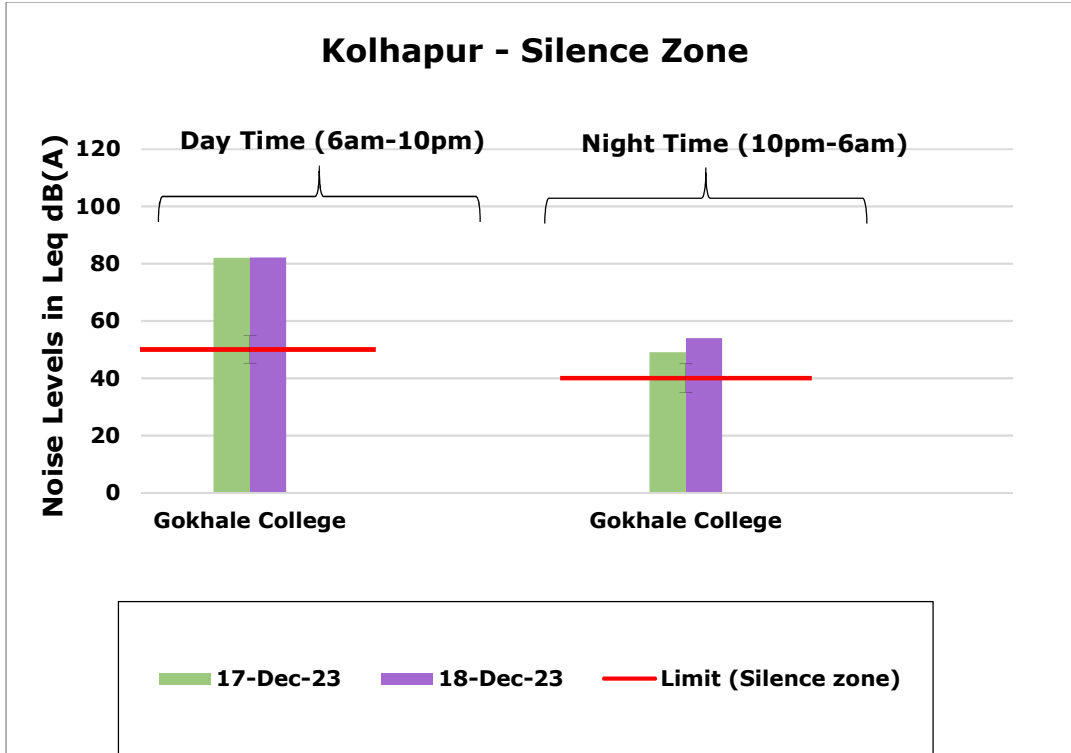
In Kolhapur region, four locations were monitored. On both the days of monitoring during daytime, the highest noise level was recorded at Gokhale College with 82.0 dB(A) and 82.1 dB(A). During night time on 17th December, Dabhorkar Corner was observed with the highest noise level i.e. 51.6dB(A) and on 18th December, Rajarampuri Chowk was recorded with the highest noise i.e. 55.1 dB(A).

**Table 5.11: Ambient Noise Levels in Kolhapur**

Ambient Noise Monitoring on 17th December 2023 - KOLHAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Rajarampuri chowk	78.5	47.2	92.6	82.5	70.7	54.9	48.6	37.8	56.8	52.5	46.3	40.7
Papachi Tickti	80.0	50.4	95.6	82.5	72.5	58.8	47.7	37.8	55.8	51.2	44.3	40.3
Gokhale College	82.0	52.1	95.3	84.7	73.6	61.2	49.3	38.9	58.2	52.6	46.3	40.3
Dabhorakar Corner	79.6	48.9	92.6	82.6	70.6	57.8	51.6	40.3	58.2	55.2	50.2	42.5

Ambient Noise Monitoring on 18th December 2023 - KOLHAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Rajarampuri chowk	79.4	52.4	88.5	84.5	74.5	64.0	55.1	41.8	65.7	60.1	50.0	44.6
Papachi Tickti	80.4	58.4	89.6	84.5	75.7	65.2	51.0	42.6	60.4	54.2	46.3	43.3
Gokhale College	82.1	52.5	91.2	87.0	77.4	64.8	53.9	42.8	65.1	57.7	48.7	43.9
Dabhorakar Corner	80.0	48.9	89.5	84.6	74.6	60.2	53.0	42.8	63.7	55.5	47.3	43.2

Chart 5.11: Ambient Noise Levels in Kolhapur



## 5.12 Sangli

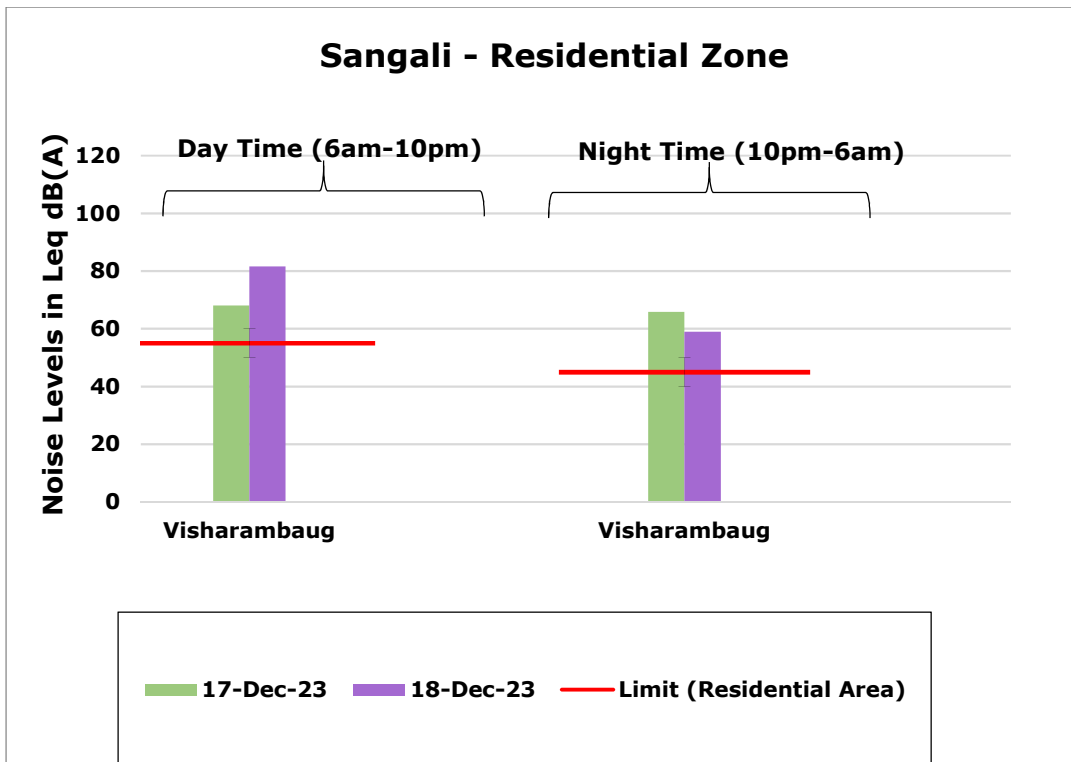
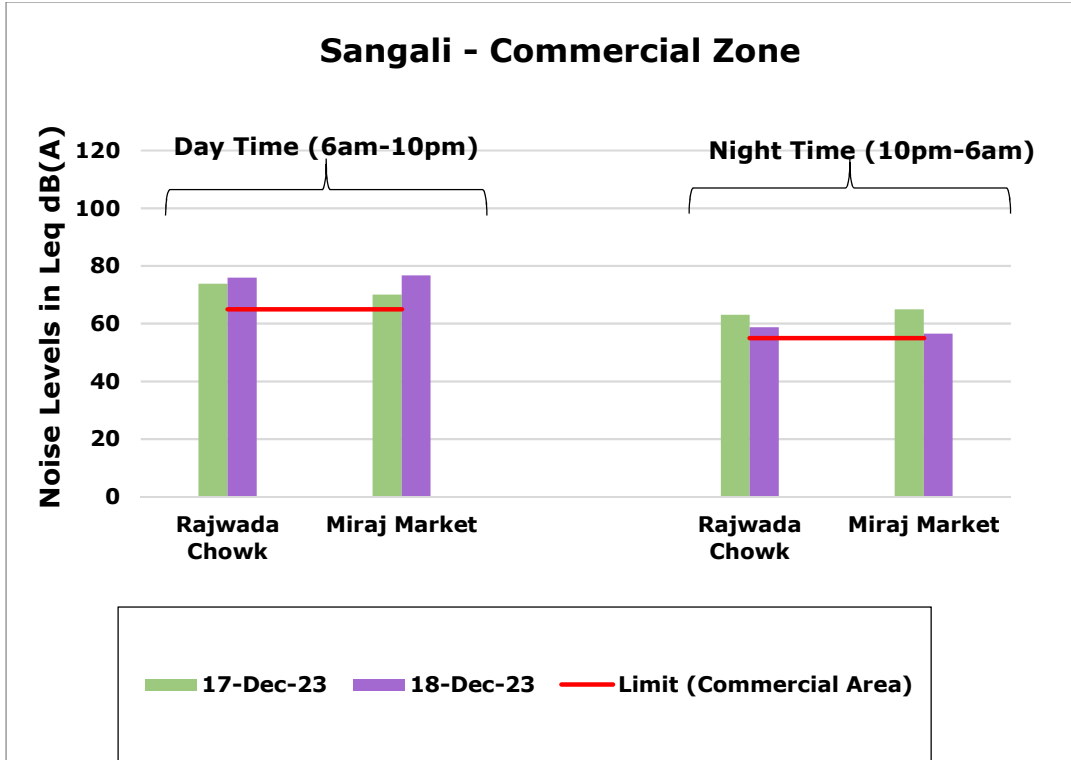
Out of the three locations monitored in Sangli region, on 17th December , Rajwada Chowk with 73.8 dB(A) was observed with the highest noise level during day time and on 18th December , the highest noise level was observed at Vishrambaug i.e. 81.6dB(A). However, during night time of both days, Miraj market was the noisiest among all three locations of monitoring.

**Table 5.12: Ambient Noise Levels in Sangli**

Ambient Noise Monitoring on 17th December 2023- SANGLI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Rajwada Chowk	73.8	40.3	88.9	77.8	64.5	52.2	63.1	44.5	73.6	66.0	57.8	52.1
Vishrambaug	68.0	40.2	80.1	72.3	60.2	47.5	65.8	40.3	77.8	69.5	58.4	47.9
Miraj Market	70.0	40.2	84.5	73.9	62.7	48.9	64.9	45.6	72.5	70.4	60.2	50.1

Ambient Noise Monitoring on 18th December 2023- SANGLI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Rajwada Chowk	75.9	50.3	88.5	80.2	64.9	52.3	58.7	42.3	69.2	61.4	52.6	47.9
Vishrambaug	81.6	50.2	92.6	85.6	76.9	62.1	59.0	42.5	75.6	57.9	51.8	46.5
Miraj Market	76.7	51.7	85.9	81.3	71.6	60.1	56.5	41.6	68.3	60.6	50.3	42.6

Chart 5.12: Ambient Noise Levels in Sangli



### 5.13 Mira-Bhayander

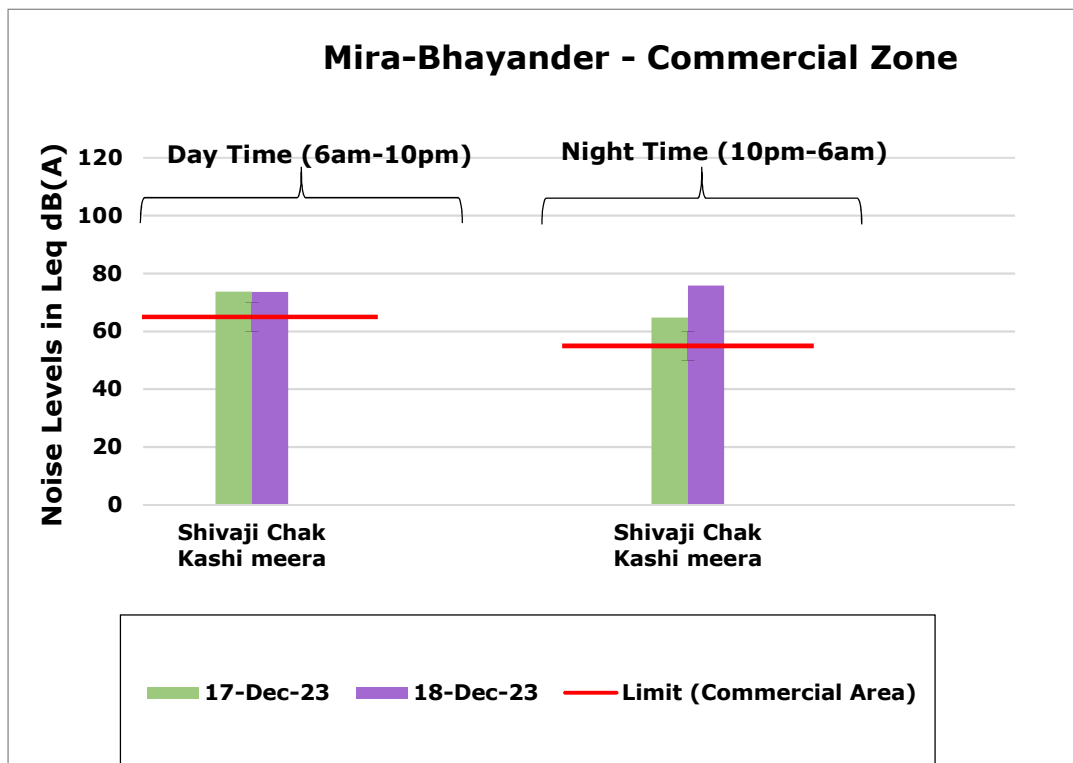
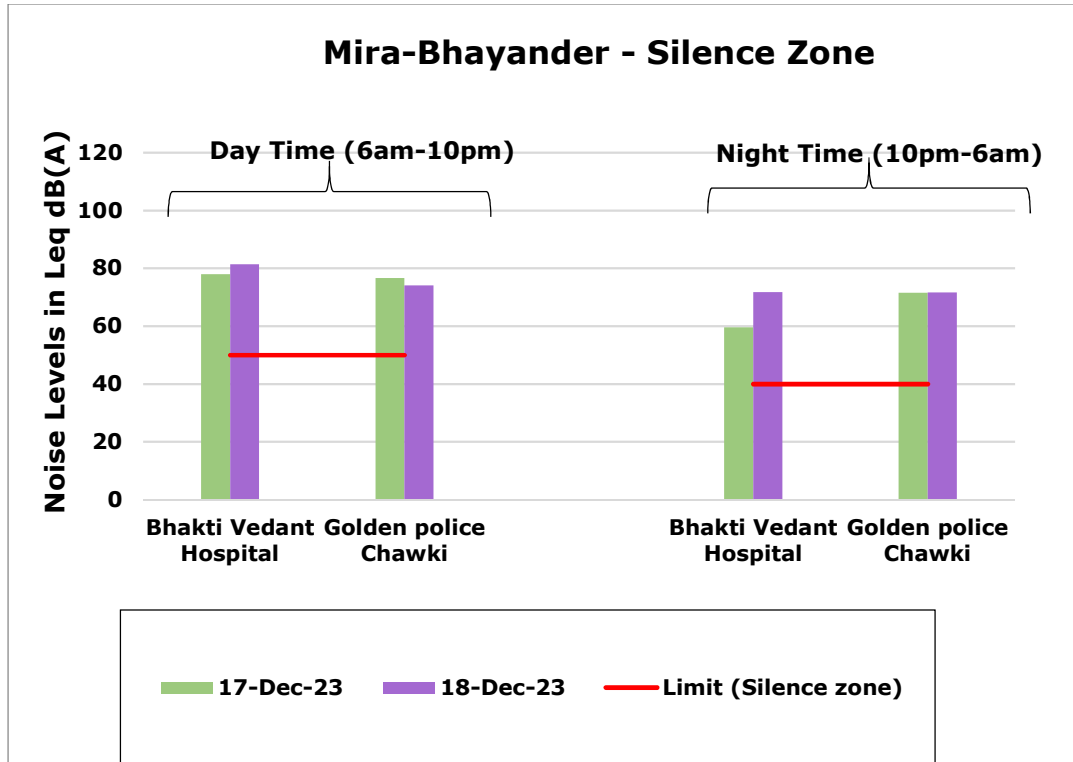
In Mira-Bhayander also three locations were monitored. On 17th and 18th December the highest noise level during day time was observed at Bhakti Vedant Hospital with 77.9 dB(A) and 76.3 dB(A). During night, the highest noise level 71.5 dB(A) on 17th December was observed at Golden Police Chowki and on 18th December, Shivaji Chowk Kashi meera was the noisiest with 75.8 dB(A).

**Table 5.13: Ambient Noise Levels in Mira-Bhayander**

Ambient Noise Monitoring on 17th December 2023– MIRA BHAYANDER												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Bhakti Vedant Hospital	77.9	50.9	89.5	82.0	72.2	58.6	59.6	50.9	69.1	64.0	58.2	53.6
Golden police Chowki	76.6	50.7	87.7	82.9	73.7	64.1	71.5	50.5	84.6	75.6	62.0	53.4
Shivaji Chowk Kashi meera	73.7	50.8	86.0	76.6	70.2	62.1	64.7	44.5	75.3	68.0	62.6	52.8

Ambient Noise Monitoring on 18th December 2023– MIRA BHAYANDER												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Bhakti Vedant Hospital	81.4	47.3	97.2	85.5	75.5	62.5	71.7	44.5	85.4	78.2	57.2	48.5
Golden police Chowki	74.1	53.2	79.7	77.5	73.4	64.5	71.6	52.3	78.5	77.5	64.9	55.4
Shivaji Chowk Kashi meera	73.6	50.8	86.0	76.6	70.2	62.1	75.8	52.2	85.2	80.4	69.3	55.1

Chart 5.13: Ambient Noise Levels in Mira-Bhayander



#### 5.14 Vasai-Virar

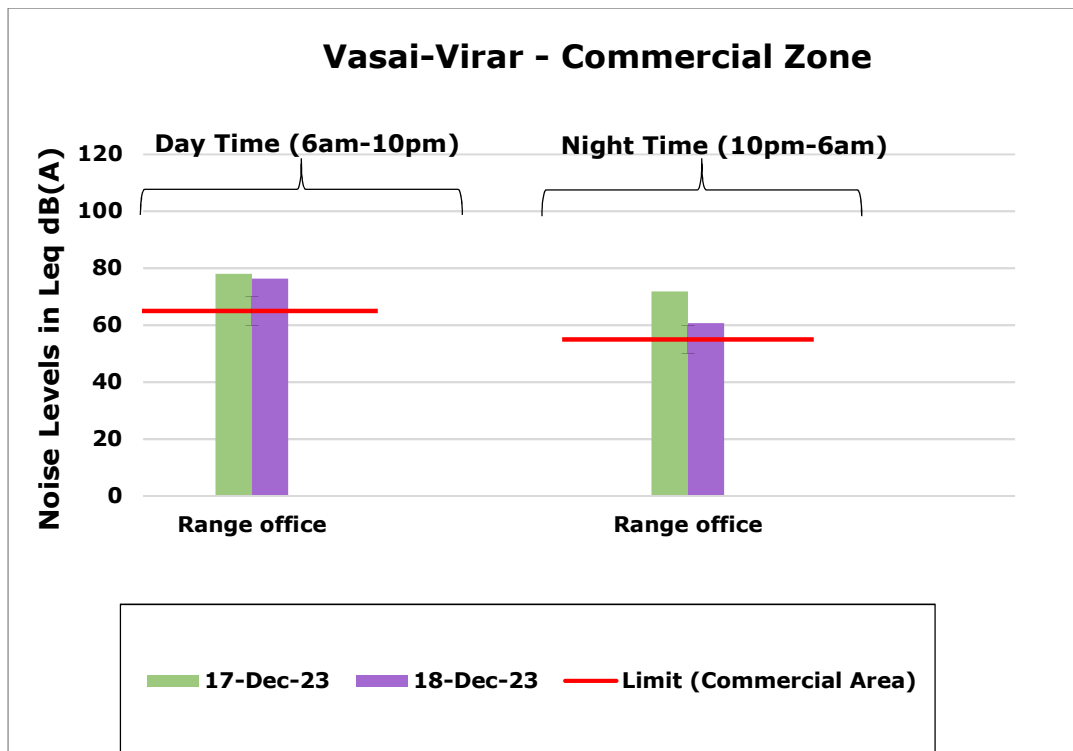
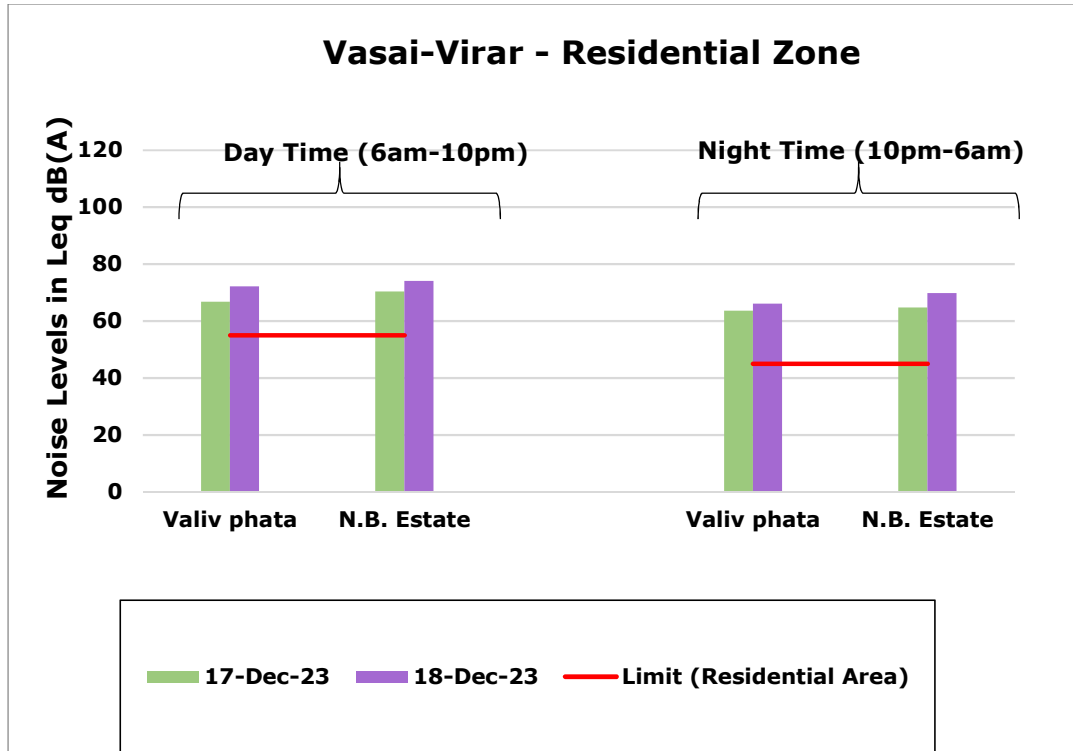
At Vasai-Virar also three locations were monitored for checking the noise level. During the day time the highest noise level on 17th and 18th December, was observed at Range office, Virar East with 78.0 dB(A) and 76.3 dB(A). During the night time, the highest noise level was observed at Range Office, Virar East with 71.8 dB(A) on 17th December and on 18th December, the highest noise level was recorded at N.B. Estate, Virar West with 69.8 dB(A).

**Table 5.14: Ambient Noise Levels in Vasai-Virar**

Ambient Noise Monitoring on 17th December 2023– VASAI-VIRAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Range office, Vasai East	78.0	54.1	87.3	82.6	72.6	62.8	71.8	56.4	85.6	75.4	68.5	60.8
Valiv phata, Vasai East	66.8	40.8	83.7	68.4	59.7	52.0	63.6	45.0	79.3	63.8	58.3	50.8
N.B. Estate, Virar West	70.3	60.0	77.6	73.9	68.6	62.3	64.7	53.8	73.0	67.7	62.3	56.8

Ambient Noise Monitoring on 18th December 2023– VASAI-VIRAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Range office, Vasai East	76.3	62.7	79.9	79.2	76.2	69.5	60.7	52.0	69.5	64.4	57.7	54.3
Valiv phata, Vasai East	72.2	46.3	87.4	78.4	59.6	52.6	66.1	48.3	79.3	65.4	58.5	52.5
N.B. Estate, Virar West	74.1	62.0	79.5	78.2	69.6	64.4	69.8	52.4	78.6	73.8	63.4	55.4

Chart 5.14: Ambient Noise Levels in Vasai-Virar



### 5.15 Ulhasnagar

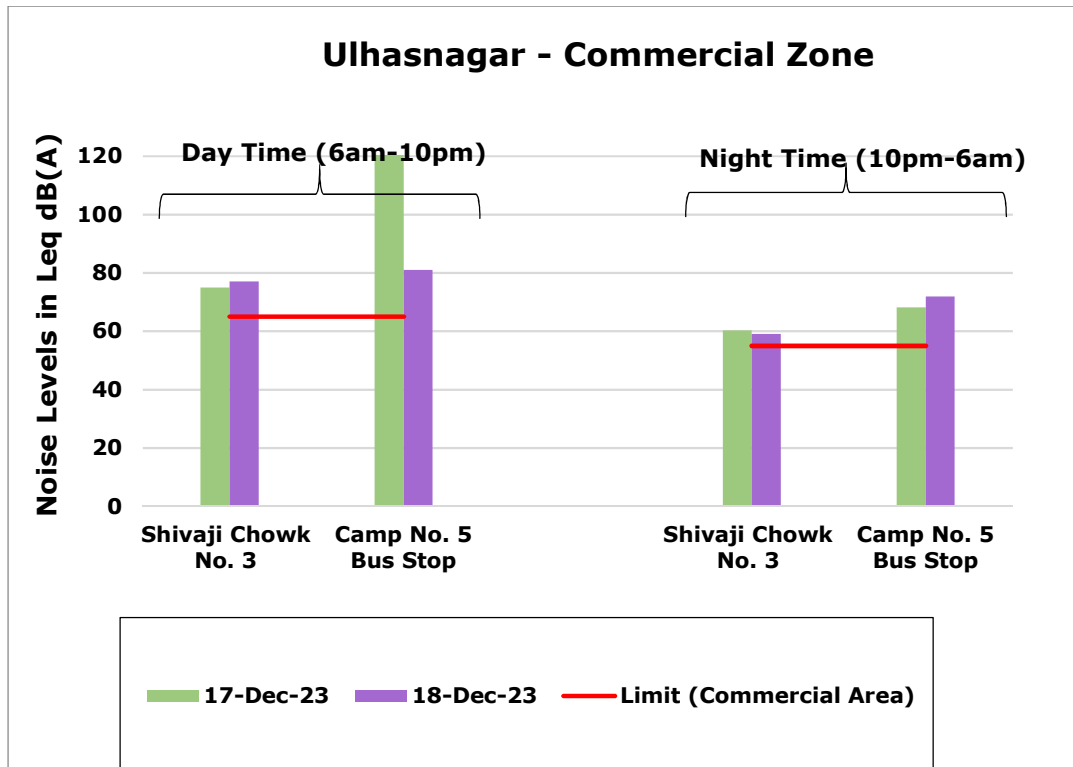
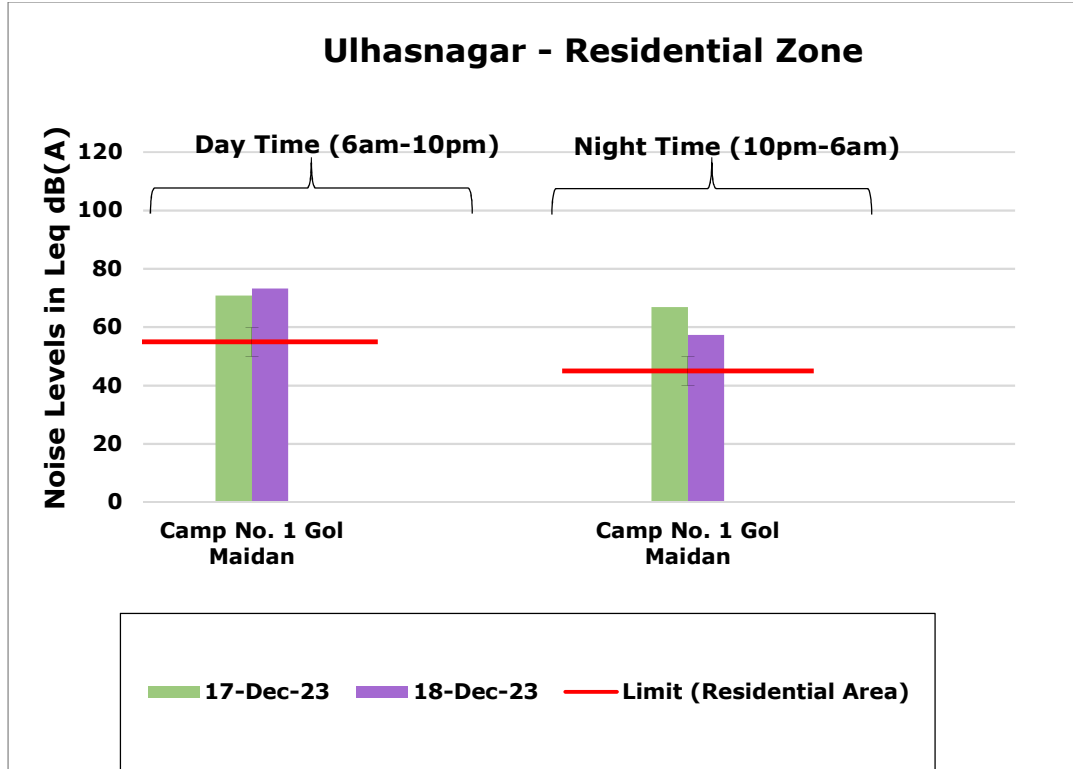
At Ulhasnagar three locations were monitored for noise levels. On 17th and 18th December , during day time, the highest noise level was observed at Camp no.5 Bus Stop with 79.6 dB(A) and 81.0dB (A) respectively. However during night time, the highest noise level of 68.1dB (A) was observed at Camp no.5 Bus Stop on 17th December . Similarly, on 18th December , the highest noise level of 71.9dB (A) was also observed at Camp no.5.

**Table 5.15: Ambient Noise Levels in Ulhasnagar**

Ambient Noise Monitoring on 17th December 2023- ULHASNAGAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shivaji Chowk No. 3	74.9	45.3	86.4	79.2	68.5	60.2	60.2	42.1	72.8	62.8	52.9	46.2
Camp No. 5 Bus Stop	79.6	42.5	87.5	83.7	76.4	53.6	68.1	42.9	81.3	70.7	56.0	48.6
Camp No. 1 Gol Maidan	70.8	49.4	82.8	74.3	65.4	55.5	66.8	43.2	76.5	70.6	59.6	48.2

Ambient Noise Monitoring on 18th December 2023- ULHASNAGAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shivaji Chowk No. 3	77.0	42.8	88.3	80.5	74.2	57.7	59.0	45.2	69.1	62.8	53.2	48.9
Camp No. 5 Bus Stop	81.0	42.2	88.9	84.9	78.4	59.4	71.9	42.7	83.9	76.5	54.0	45.9
Camp No. 1 Gol Maidan	73.2	42.2	84.3	77.4	68.8	60.4	57.3	40.4	70.2	60.4	51.0	43.2

Chart 5.15: Ambient Noise Levels in Ulhasnagar



### 5.16 Bhiwandi-Nizampur

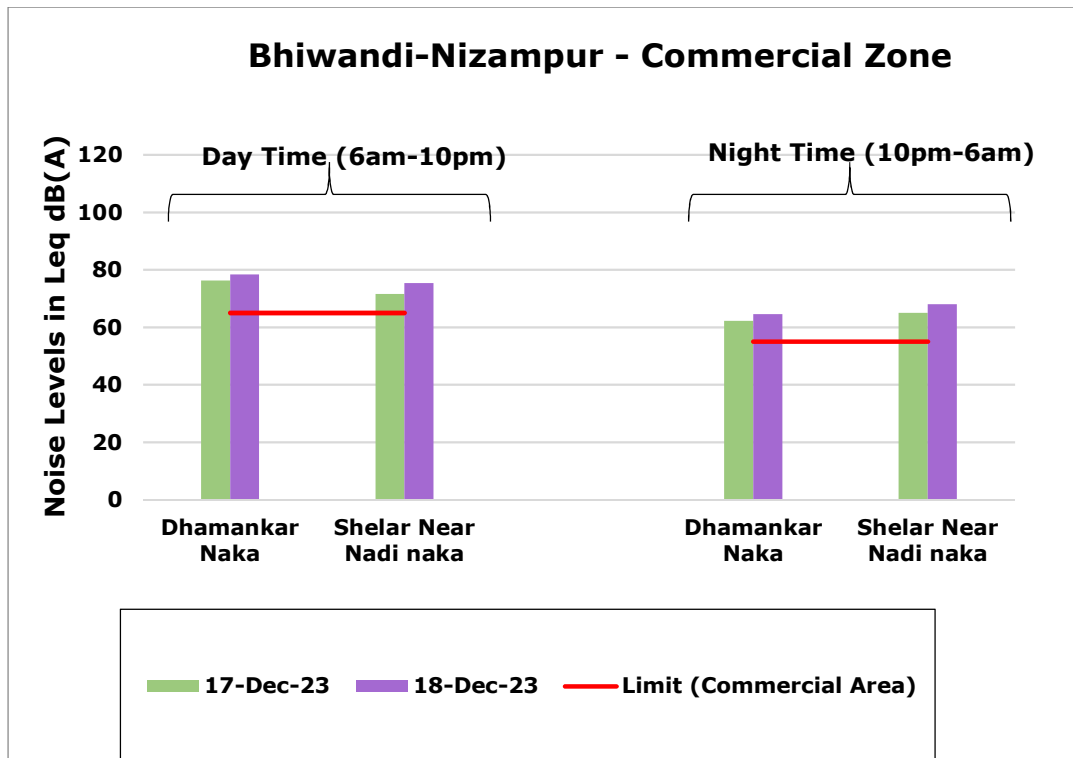
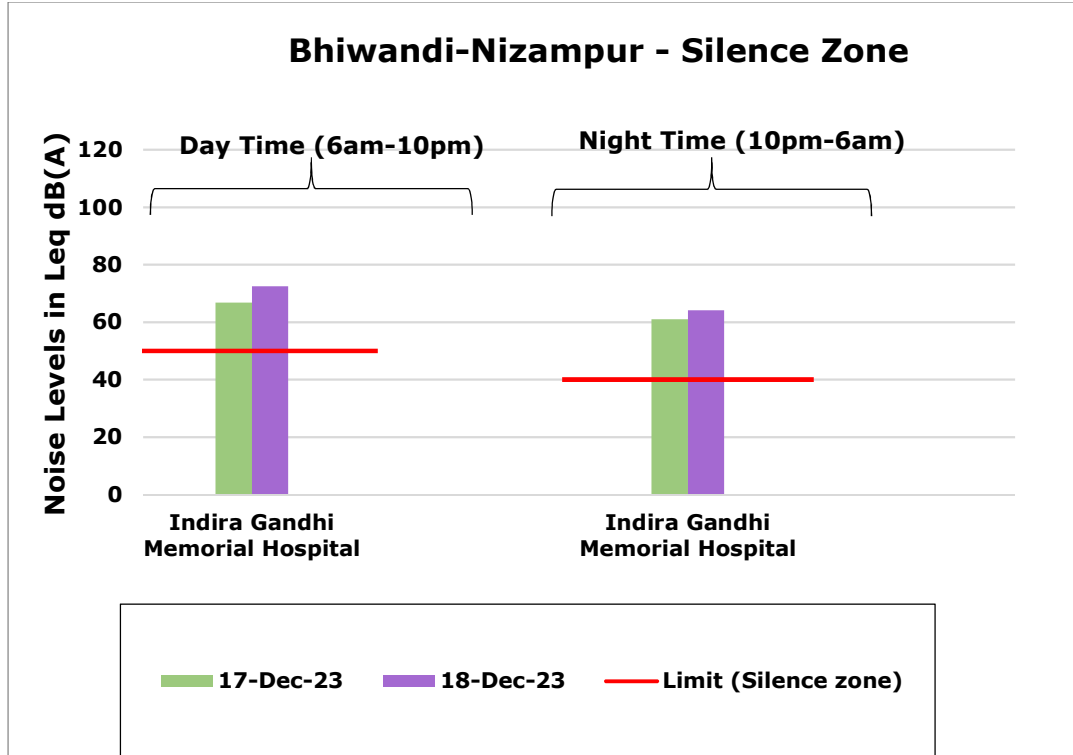
In Bhiwandi-Nizampur also 3 locations were monitored. On 17th and 18th December, during day on both days, the highest noise level was observed at Dhamnkar naka, while at night, the highest noise level was observed at Shelar near Nadi naka.

**Table 4.16: Ambient Noise Levels in Bhiwandi-Nizampur**

Ambient Noise Monitoring on 17th December 2023– BHIWANDI-NIZAMPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dhamankar Naka	76.2	47.4	85.6	79.9	72.6	64.3	62.2	40.2	73.8	65.2	56.6	48.2
Indira Gandhi Memorial Hospital	66.8	48.8	78.5	69.8	64.2	56.7	61.0	43.2	69.2	65.7	56.6	47.3
Shelar Near Nadi naka	71.6	45.3	82.1	75.9	68.1	57.3	65.0	44.1	78.4	68.3	56.4	49.7

Ambient Noise Monitoring on 18th December 2023– BHIWANDI-NIZAMPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dhamankar Naka	78.4	52.9	85.6	82.3	77.3	68.3	64.5	40.2	75.4	69.0	59.2	46.5
Indira Gandhi Memorial Hospital	72.4	43.2	84.4	76.4	66.4	56.7	64.1	42.3	78.2	67.3	55.0	46.1
Shelar Near Nadi naka	75.3	44.3	86.4	79.1	71.1	59.0	68.0	43.3	82.1	69.2	53.8	46.3

Chart 5.16: Ambient Noise Levels in Bhiwandi-Nizampur



### 5.17 Chandrapur

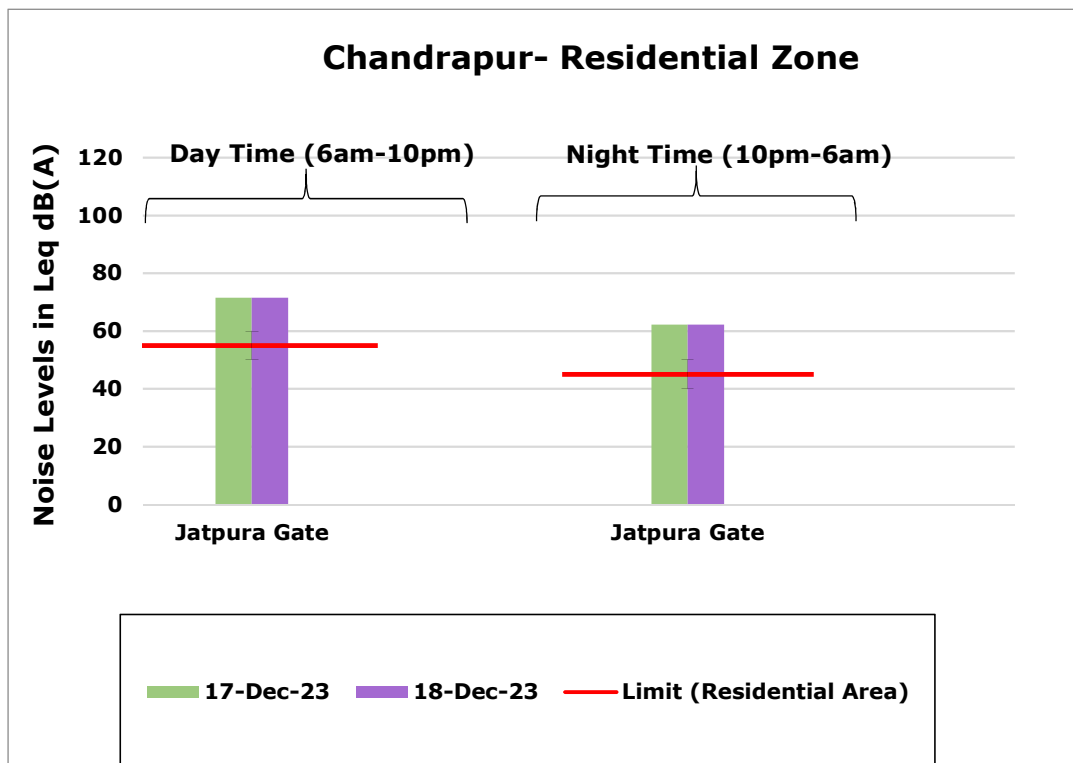
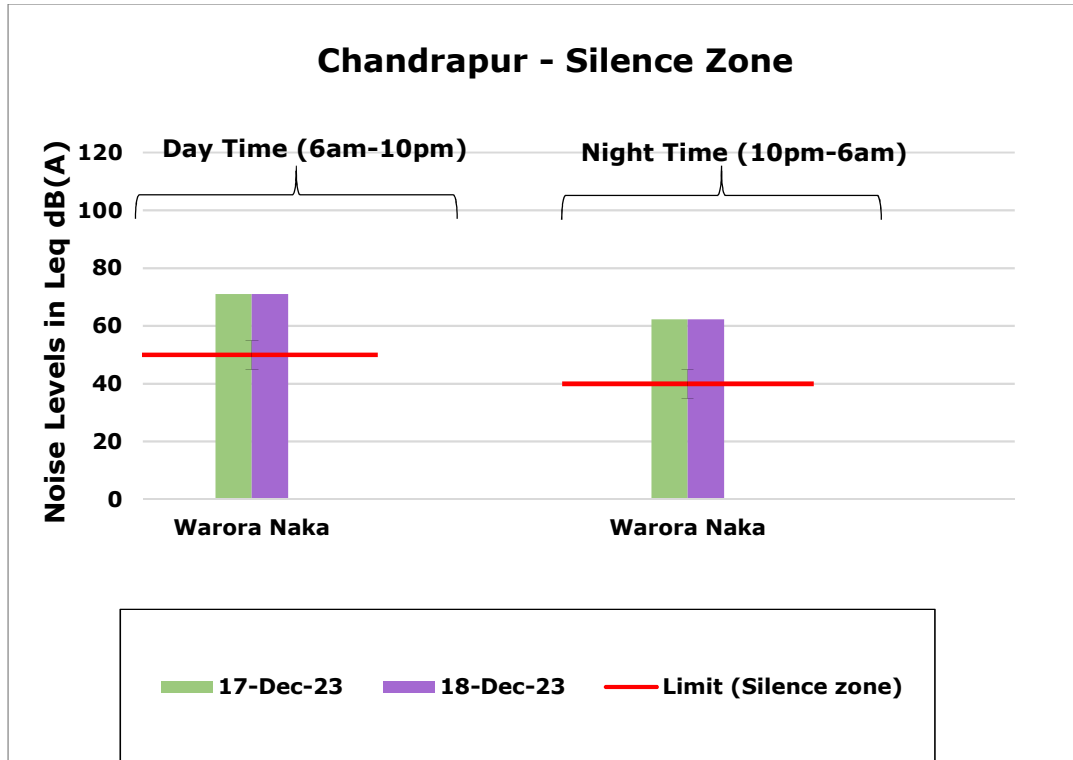
In Chandrapur region also three locations were monitored. During both 17th and 18th December, the highest noise level at day time was observed at Gandhi Chowk. However, during night on 17th December, the highest noise level was observed at Jatpura Gate with 62.2 dB(A) and on 18th December, highest noise level was observed at Warora Naka with 62.2 dB(A) as well.

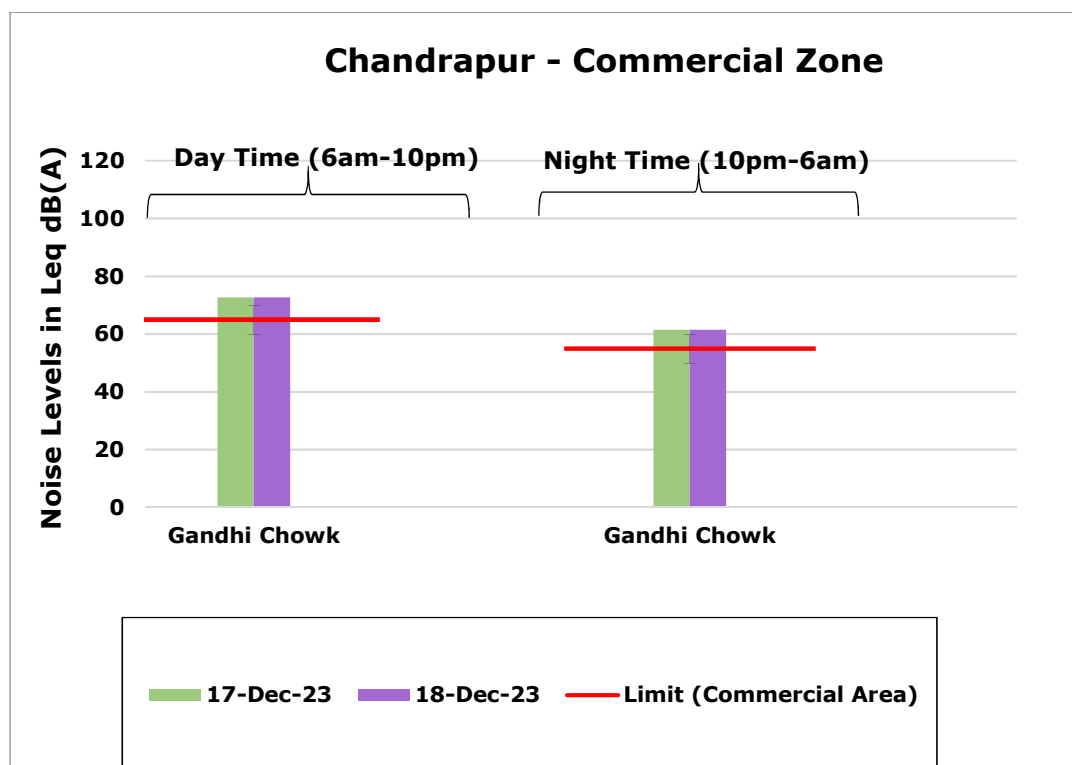
**Table 5.17: Ambient Noise Levels in Chandrapur**

Ambient Noise Monitoring on 17th December 2023- CHANDRAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Gandhi Chowk	72.6	64.3	80.3	75.5	70.9	67.6	61.5	48.3	72.9	63.8	58.0	50.6
Jatpura Gate	71.5	51.8	78.9	75.6	68.9	64.2	62.2	42.8	72.3	67.2	56.7	46.2
Warora Naka	71.0	48.4	79.9	74.8	69.4	58.3	62.2	46.3	70.1	68.5	55.6	48.6

Ambient Noise Monitoring on 18th December 2023- CHANDRAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Gandhi Chowk	72.6	64.3	80.3	75.5	70.9	67.6	61.5	48.3	72.9	63.8	58.0	50.6
Jatpura Gate	71.5	51.8	78.9	75.6	68.9	64.2	62.2	42.8	72.3	67.2	56.7	46.2
Warora Naka	71.0	48.4	79.9	74.8	69.4	58.3	62.2	46.3	70.1	68.5	55.6	48.6

Chart 5.17: Ambient Noise Levels in Chandrapur





### 5.18 Nanded-Waghala

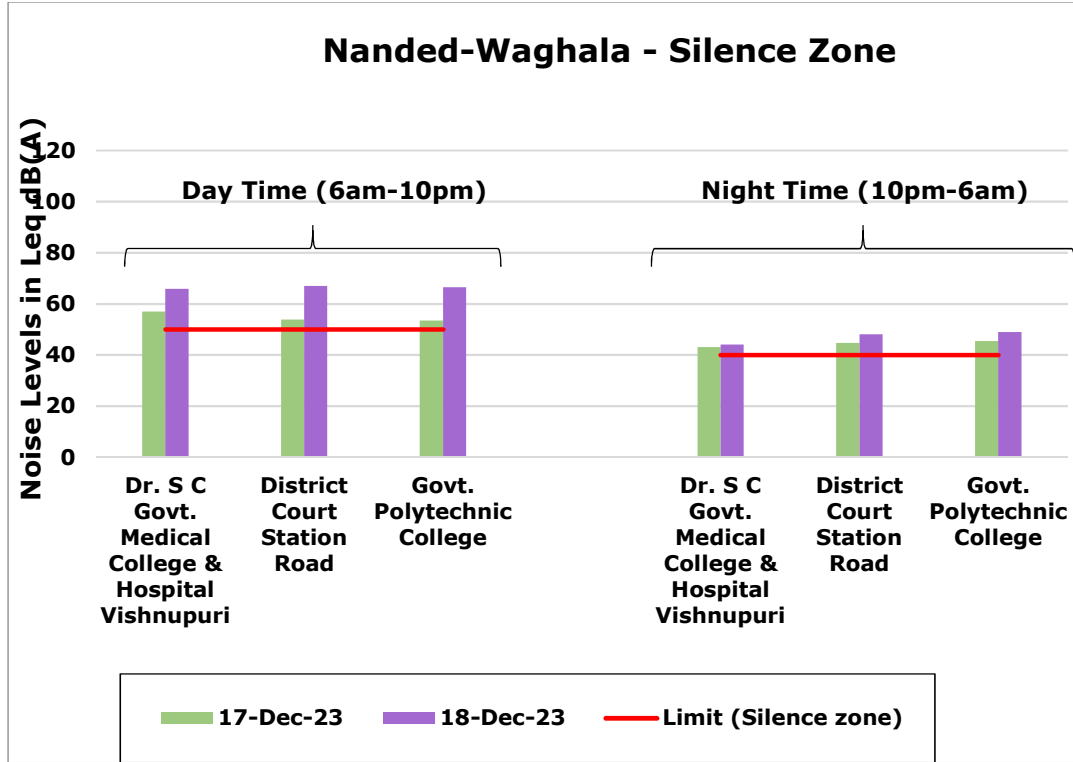
At Nanded-Waghala also 3 location were monitored. On 17th December, the highest noise level during day time was observed at Dr. Shankarao Chavan Govt. Medical College & Hospital Vishnupuri 56.9 dB(A) and during night time, Govt. Polytechnic College was the noisiest with 45.4 dB(A) respectively. On 18th December, the highest noise level during day time was observed at District Court Station Road with 67.4 dB(A) and during night time, the highest noise level was 48.9 dB(A) at Govt. Polytechnic College.

**Table 5.18: Ambient Noise Levels in Nanded-Waghala**

Ambient Noise Monitoring on 17th December 2023– NANDED WAGHALA												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dr. S C Govt. Medical College & Hospital Vishnupuri	56.9	40.0	64.0	61.0	56.0	43.0	43.0	39.0	49.0	46.0	42.0	40.0
District Court Station Road	53.8	40.0	65.0	57.0	52.0	46.0	44.7	38.0	49.0	48.0	43.0	41.0
Govt. Polytechnic College	53.4	38.0	62.0	56.0	51.0	41.9	45.4	38.0	52.0	50.0	42.0	40.0

Ambient Noise Monitoring on 18th December 2023– NANDED WAGHALA												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Dr. S C Govt. Medical College & Hospital Vishnupuri	65.9	41.0	72.0	70.0	64.0	48.0	44.1	38.0	49.0	48.0	42.0	40.0
District Court Station Road	67.4	42.0	72.0	71.0	67.0	54.0	48.1	39.0	55.0	52.0	45.5	41.0
Govt. Polytechnic College	66.5	41.0	71.0	69.0	67.0	46.0	48.9	40.0	55.0	53.0	45.0	41.0

Chart 5.18: Ambient Noise Levels in Nanded-Waghala



### 5.19 Ahmednagar

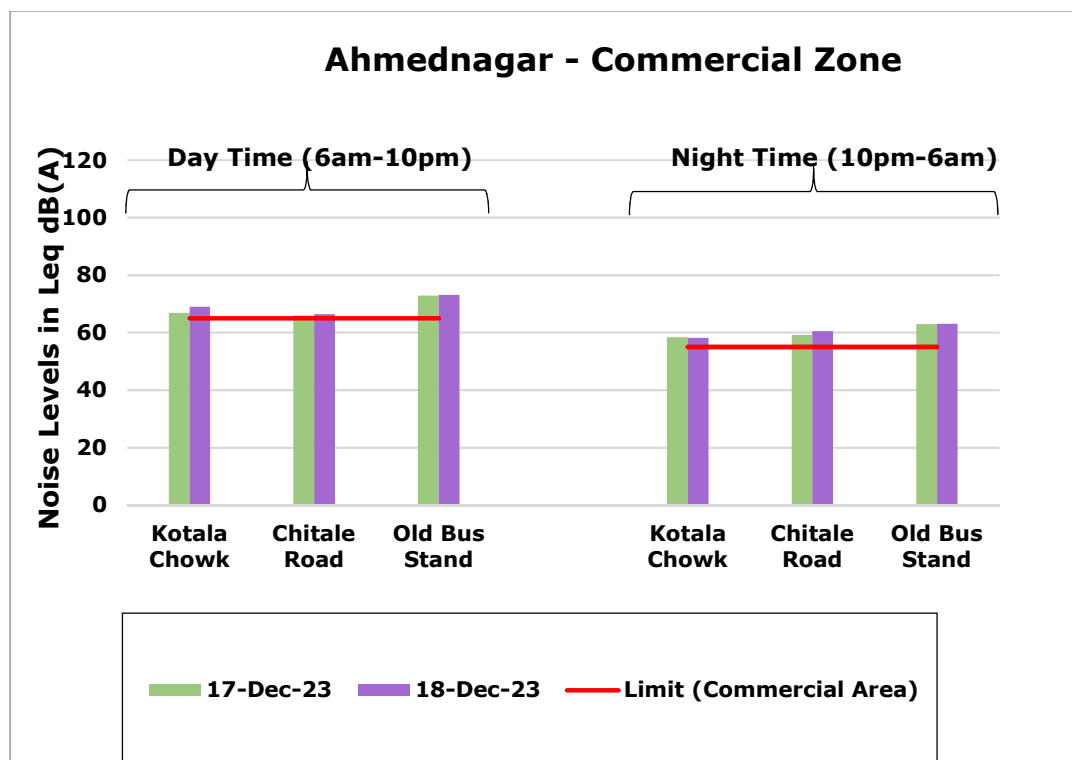
At Ahmednagar also 3 location were monitored. On 17th December , during the day as well as night time the highest noise level was observed at old bus stand. However, on 18th December, the highest noise level was recorded at old bus stand 73.1dB(A) during day time and at the same place with 63.0 dB(A) during night time.

**Table 5.19: Ambient Noise Levels in Ahmednagar**

Ambient Noise Monitoring on 17th December 2023- AHMEDNAGAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Kotala Chowk	66.8	60.0	72.0	69.0	66.0	62.0	58.4	52.0	66.0	62.0	56.0	53.9
Chitale Road	65.9	56.0	72.0	68.0	65.0	62.9	59.2	50.0	66.0	63.0	57.0	52.0
Old Bus Stand	72.9	58.0	78.0	75.0	73.0	62.9	62.9	57.0	68.0	66.0	62.0	58.0

Ambient Noise Monitoring on 18th December 2023- AHMEDNAGAR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Kotala Chowk	68.9	60.0	74.0	72.0	68.0	64.0	58.2	52.0	63.0	62.0	57.0	54.0
Chitale Road	66.4	58.0	72.0	69.0	65.5	63.0	60.5	50.0	68.0	64.1	58.0	53.9
Old Bus Stand	73.1	58.0	78.0	75.0	73.0	60.0	63.0	57.0	68.0	65.0	63.0	58.0

Chart 5.19: Ambient Noise Levels in Ahmednagar



## 5.20 Dhule

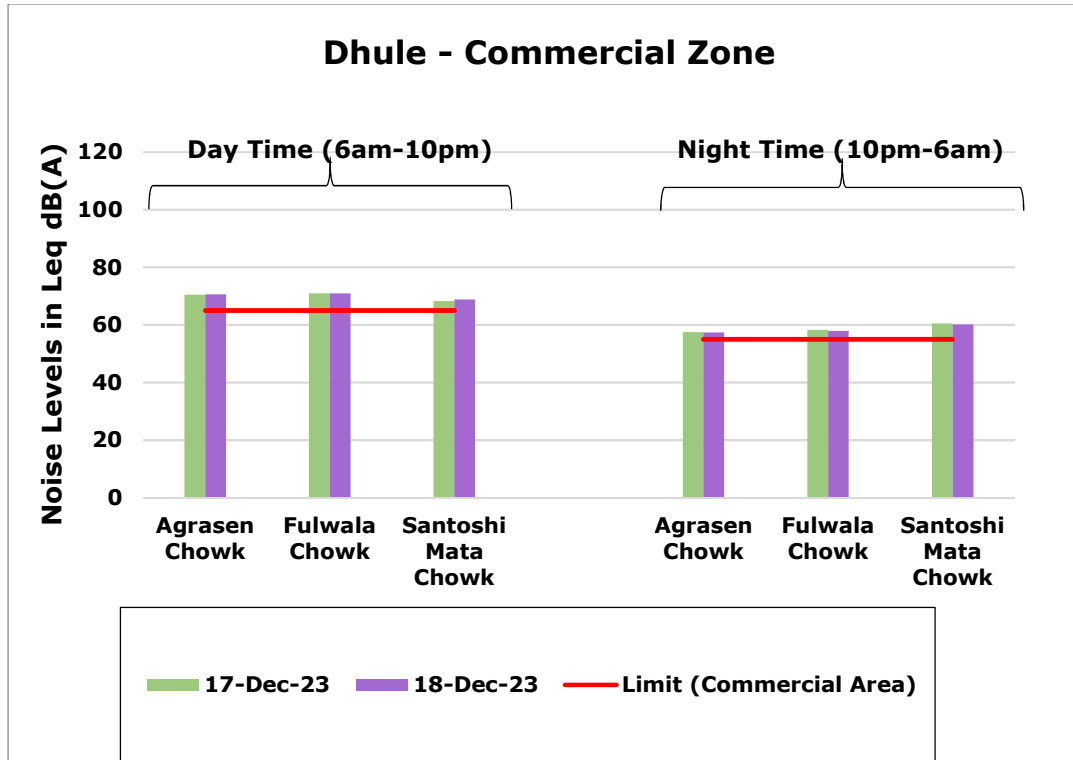
At Dhule also three locations were monitored. On 17th and 18th December, the highest noise level during day time was observed at Fulwala chowk 70.95 dB(A). However, during night time the highest noise level was observed at Santoshi Mata Chowk on both the days with 62.9dB(A) and 60.1 dB(A) respectively.

**Table 5.20: Ambient Noise Levels in Dhule**

Ambient Noise Monitoring on 17th December 2023- DHULE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	Leq	Lmin	Lmax	L10	L50	L90	Leq	Lmin	Lmax	L10	L50	L90
Agrasen Chowk	70.4	56.0	76.0	74.0	70.0	60.0	57.5	51.0	62.0	60.0	57.0	52.0
Fulwala Chowk	70.9	54.0	76.0	74.0	70.0	63.0	58.2	51.0	65.0	62.0	57.0	52.0
Santoshi Mata Chowk	68.2	54.0	75.0	72.0	67.5	61.0	60.5	52.0	66.0	64.0	59.5	55.0

Ambient Noise Monitoring on 18th December 2023- DHULE												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	Leq	Lmin	Lmax	L10	L50	L90	Leq	Lmin	Lmax	L10	L50	L90
Agrasen Chowk	70.6	56.0	75.0	74.0	70.5	63.0	57.4	51.0	62.0	61.0	56.0	52.0
Fulwala Chowk	70.9	56.0	76.0	74.0	70.0	63.0	57.9	52.0	63.0	60.1	57.0	54.0
Santoshi Mata Chowk	68.8	55.0	75.0	72.1	67.5	62.0	60.1	52.0	66.0	63.0	59.0	55.0

Chart 5.20: Ambient Noise Levels in Dhule



## 5.21 Malegaon

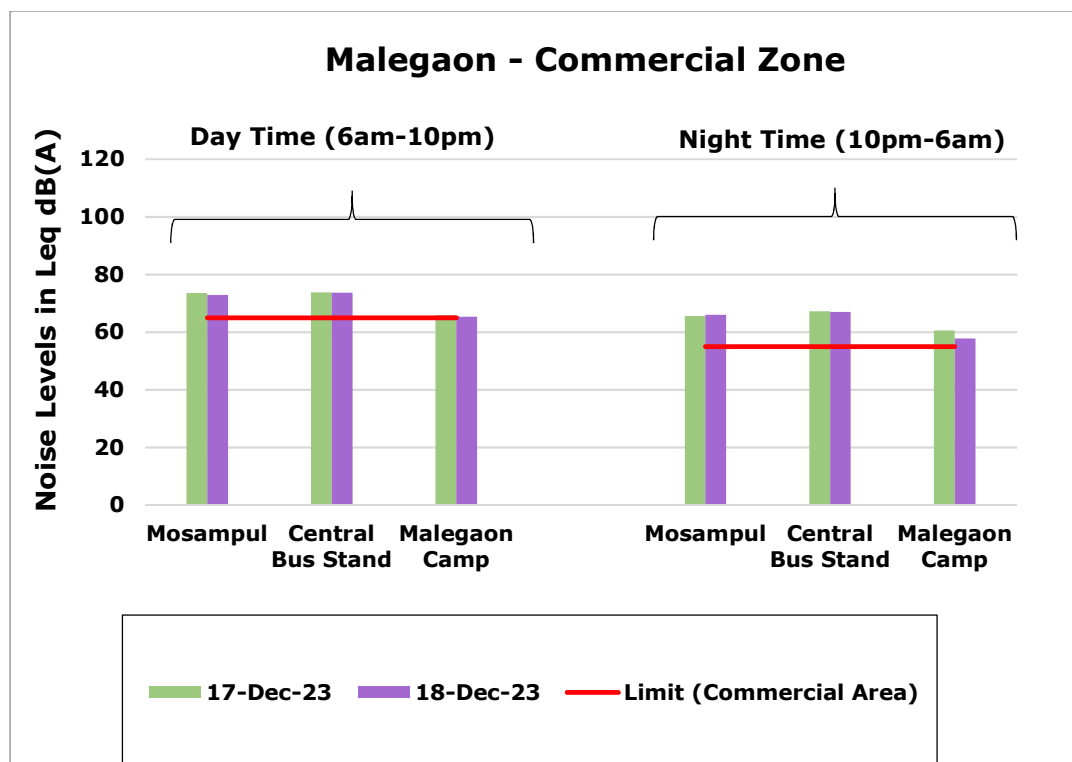
In Malegaon also, noise levels were monitored at three locations. Results show that on 17th and 18th December, the highest noise level during day time was observed at Central bus stand with 73.7 dB(A). However, the noise level was highest at Central bus stand 67.2 dB(A) on 17th December and at the same place with 67.0 dB(A) on 18th December during the night time.

**Table 5.21: Ambient Noise Levels in Malegaon**

Ambient Noise Monitoring on 17th December 2023- MALEGAON												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Mosampul	73.6	58.0	79.0	76.0	73.0	63.0	65.5	60.0	72.0	69.0	63.0	61.0
Central Bus Stand	73.7	62.0	78.0	76.0	74.0	70.0	67.2	60.0	71.0	70.0	67.0	63.0
Malegaon Camp	65.9	52.0	72.0	70.0	62.0	55.9	60.6	52.0	69.0	65.0	58.0	54.0

Ambient Noise Monitoring on 18th December 2023- MALEGAON												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Mosampul	72.9	58.0	79.0	76.0	72.0	63.0	66.0	60.0	72.0	69.1	63.0	61.0
Central Bus Stand	73.7	62.0	78.0	76.0	74.0	69.0	67.0	60.0	71.0	70.0	66.0	62.0
Malegaon Camp	65.3	52.0	72.0	70.0	61.0	56.9	57.7	52.0	62.0	60.0	57.0	53.9

Chart 5.21: Ambient Noise Levels in Malegaon



## 5.22 Pimpri-Chinchwad

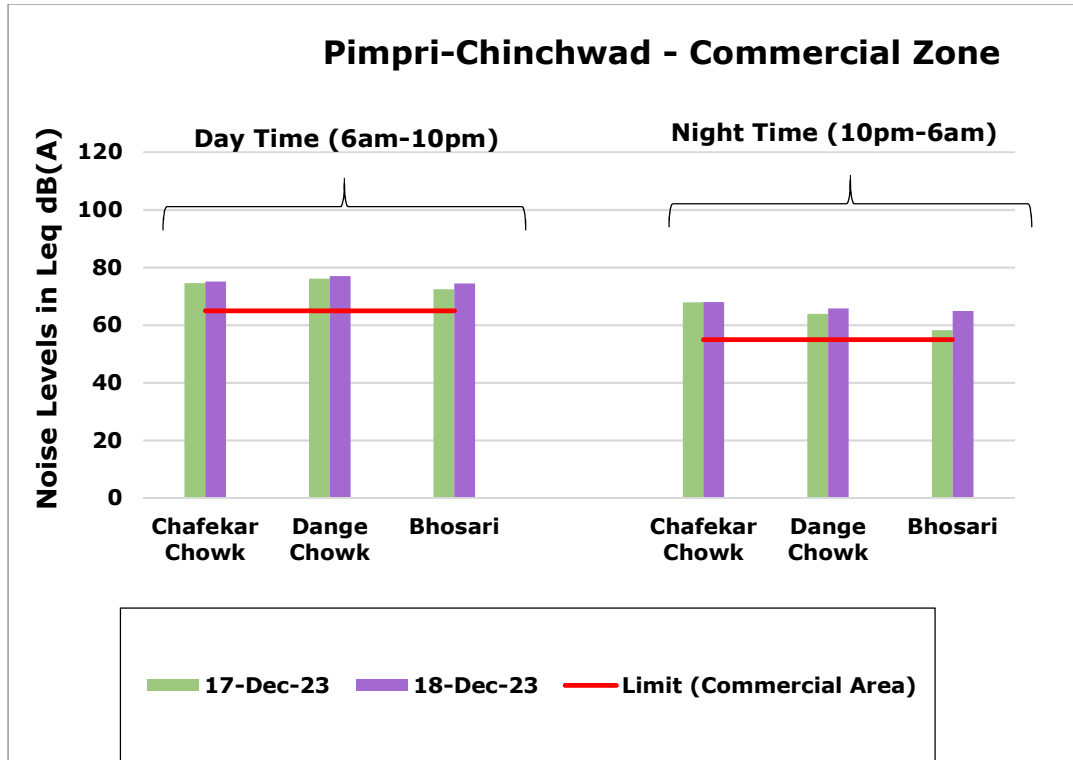
In Pimpri-Chinchwad also three locations were monitored. On 17th and 18th December, during the day time the highest noise level was observed at Dange Chowk. The highest noise level during night time was observed at Chafekar Chowk with 67.9 dB(A) and 68.0dB(A) respectively.

**Table 5.22: Ambient Noise Levels in Pimpri-Chinchwad**

Ambient Noise Monitoring on 17th December 2023 - PIMPRI-CHINCHWAD												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Chafekar Chowk	74.6	52.4	81.6	77.6	74.1	62.9	67.9	47.7	74.6	71.4	66.6	50.3
Dange Chowk	76.1	63.2	81.9	79.4	75.0	67.2	63.8	42.2	72.4	70.1	50.8	44.7
Bhosari	72.5	57.4	81.2	76.5	69.8	62.8	58.2	42.1	68.7	63.1	48.7	43.8

Ambient Noise Monitoring on 18th December 2023 - PIMPRI-CHINCHWAD												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Chafekar Chowk	75.1	55.2	81.3	78.9	73.6	64.7	68.0	43.2	74.6	72.0	66.8	49.1
Dange Chowk	77.0	62.3	84.6	79.6	76.1	69.7	65.8	44.0	74.9	70.8	60.4	45.7
Bhosari	74.5	55.6	85.4	78.2	72.3	62.7	64.8	41.2	73.3	70.9	49.8	43.3

Chart 5.22: Ambient Noise Levels in Pimpri-Chinchwad



### 5.23 Parbhani

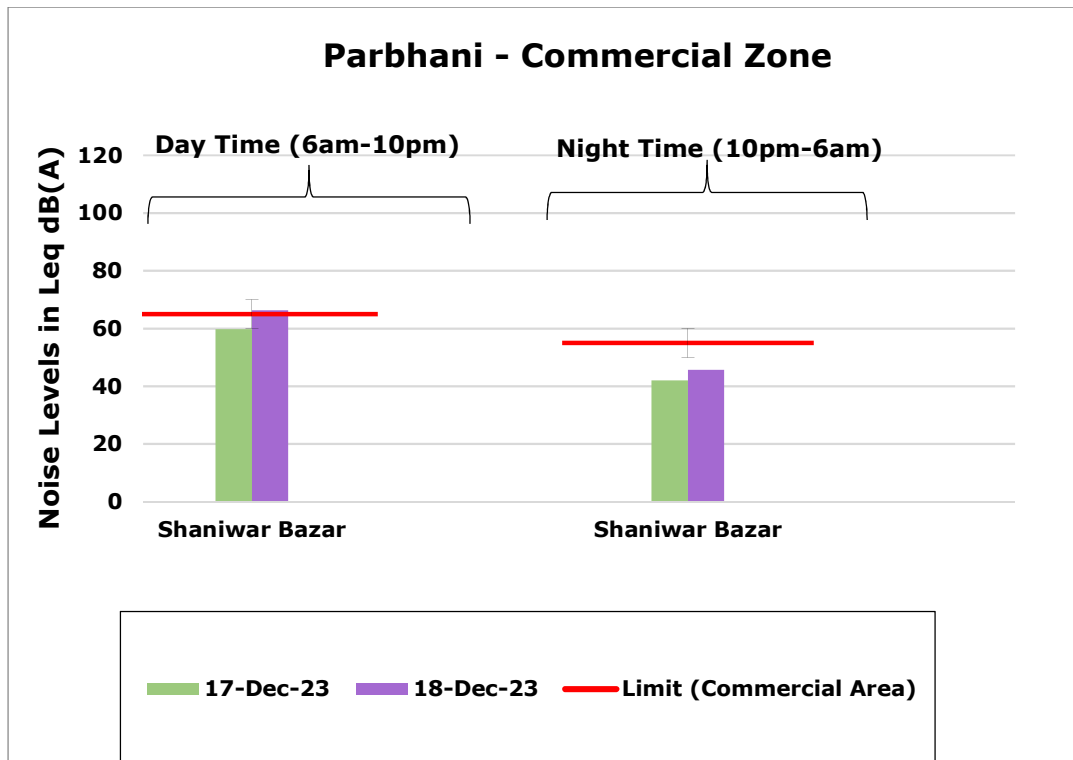
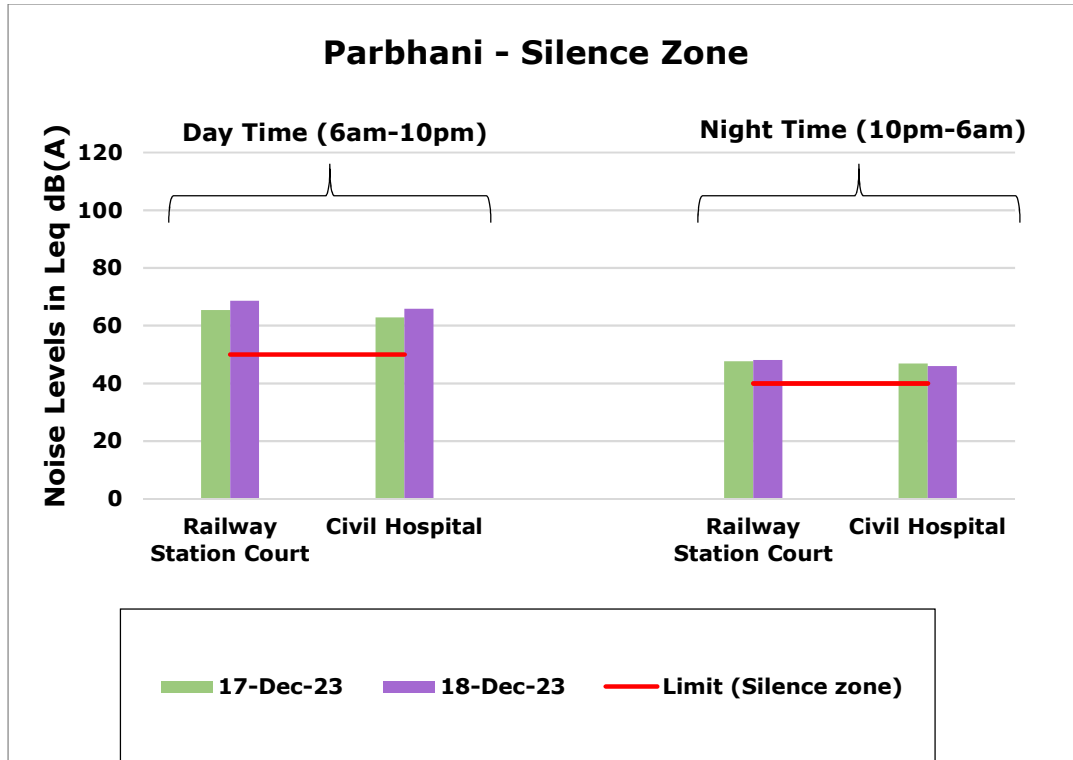
In Parbhani also, three locations were monitored for noise levels for two days i.e. on 17th December and 18th December 2023. Results demonstrates that the highest noise level on both the days during day time, Railway Station Court was the noisiest with 65.4dB(A) and 68.6dB(A) respectively. During the night time on both days, Railway Station Court was observed with the highest average noise levels among all three monitored locations.

**Table 5.23: Ambient Noise Levels in Parbhani**

Ambient Noise Monitoring on 17th December 2023- PARBHANI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shaniwar Bazar	59.7	37.0	65.0	63.1	60.0	41.0	42.0	34.0	47.0	44.0	41.5	40.0
Railway Station Court	65.4	42.0	71.0	69.0	64.0	51.9	47.6	40.0	53.0	51.0	46.0	41.0
Civil Hospital	62.8	46.0	70.0	67.0	61.0	51.0	46.9	39.0	55.0	51.0	44.0	41.0

Ambient Noise Monitoring on 18th December 2023- PARBHANI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shaniwar Bazar	66.3	41.0	72.0	70.0	65.5	49.0	45.6	38.0	54.0	50.0	42.0	40.0
Railway Station Court	68.6	42.0	73.0	71.0	69.0	55.0	48.1	40.0	55.0	52.0	47.0	41.0
Civil Hospital	65.8	41.0	71.0	70.0	64.5	51.0	46.0	39.0	54.0	51.0	43.0	40.0

Chart 5.23: Ambient Noise Levels in Parbhani



## 5.24 Latur

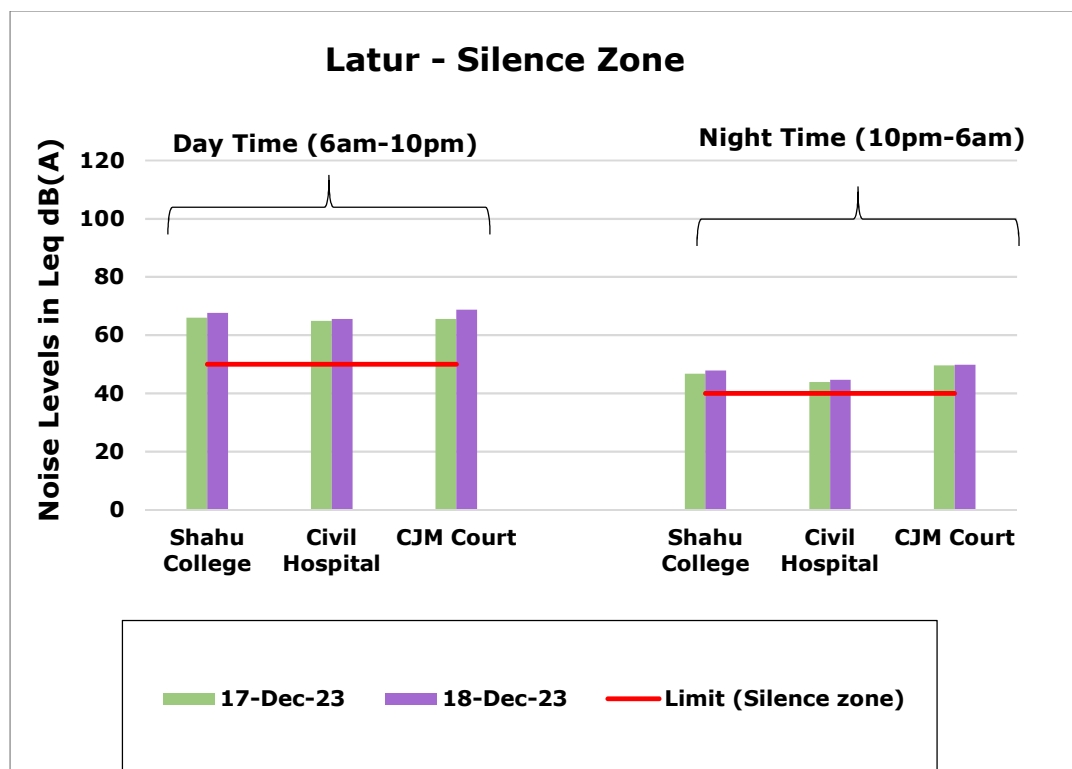
At Latur also, 3 locations were monitored. On 17th December the highest noise level during day time and night time was observed at Shahu College 66.0dB(A) and CJM Court 49.6dB(A) respectively. On 18th December, the highest noise level both during day time and night time was observed near CJM Court.

**Table 5.24: Ambient Noise Levels in Latur**

Ambient Noise Monitoring on 17th December 2023- LATUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shahu College	66.0	39.0	72.0	70.0	64.0	43.0	46.8	36.0	54.0	51.0	43.0	39.0
Civil Hospital	64.8	41.0	70.0	68.1	64.0	50.0	43.9	38.0	49.0	48.0	42.0	41.0
CJM Court	65.5	40.0	71.0	69.0	65.0	45.0	49.6	40.0	56.0	52.2	48.0	42.0

Ambient Noise Monitoring on 18th December 2023- LATUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Shahu College	67.7	41.0	72.0	71.0	68.0	52.9	47.8	38.0	54.0	52.0	45.0	40.0
Civil Hospital	65.6	41.0	70.0	69.0	65.0	51.0	44.6	37.0	50.0	48.0	42.0	39.0
CJM Court	68.7	48.0	74.0	71.0	69.0	55.0	49.8	39.0	56.0	54.0	48.0	40.0

Chart 5.24: Ambient Noise Levels in Latur



### 5.25 Akola

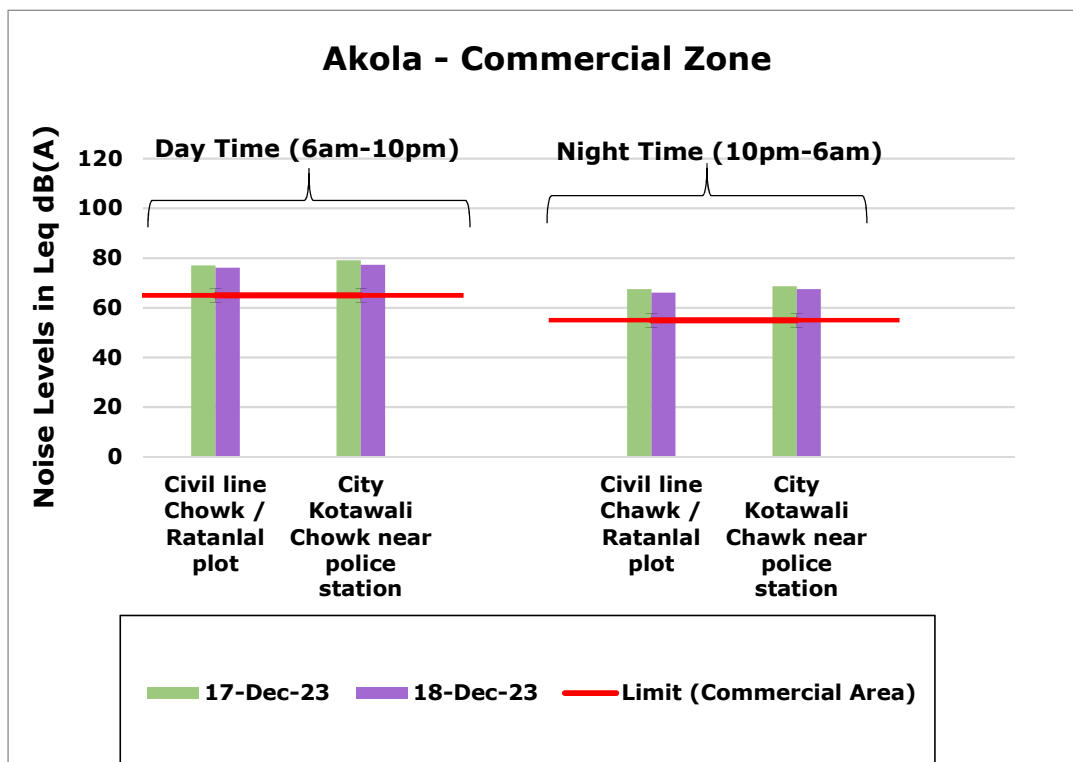
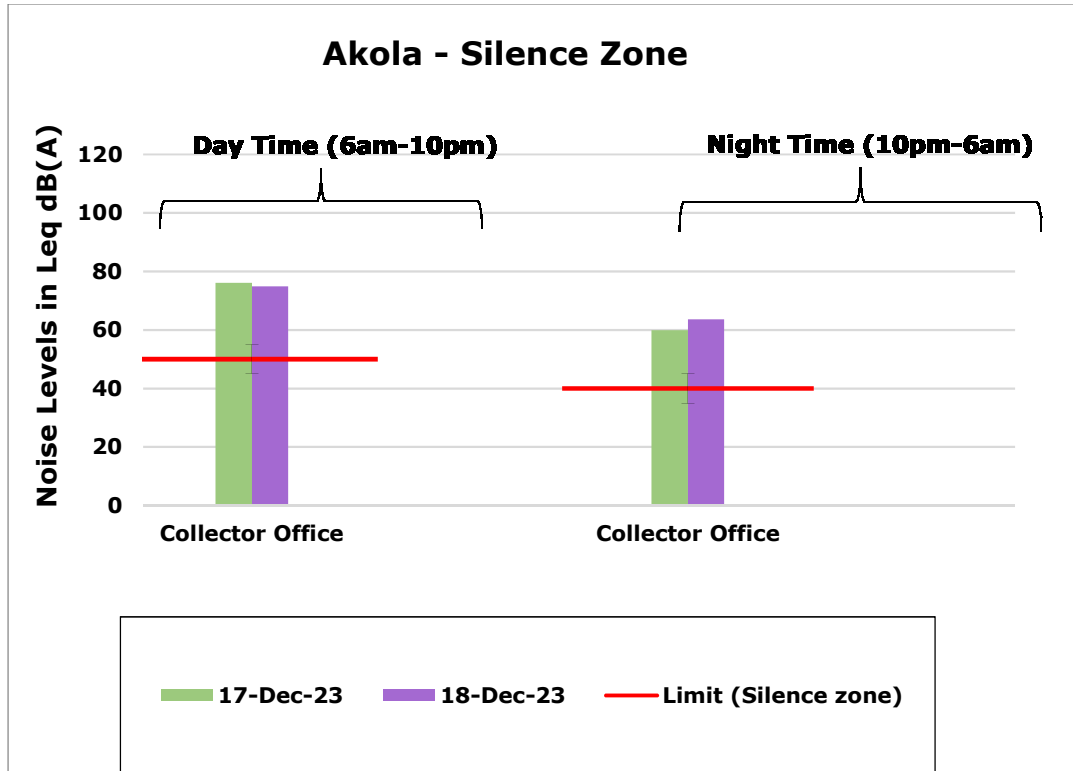
In Akola also three location was monitored. Results show that City Kotwali Chowk was the noisiest on both 17th and 18th December, during day as well as night.

**Table 5.25: Ambient Noise Levels in Akola**

Ambient Noise Monitoring on 17th December 2023- AKOLA												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Collector Office	76.0	43.5	90.2	80.0	67.5	55.4	59.9	36.1	74.5	61.6	51.5	40.5
Civil line Chowk	77.0	46.4	90.5	81.3	69.1	60.8	67.5	38.0	81.9	69.3	57.9	42.0
City Kotawali Chowk	79.1	52.0	91.6	83.2	70.5	64.4	68.6	38.4	82.2	71.3	58.6	44.4

Ambient Noise Monitoring on 18th December 2023- AKOLA												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Collector Office	74.8	50.2	83.6	80.7	68.7	63.1	63.6	36.1	80.5	62.9	50.6	40.5
Civil line Chowk	76.1	51.6	85.1	81.3	70.0	64.3	66.0	36.1	80.5	68.1	55.4	41.3
City Kotawali Chowk	77.3	53.4	87.6	82.3	71.3	65.6	67.5	33.1	81.6	70.5	57.1	42.4

Chart 5.25: Ambient Noise Levels in Akola



## 5.26 Solapur

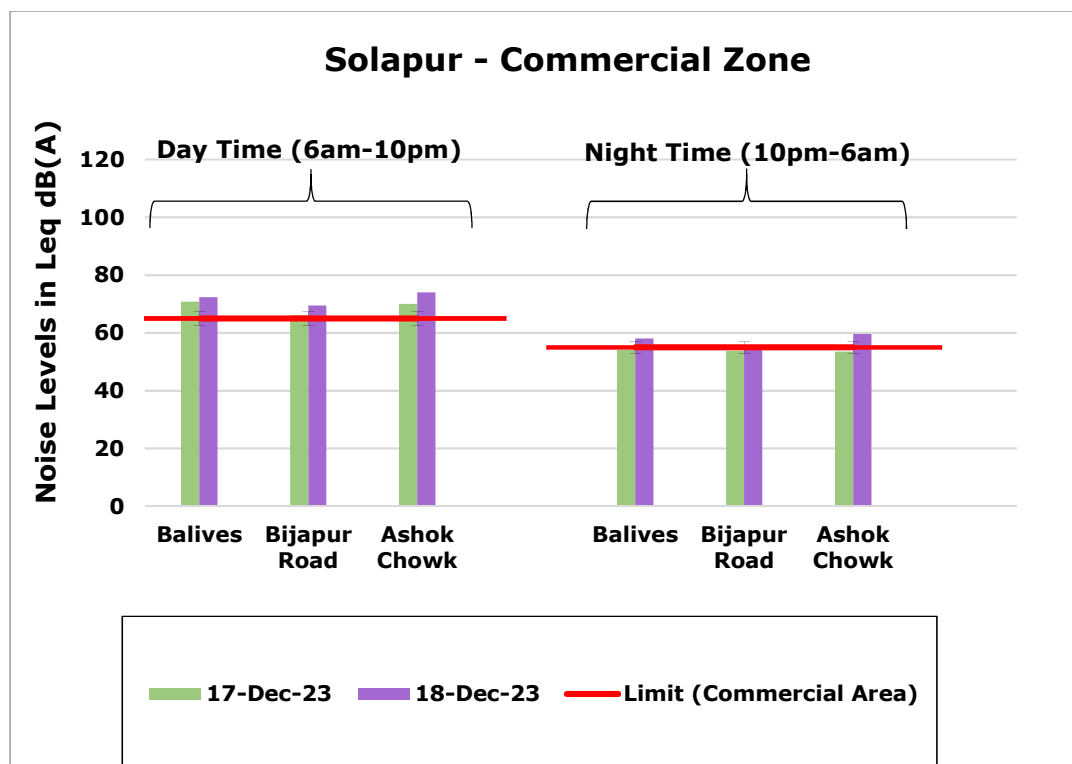
In Solapur, three location was monitored for noise levels. On 17th December during day and night time, the highest noise level was observed at Balives with 70.8 dB(A) and 54.1 dB(A) respectively. However, on 18th December, during day as well night time, Ashok Chowk is recorded with the highest noise levels with 73.9dB(A) and 59.5dB(A) respectively.

**Table 5.26: Ambient Noise Levels in Solapur**

Ambient Noise Monitoring on 17th December 2023- SOLAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Balives	70.8	47.8	82.5	74.9	64.6	52.8	54.1	40.5	61.0	58.2	52.5	44.7
Bijapur Road	66.1	40.3	80.3	70.9	58.9	50.7	53.8	40.2	64.3	57.0	50.5	42.5
Ashok Chowk	70.0	40.2	84.5	72.3	60.3	50.3	53.5	40.6	64.2	57.8	50.7	42.3

Ambient Noise Monitoring on 18th December 2023- SOLAPUR												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Balives	72.3	50.2	84.9	75.6	64.6	52.8	58.1	42.2	69.8	62.2	50.1	43.9
Bijapur Road	69.4	50.3	82.5	74.5	62.1	51.4	55.2	42.9	66.3	59.8	49.5	44.3
Ashok Chowk	73.9	50.2	86.9	77.5	64.3	52.8	59.5	42.8	69.7	62.3	54.7	44.3

Chart 5.26: Ambient Noise Levels in Solapur



### 5.27 Panvel

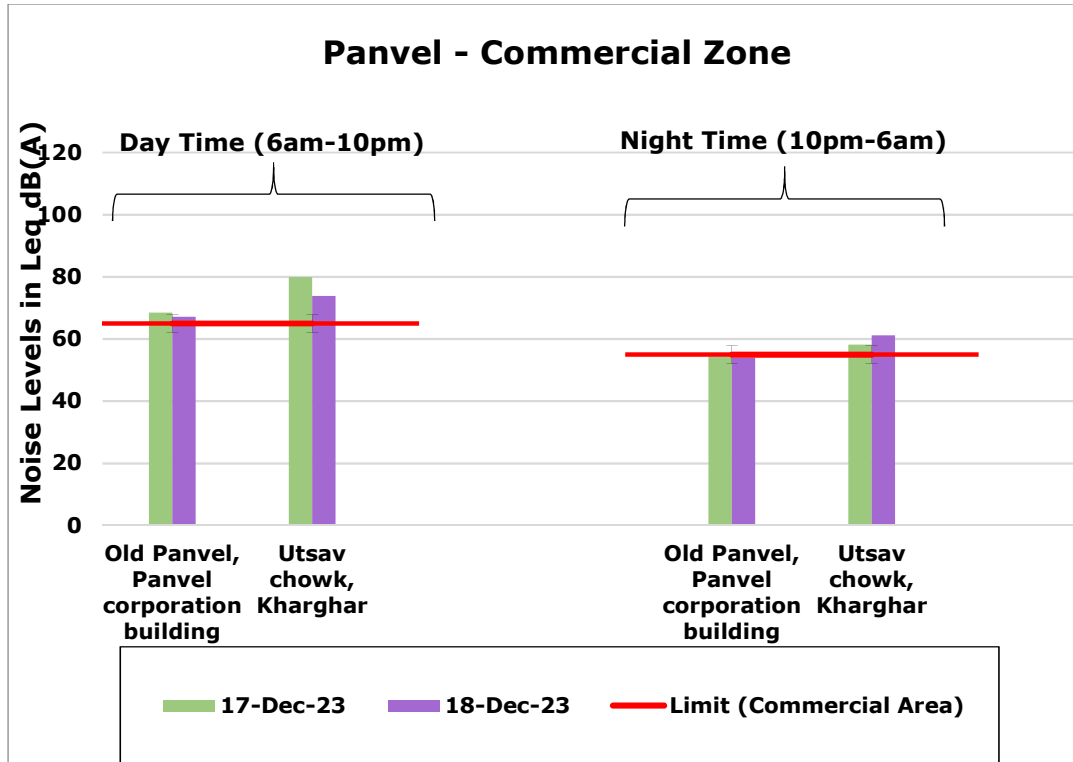
Three locations were monitored for noise levels from Panvel Municipal Corporation. On 17<sup>th</sup> December, during day time, the highest noise level was observed at Utsav Chowk with 79.9dB(A) and during night time at Khanda Colony with 67.7 dB(A). However, on 18<sup>th</sup> December, the noise level at Utsav chowk, Kharghar was highest 73.8 dB(A) during day time and it was observed highest 67.7 dB(A) at Khanda Colony during night time.

**Table 5.27: Ambient Noise Levels in Panvel**

Ambient Noise Monitoring on 17th December 2023 - PANVEL												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Old Panvel, Panvel corporation building	68.5	47.2	85.2	68.6	61.6	52.8	54.3	43.7	63.3	58.0	50.6	45.9
Khanda colony	74.7	57.3	79.8	78.6	73.3	63.2	67.7	58.6	75.3	72.6	63.6	60.0
Utsav chowk, Kharghar	79.9	60.1	88.3	83.4	78.3	70.4	58.2	41.1	65.7	62.0	55.1	48.1

Ambient Noise Monitoring on 18th December 2023 - PANVEL												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Old Panvel, Panvel corporation building	67.1	48.8	74.4	70.9	64.6	56.7	53.9	43.7	62.3	58.0	50.8	46.1
Khanda colony	73.6	58.6	79.3	76.6	72.9	63.6	67.7	58.6	75.3	72.6	63.6	60.0
Utsav chowk, Kharghar	73.8	60.5	85.5	77.1	72.1	64.1	61.1	47.9	71.5	64.8	55.6	49.5

Chart 5.27: Ambient Noise Levels in Panvel



## 6 OBSERVATIONS

**MUMBAI:** The noise levels in Mumbai on December 17, 2023, varied across different locations. Hindu Colony in Dadar exhibited the highest daytime Leq at 83.3dB(A), while Goregaon (E) had the lowest at 70.8 dB(A). On December 18, Mumbadevi Temple recorded the highest daytime Leq at 87.0 dB(A), and Goregaon (E) remained the lowest at 69.8. For nighttime noise on both days, Hindu Colony had the highest Leq at 82.9 dB(A), and Goregaon (E) had the lowest at 63.5 dB(A). Overall, there were fluctuations in noise levels, with distinct maximum and minimum values across the specified locations in Mumbai.

**NAVI MUMBAI:** In Navi Mumbai on December 17 and 18, 2023, there were notable variations in noise levels across different locations. The highest daytime Leq was observed at Mahape Shil Road, MIDC, with a value of 72.3 dB(A), while the lowest was at Father Agnel School, Vashi, with a daytime Leq of 62.0 dB(A). For nighttime noise, APMC Market Vashi recorded the highest Leq at 72.7 dB(A), while Father Agnel School, Vashi, had the lowest at 58.3 dB(A).

**THANE:** In Thane on December 17 and 18, 2023, the noise levels exhibited variations across different locations. The maximum daytime Leq was recorded at Pokharan - Vartak Nagar with 82.0 dB(A), while the minimum was observed at Wagle Estate with 66.3 dB(A). For nighttime noise, Gaondevi Mandir, Naupada, reported the highest Leq at 81.5 dB(A), and Wagle Estate had the lowest at 53.7 dB(A).

**PUNE:** In Pune on December 17 and 18, 2023, diverse noise patterns were observed across locations. The highest daytime Leq was recorded at Pune University with 76.0 dB(A), while the lowest was at Nucleus Mall with 68.5 dB(A). For nighttime noise, Pune University reported the highest Leq at 65.0 dB(A), and Nucleus Mall had the lowest at 57.2 dB(A).

**NASHIK:** In Nashik during the same period, noise levels varied among different locations. Bytco reported the highest daytime Leq at 76.5 dB(A), and Pandit Colony Near NMC had the lowest at 58.0 dB(A). For nighttime noise, the highest Leq was observed at Bytco with 64.4 dB(A), and Pandit Colony Near NMC had the lowest at 48.5 dB(A).

**AURANGABAD:** Aurangabad exhibited diverse noise dynamics on December 17 and 18, 2023. Swami Vivekanand College reported the highest daytime Leq at 67.0 dB(A), while CIDCO N-9 had the lowest at 51.3 dB(A). For nighttime noise, the maximum Leq was observed at Swami Vivekanand College with 49.6 dB(A), and CIDCO N-9 had the lowest at 40.3 dB(A). The results suggest notable variations in noise levels across these cities and locations during the specified period.

**NAGPUR:** In Nagpur, on December 17 and 18, 2023, distinct noise patterns were observed across different locations. Sitabardi Police Station reported the highest daytime Leq at 78.2 dB(A), while Govt. Medical College had the lowest at 61.4 dB(A). For nighttime noise, Sitabardi Police Station again reported the maximum Leq at 66.4 dB(A), and Govt. Medical

College had the minimum at 49.3 dB(A).

**KALYAN:** In Kalyan during the same period, Katemanivali reported the highest daytime Leq at 82.9 dB(A), and Bail Bazar had the lowest at 72.1 dB(A). For nighttime noise, Katemanivali again reported the highest Leq at 71.3 dB(A), and Birla College had the lowest at 63.4 dB(A).

**AMRAVATI:** Amravati exhibited varied noise dynamics on December 17 and 18, 2023. Rajkamal Chowk reported the highest daytime Leq at 75.1 dB(A), and Ervin Hospital Square had the lowest at 65.1 dB(A). For nighttime noise, Rajkamal Chowk again reported the maximum Leq at 70.0 dB(A), and Ervin Hospital Square had the minimum at 58.6 dB(A).

**JALGAON:** In Jalgaon during the specified period, Shashtri Tower Chowk reported the highest daytime Leq at 79.5 dB(A), and Near Civil Hospital had the lowest at 74.4 dB(A). For nighttime noise, Shashtri Tower Chowk again reported the maximum Leq at 71.6 dB(A), and Near Civil Hospital had the minimum at 48.8 dB(A).

**KOLHAPUR:** Kolhapur exhibited diverse noise patterns on December 17 and 18, 2023. Gokhale College reported the highest daytime Leq at 82.1 dB(A), and Dabhorakar Corner had the lowest at 79.6 dB(A). For nighttime noise, Rajarampuri Chowk reported the highest Leq at 55.1 dB(A), and Gokhale College had the minimum at 47.7 dB(A).

**SANGLI:** In Sangli, diverse noise levels were observed on December 17 and 18, 2023. Visharambaug reported the highest daytime Leq at 81.6 dB(A), and Miraj Market had the lowest at 70.0 dB(A). For nighttime noise, Visharambaug again reported the maximum Leq at 65.8 dB(A), and Miraj Market had the minimum at 56.5 dB(A).

**MIRA BHAYANDER:** Mira-Bhayander exhibited varying noise patterns during the specified period. Bhakti Vedant Hospital reported the highest daytime Leq at 81.4 dB(A), and Shivaji Chak Kashi Meera had the lowest at 73.7 dB(A). For nighttime noise, Golden Police Chawki reported the maximum Leq at 71.6 dB(A), and Bhakti Vedant Hospital had the minimum at 59.6 dB(A).

**VASAI – VIRAR:** Vasai-Virar displayed diverse noise dynamics on December 17 and 18, 2023. Range Office, Satwali, Vasai East, reported the highest daytime Leq at 78.0 dB(A), and Valiv Phata, Vasai East, had the lowest at 66.8 dB(A). For nighttime noise, Range Office again reported the maximum Leq at 71.8 dB(A), and Valiv Phata had the minimum at 60.7 dB(A).

**ULHASNAGAR:** Ulhasnagar showed varied noise patterns during the specified period. Camp No. 5 Bus Stop reported the highest daytime Leq at 81.0 dB(A), and Camp No. 1 Gol Maidan had the lowest at 70.8 dB(A). For nighttime noise, Camp No. 5 Bus Stop again reported the maximum Leq at 71.9 dB(A), and Shivaji Chowk No. 3 had the minimum at 59.0 dB(A).

**BHIWANDI-NIZAMPUR:** Bhiwandi-Nizampur exhibited diverse noise levels on December 17 and 18, 2023. Indira Gandhi Memorial Hospital reported the highest daytime Leq at 78.4 dB(A), and Shelar Near Nadi Naka had the lowest at 66.8 dB(A). For nighttime noise, Indira Gandhi Memorial Hospital again reported the maximum Leq at 64.1 dB(A), and Dhamankar Naka had the minimum at 61.0 dB(A).

**CHANDRAPUR:** Chandrapur displayed consistent noise levels during the specified period. Gandhi Chowk reported the highest daytime and nighttime Leq at 72.6 dB(A) and 62.2 dB(A), respectively, while Jatpura Gate had the lowest at 71.0 dB(A) for both.

**NANDED-WAGHALA:** Nanded-Waghala exhibited varied noise patterns during the specified period. District Court Station Road reported the highest daytime and nighttime Leq at 67.4 dB(A) and 48.1 dB(A), respectively, while Govt. Polytechnic College had the lowest at 53.4 dB(A) for both.

**AHMEDNAGAR:** Ahmednagar showed diverse noise dynamics on December 17 and 18, 2023. Old Bus Stand reported the highest daytime Leq at 73.1 dB(A), and Chitale Road had the lowest at 66.4 dB(A). For nighttime noise, Old Bus Stand again reported the maximum Leq at 63.0 dB(A), and Kotala Chawk had the minimum at 58.2 dB(A).

**DHULE:** Dhule exhibited varying noise patterns during the specified period. Fulwala Chawk reported the highest daytime Leq at 70.9 dB(A), and Santoshi Mata Chawk had the lowest at 68.2 dB(A). For nighttime noise, Fulwala Chawk again reported the maximum Leq at 67.9 dB(A), and Santoshi Mata Chawk had the minimum at 57.4 dB(A).

**MALEGAON:** Malegaon displayed diverse noise dynamics on December 17 and 18, 2023. Central Bus Stand reported the highest daytime Leq at 73.7 dB(A), and Malegaon Camp had the lowest at 65.3 dB(A). For nighttime noise, Central Bus Stand again reported the maximum Leq at 67.0 dB(A), and Malegaon Camp had the minimum at 57.7 dB(A).

**PIMPRI-CHINCHWAD:** In Pimpri-Chinchwad, the noise levels varied across locations. Chafekar Chowk reported the highest daytime Leq at 76.1 dB(A), while Bhosari had the lowest at 72.5 dB(A). For nighttime noise, Chafekar Chowk again reported the maximum Leq at 68.0 dB(A), and Bhosari had the minimum at 58.2 dB(A).

**PARBHANI:** Parbhani displayed diverse noise patterns on December 17 and 18, 2023. Shaniwar Bazar reported the highest daytime and nighttime Leq at 65.4 dB(A) and 48.1 dB(A), respectively, while Civil Hospital had the lowest at 59.7 dB(A) for daytime and 42.0 dB(A) for nighttime.

**LATUR:** Latur exhibited varying noise dynamics during the specified period. Shahu College reported the highest daytime Leq at 66.0 dB(A), and CJM Court had the lowest at 64.8 dB(A).

For nighttime noise, CJM Court again reported the maximum Leq at 49.8 dB(A), and Civil Hospital had the minimum at 43.9 dB(A).

**AKOLA:** Akola showed diverse noise levels on December 17 and 18, 2023. City Kotawali Chawk near the police station reported the highest daytime Leq at 79.1 dB(A), while Collector Office had the lowest at 76.0 dB(A). For nighttime noise, City Kotawali Chawk again reported the maximum Leq at 68.6 dB(A), and Collector Office had the minimum at 59.9 dB(A).

**SOLAPUR:** Solapur exhibited varied noise patterns during the specified period. Balives reported the highest daytime Leq at 70.8 dB(A), and Ashok Chowk had the lowest at 66.1 dB(A). For nighttime noise, Balives again reported the maximum Leq at 54.1 dB(A), and Ashok Chowk had the minimum at 53.5 dB(A).

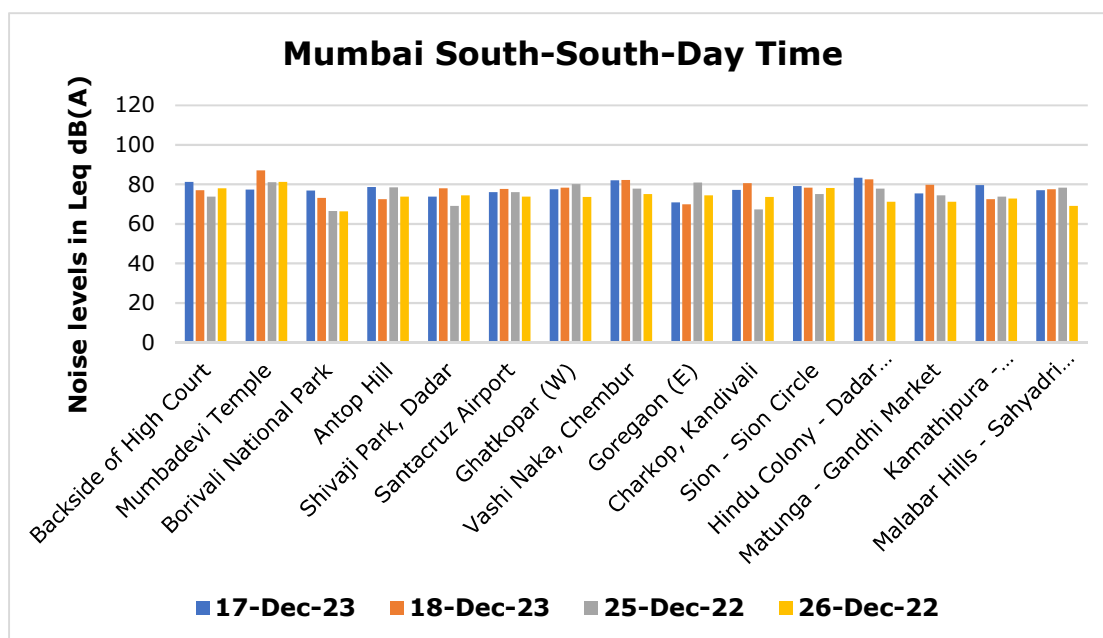
**PANVEL:** In Panvel, diverse noise levels were observed on December 17 and 18, 2023. Utsav Chowk, Kharghar, reported the highest daytime Leq at 79.9dB(A), and Old Panvel had the lowest at 68.5 dB(A). For nighttime noise, Utsav Chowk again reported the maximum Leq at 67.7 dB(A), and Old Panvel had the minimum at 54.3 dB(A).

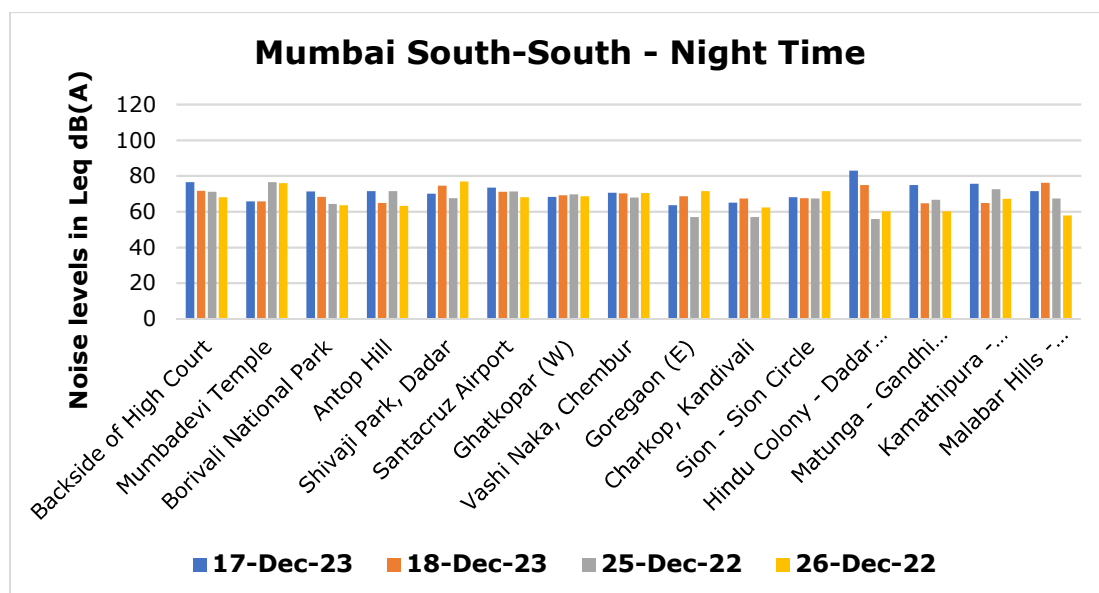
## 7 COMPARATIVE STUDY OF NOISE LEVELS

To know the cumulative effect of noise levels in the proximity areas and the effect of mitigation measures taken by the authorities, this year's (2023) noise levels were compared with the noise levels of the last year 2022. The detailed results of each location, obtained by the study are explained and presented graphically as below:

### 7.1 Mumbai

In Mumbai, the maximum percentage increase in noise levels during the monitoring period in 2023 compared to 2022 occurred at Hindu Colony-Dadar, with a significant surge of 48.2%, particularly during nighttime. The maximum percentage decrease was observed in Mumba devi temple, with a substantial nighttime reduction of -13.9%. On the second day of monitoring, overall, variations ranged from a minimum decrease of -13.3% at Mumbadevi Temple to a maximum increase of 31.5% at Malabar Hills-Sahyadri Guest House during nighttime monitoring.



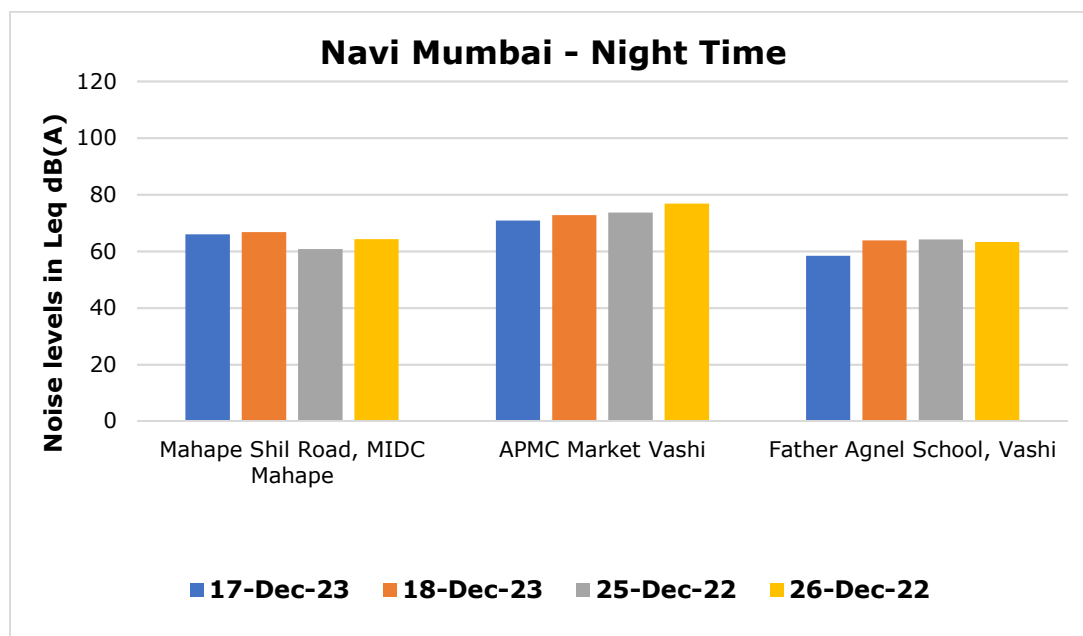
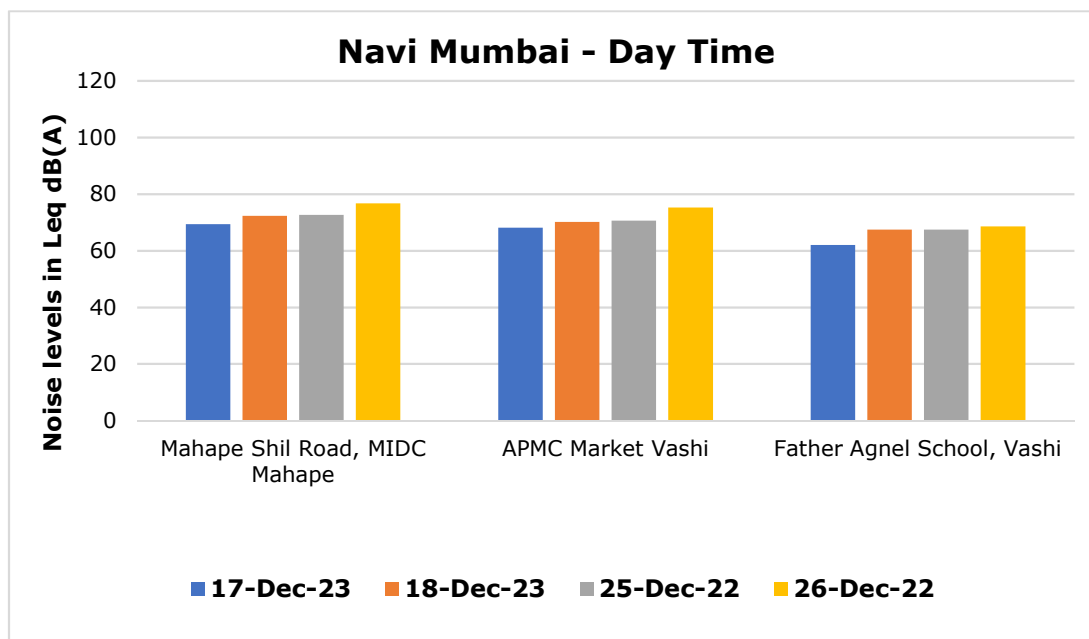


**Chart 7.1: Comparison of Noise Levels for the years 2023 and 2022 in Mumbai**

## 7.2 Navi Mumbai

In Navi Mumbai, the maximum percentage decrease in noise levels during the monitoring period in 2023 compared to 2022 occurred at Father Agnel School, Vashi, with a substantial decrease of 8.1%. The maximum percentage increase was observed at Mahape Shil Road, MIDC Mahape, with a significant nighttime rise of 8.5%.

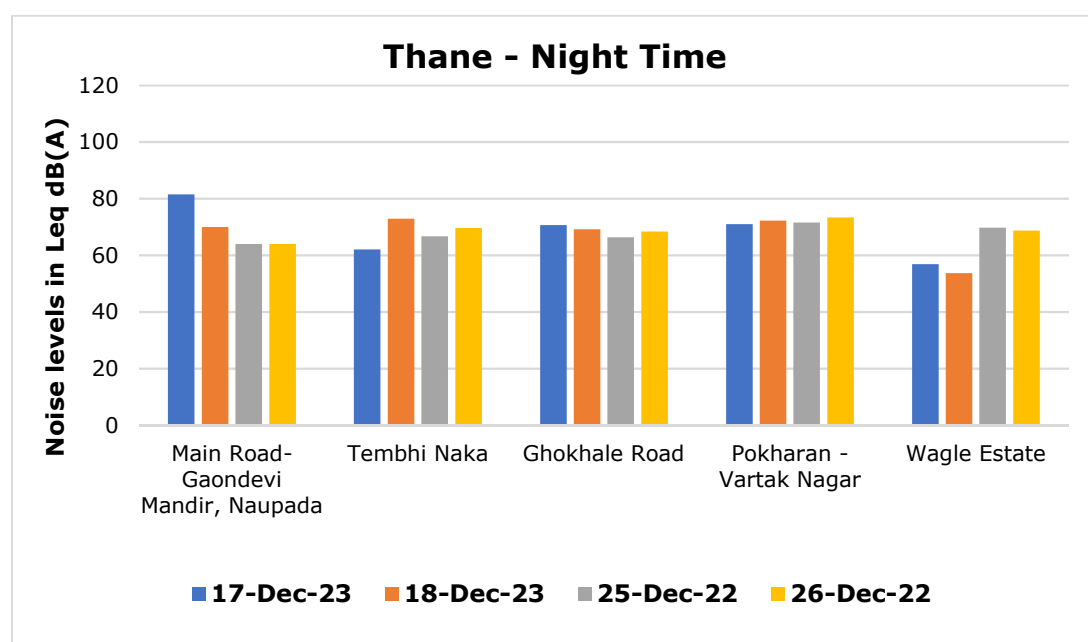
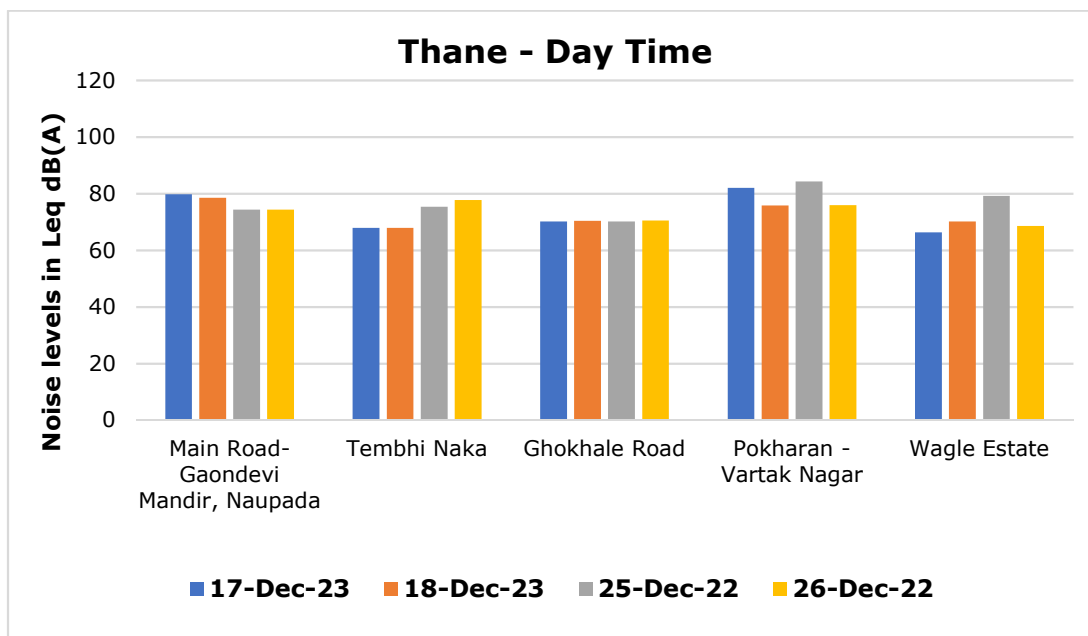
On December 18, 2023, in Navi Mumbai, Mahape Shil Road, MIDC Mahape experienced a 5.8% decrease in daytime noise levels. Father Agnel School, Vashi, showed the minimum changes both during the day (decrease of 1.7%) and at night (increase of 0.9%).



**Chart 7.2: Comparison of Noise Levels for the years 2023 and 2022 in Mumbai**

### 7.3 Thane

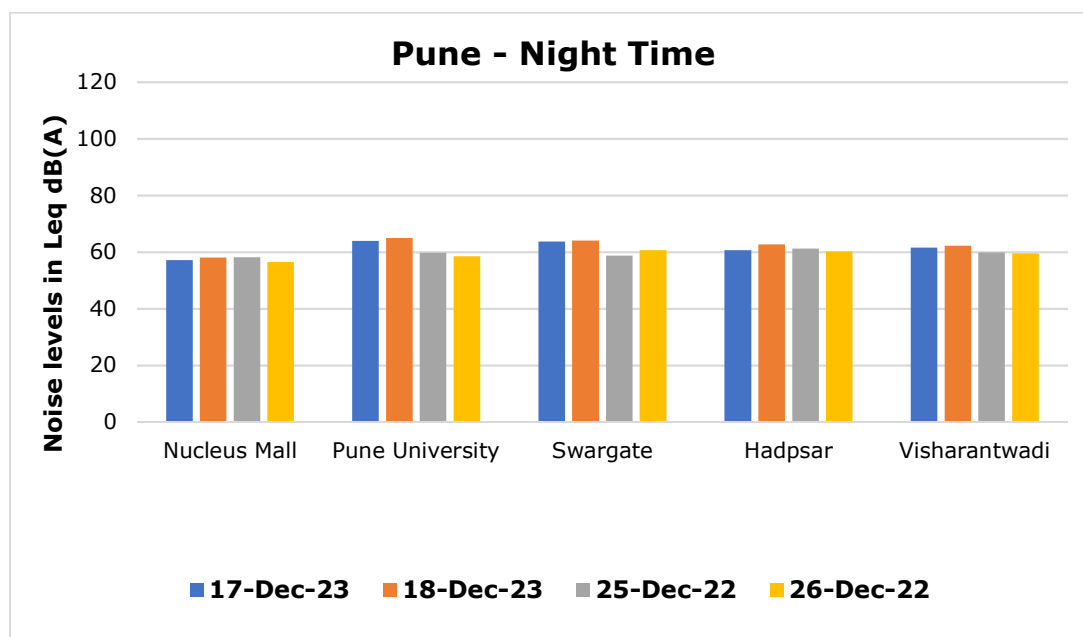
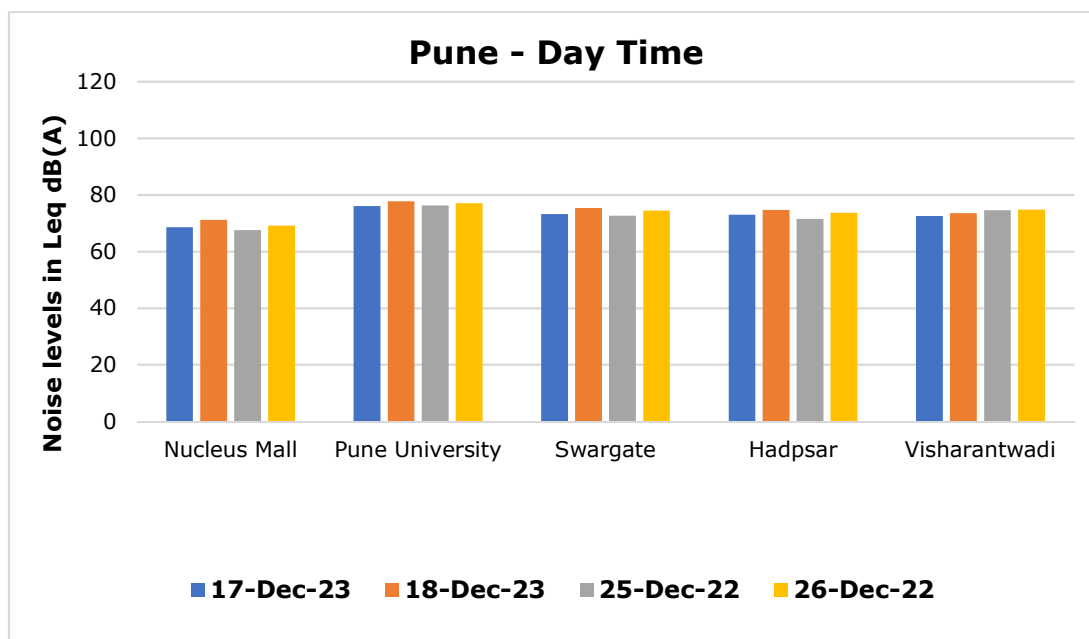
In Thane, Main Road-Gaondevi Mandir witnessed a 7.3% daytime noise increase to 79.7 dB on December 17, 2023, with a substantial 27.3% nighttime escalation. Conversely, Tembhi Naka experienced a notable 9.9% daytime noise reduction to 67.8 dB, along with a -7.0% nighttime decrease on the same date.



**Chart 7.3: Comparison of Noise Levels for the years 2023 and 2022 in Thane**

## 7.4 Pune

In Pune on December 17, 2023, Nucleus Mall had a 1.5% daytime increase and a 1.8% nighttime decrease, Pune University showed marginal changes during the day but a significant 7.1% increase at night, and Swargate, Hadapsar, and Visharantwadi had varying noise level changes. On December 18, 2023, Nucleus Mall recorded a 2.9% daytime increase and a 2.8% increase at night, while Pune University had a 0.9% daytime increase and a substantial 11.2% increase at night. Swargate, Hadapsar, and Visharantwadi also showed different noise level changes. The maximum changes occurred at Pune University during the night (11.2%), while the minimum changes were at Visharantwadi during the day (a decrease of 1.7%).



**Chart 7.4: Comparison of Noise Levels for the years 2023 and 2022 in Pune**

## 7.5 Nashik

In Nashik, Dwarka Circle experienced a marginal 0.6% increase in daytime noise and a notable 6.0% decrease at night on December 17, 2023. Pandit Colony Near NMC showed a slight 0.3% decrease during the day and a 1.2% decrease at night. Pavan Nagar CIDCO had a 2.0% increase during the day but a 4.7% decrease at night. Bytco witnessed a 1.8% increase during the day and a 0.7% increase at night, while Udyog Bhavan, Satpur, exhibited a 3.1% increase during the day and a 2.8% decrease at night. On December 18, 2023, the maximum change occurred at Pandit Colony Near NMC at night (11.8%), while the minimum change was at Udyog Bhavan, Satpur, during the night (-11.8%).

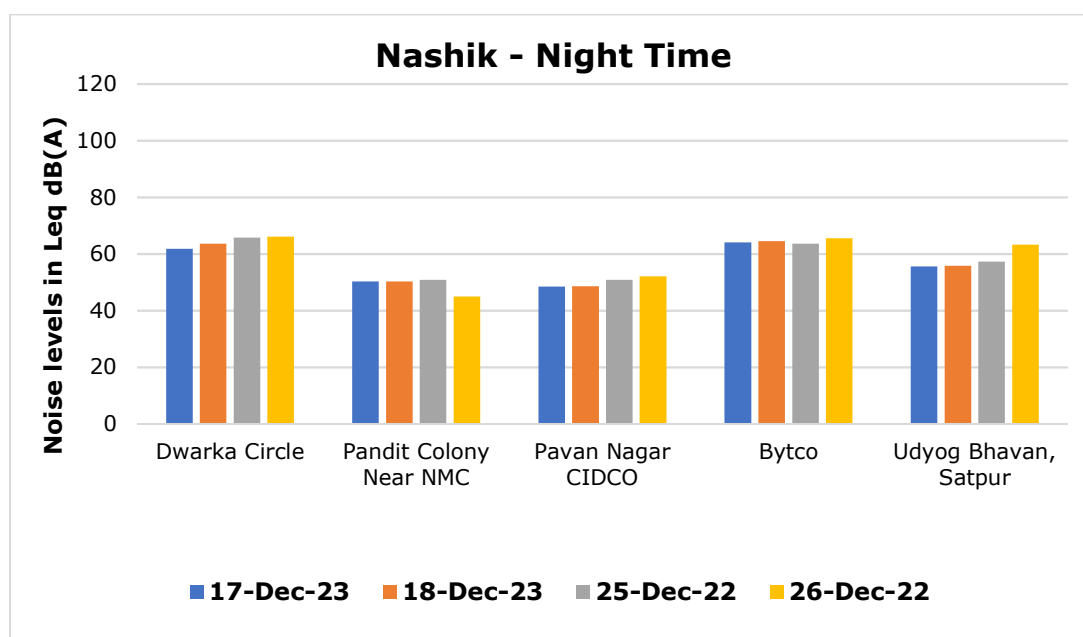
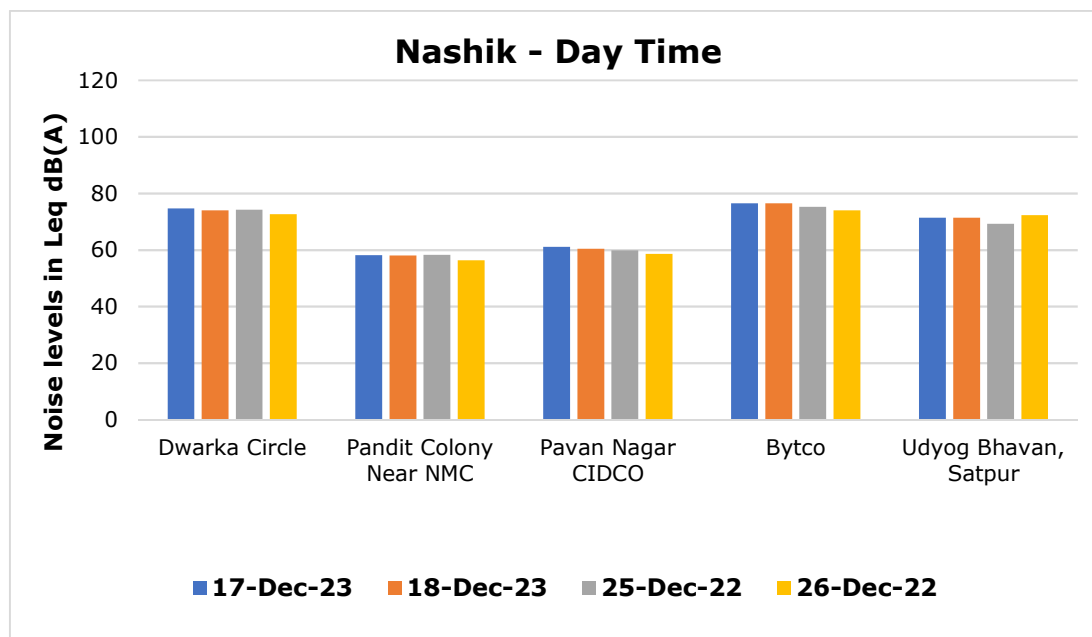


Chart 7.5: Comparison of Noise Levels for the years 2023 and 2022 in Nashik

## 7.6 Aurangabad

In Aurangabad, Ghati Hospital and Nirala Bazaar showed minimal changes in noise levels on December 17, 2023. CIDCO N-9 experienced a slight increase during the day and a decrease at night. Residential Area Near High Court exhibited significant daytime and nighttime increases, while Swami Vivekanand College showed noticeable decreases. On December 18, the maximum change occurred at Residential Area Near High Court at night (8.5%), with the minimum change at Nirala Bazaar during the day (-0.4%).

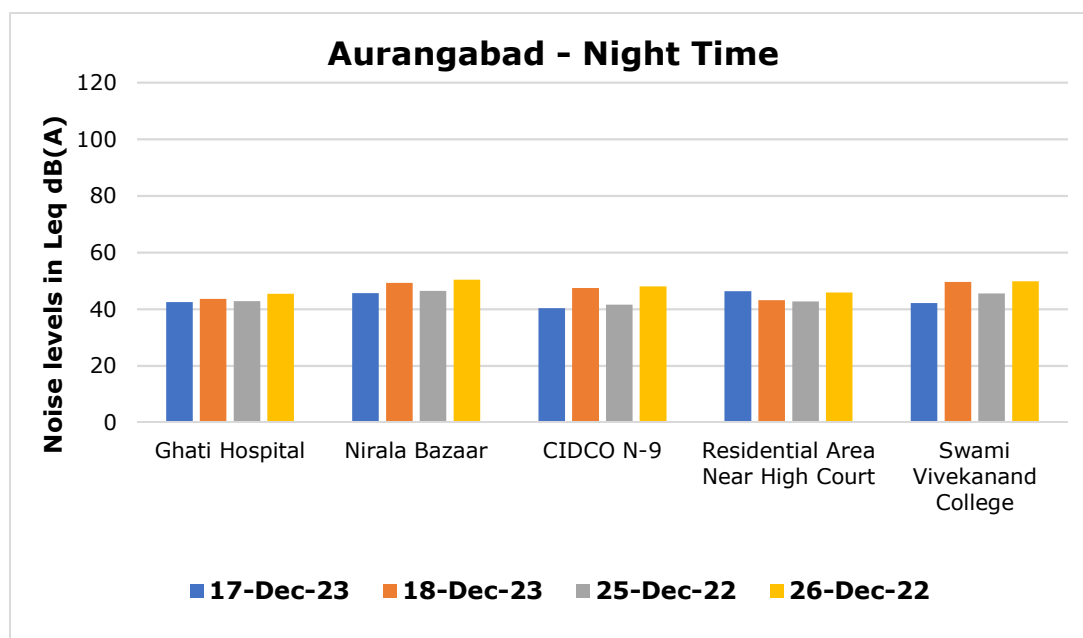
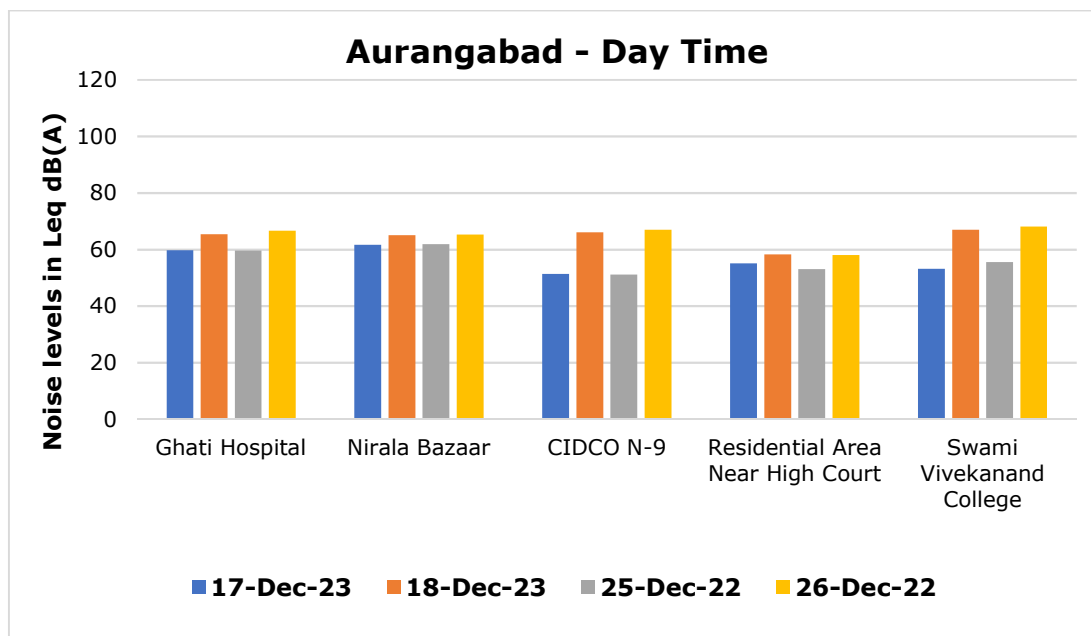
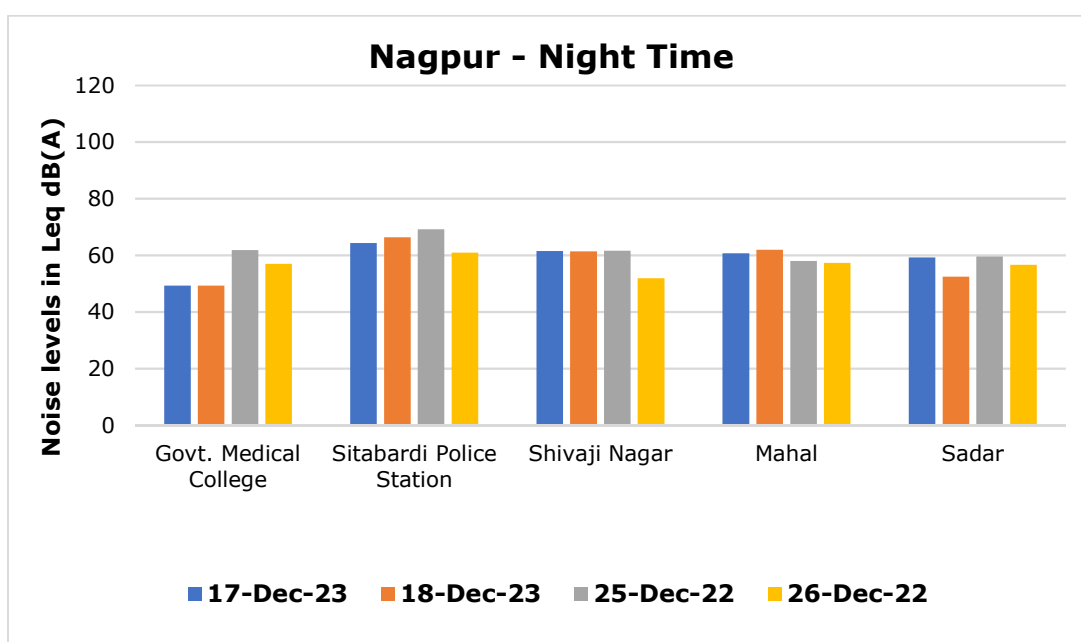
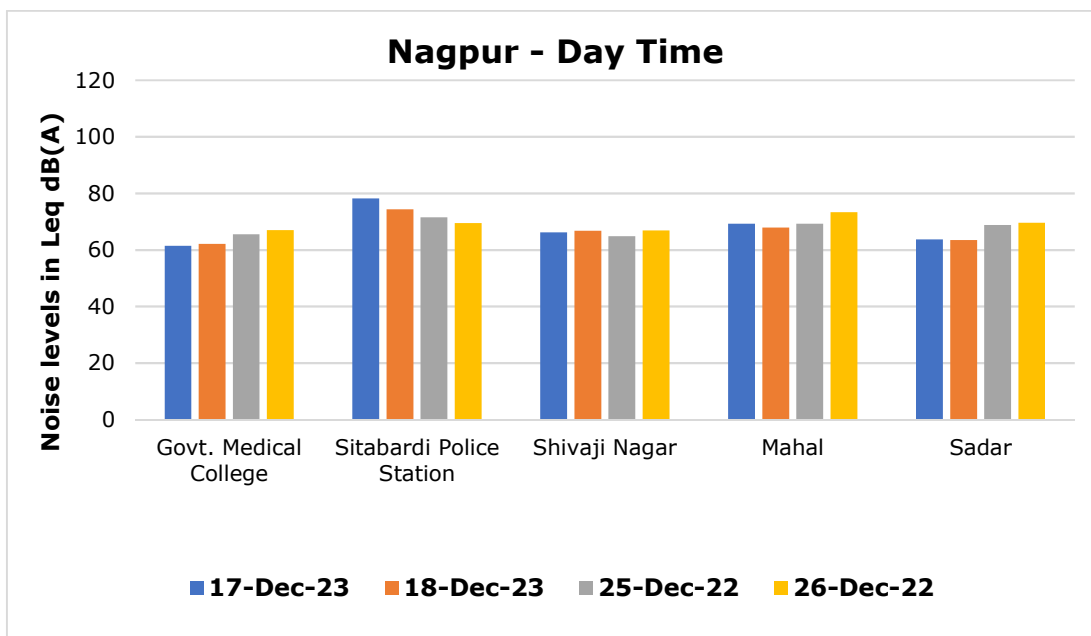


Chart 7.6: Comparison of Noise Levels for the years 2023 and 2022 in Aurangabad

## 7.7 Nagpur

On December 17, 2023, Nagpur saw diverse noise dynamics. While Govt. Medical College experienced a 6.3% daytime decrease, Sitabardi Police Station had a substantial 9.4% increase during the day. On December 18, Shivaji Nagar showed a maximum 18.3% increase at night. The varied patterns suggest significant noise level shifts.



**Chart 7.7: Comparison of Noise Levels for the years 2023 and 2022 in Nagpur**

## 7.8 Kalyan

Kalyan exhibited diverse noise variations on December 17 and 18, 2023. Katemanivali had a notable 12.1% daytime increase but a 10.2% nighttime decrease. Bail Bazar showed a moderate 2.4% increase during the day and a significant 4.4% decrease at night. The data reflects complex noise dynamics in different areas.

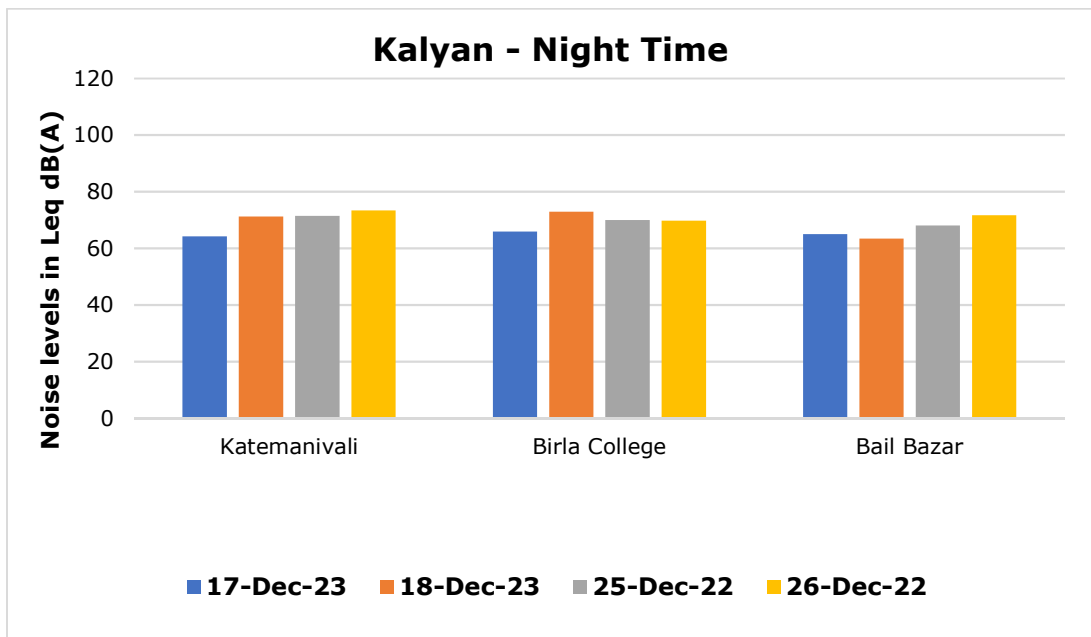
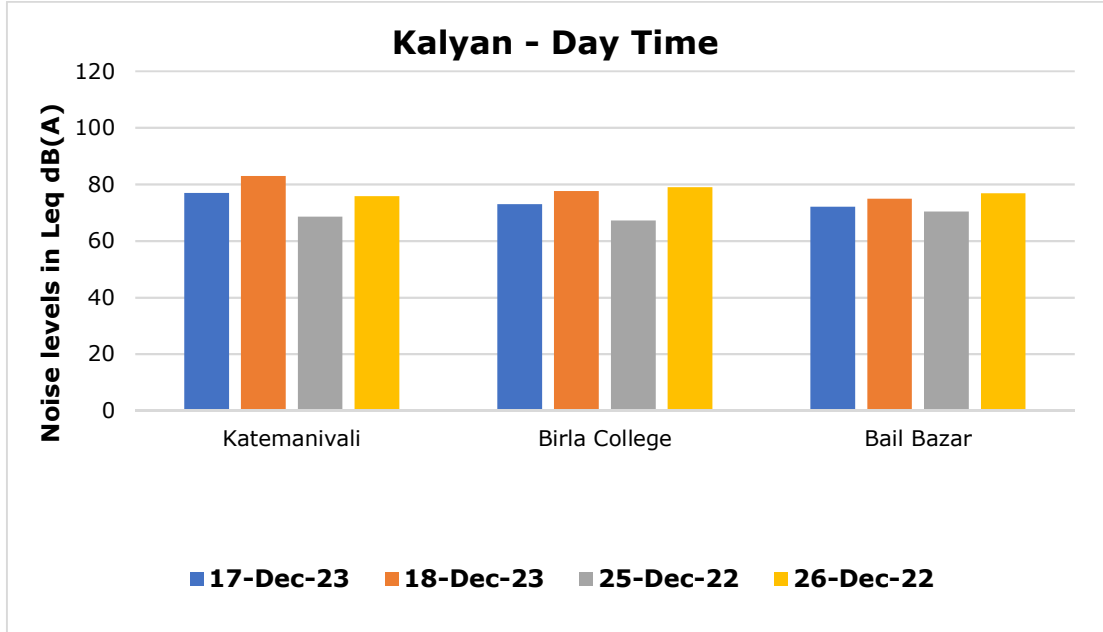
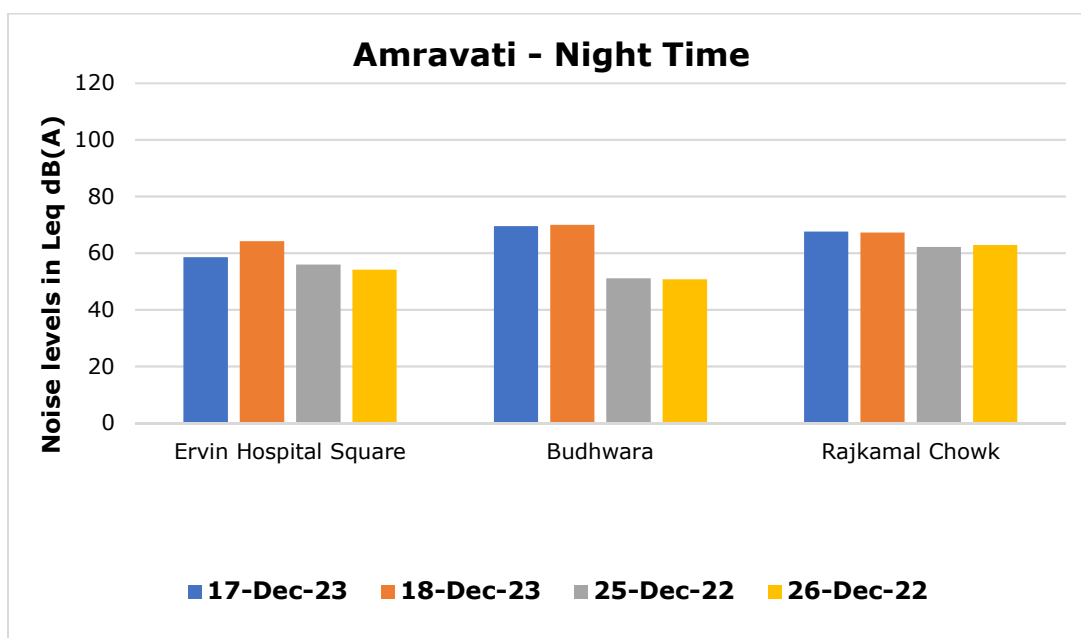
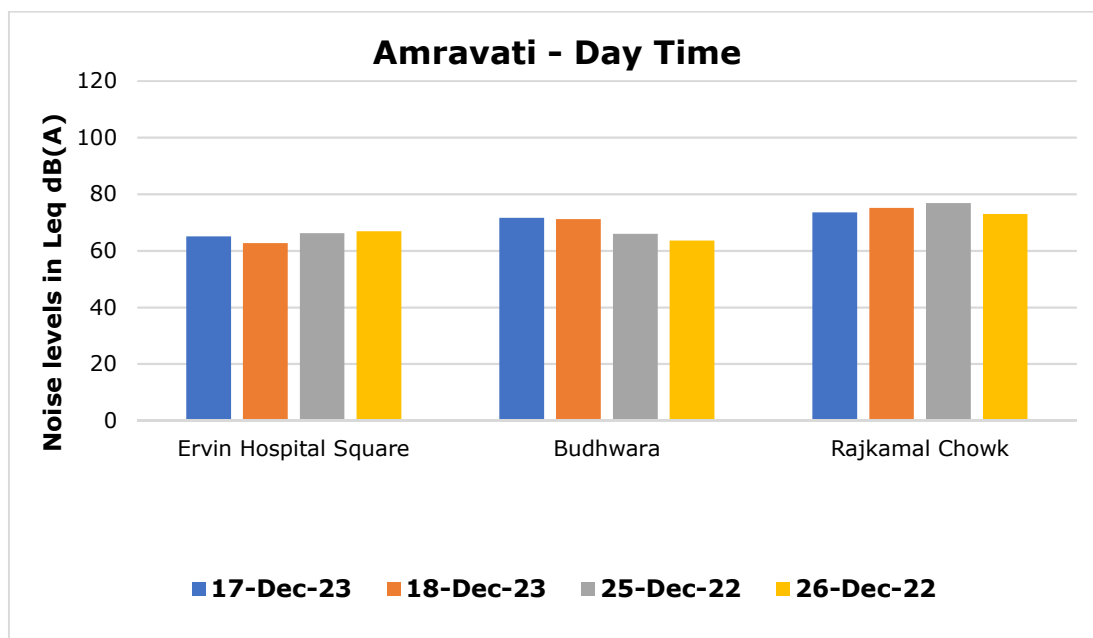


Chart 7.8: Comparison of Noise Levels for the years 2023 and 2022 in Kalyan

## 7.9 Amravati

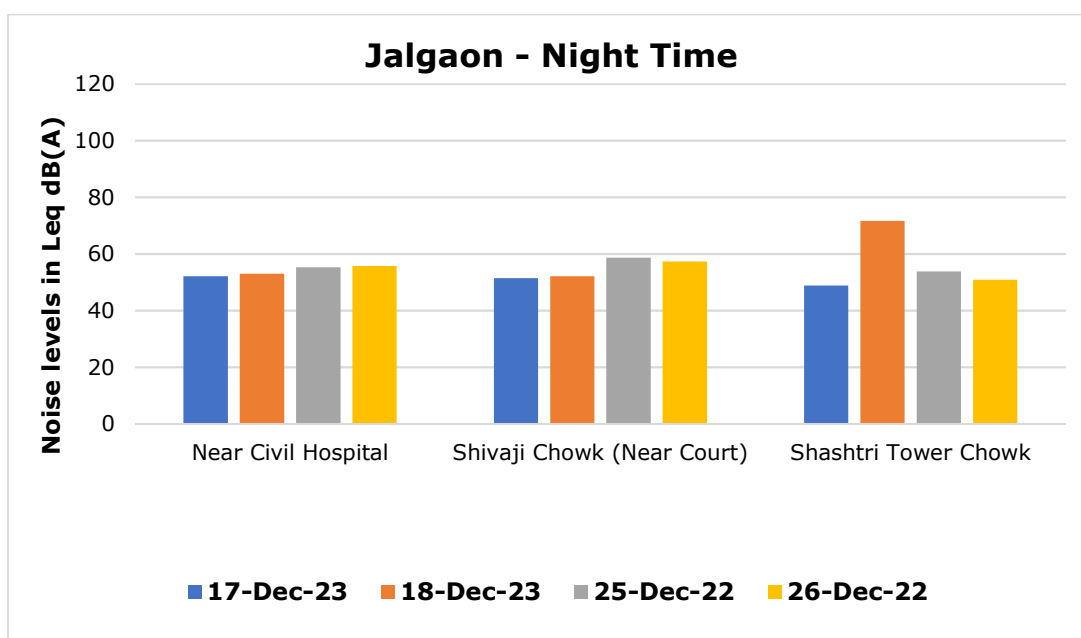
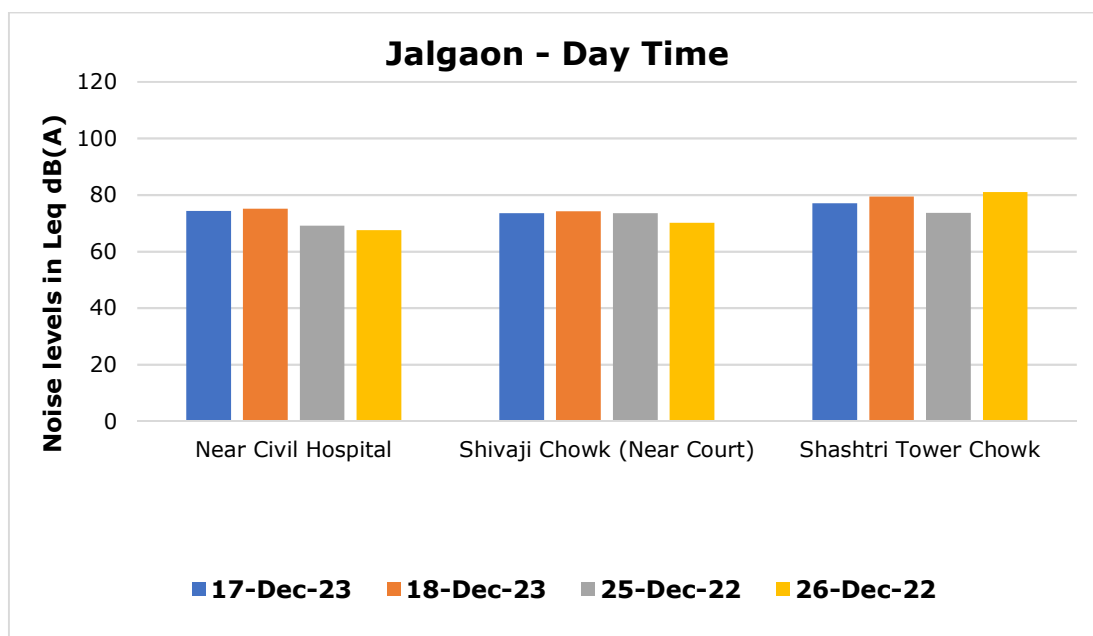
Distinctive noise fluctuations were observed in Amravati on December 17 and 18, 2023. Budhwara displayed a remarkable 8.5% daytime increase and a significant 36.0% nighttime increase. On December 18, 2023, Budhwara's nighttime increase reached 37.9%. These trends underscore diverse noise patterns in Amravati.



**Chart 7.9: Comparison of Noise Levels for the years 2023 and 2022 in Amravati**

### 7.10 Jalgaon

Jalgaon displayed varied noise trends on December 17 and 18, 2023. Near Civil Hospital had a significant 7.6% daytime increase but a notable 5.9% nighttime decrease. Shivaji Chowk showed a minimal 0.1% daytime increase but a substantial 12.3% nighttime decrease. Shashtri Tower Chowk exhibited a 4.6% daytime increase but a notable 9.3% nighttime decrease.



**Chart 7.10: Comparison of Noise Levels for the years 2023 and 2022 in Jalgaon**

## 7.11 Kolhapur

Kolhapur showcased relatively stable noise levels on December 17 and 18, 2023. Rajarampuri Chowk had a marginal 4.2% daytime decrease and a nighttime increase of 1.6%. Gokhale College exhibited a negligible 0.2% daytime decrease and a moderate 4.2% nighttime decrease. The data indicates consistent noise levels with minor variations in Kolhapur.

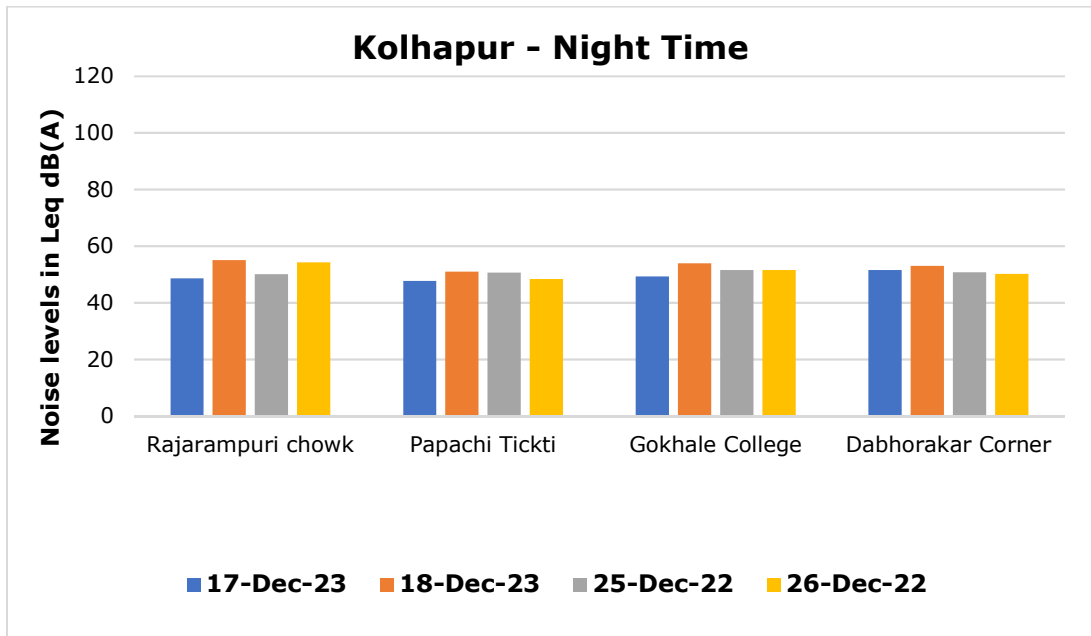
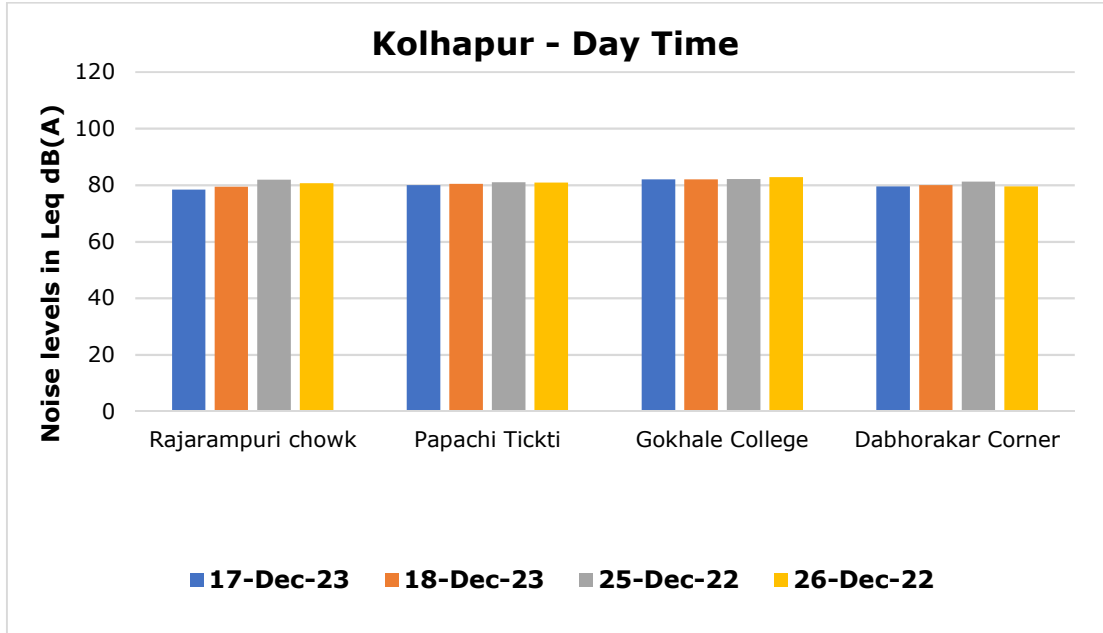


Chart 7.11: Comparison of Noise Levels for the years 2023 and 2022 in Kolhapur

## 7.12 Sangli

On December 17, 2023, Sangli displayed mixed noise level changes. While Rajwada Chowk experienced a slight 1.3% increase during the day, Miraj Market saw a notable 3.6% decrease in nighttime noise. Bhakti Vedant Hospital in Mira-Bhayander witnessed a substantial 12.2% decrease in nighttime noise on December 18. The varied patterns indicate diverse noise dynamics in Sangli.

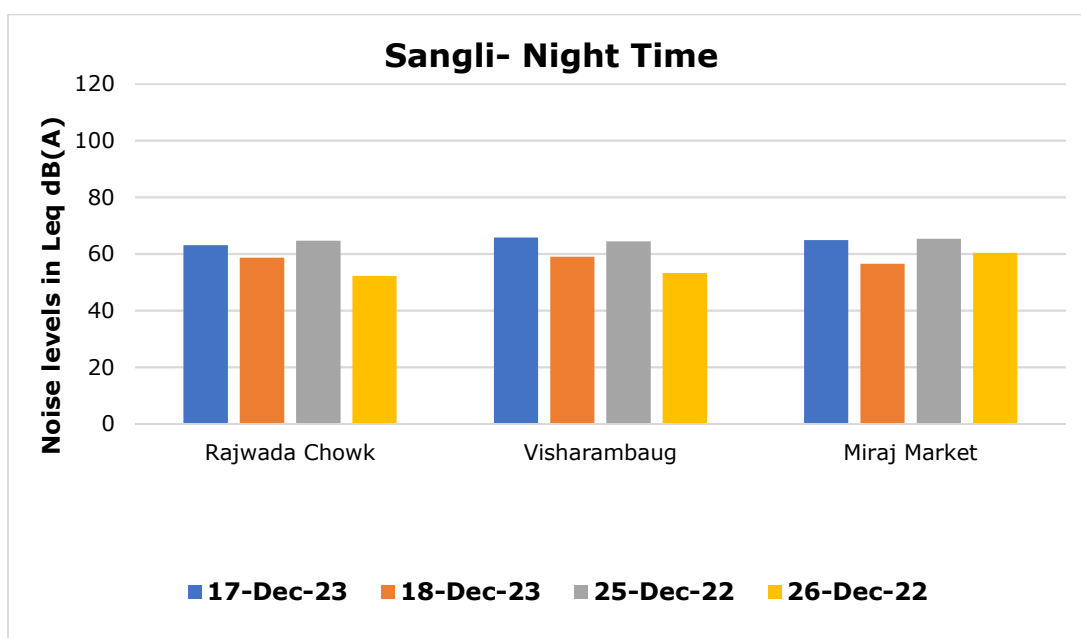
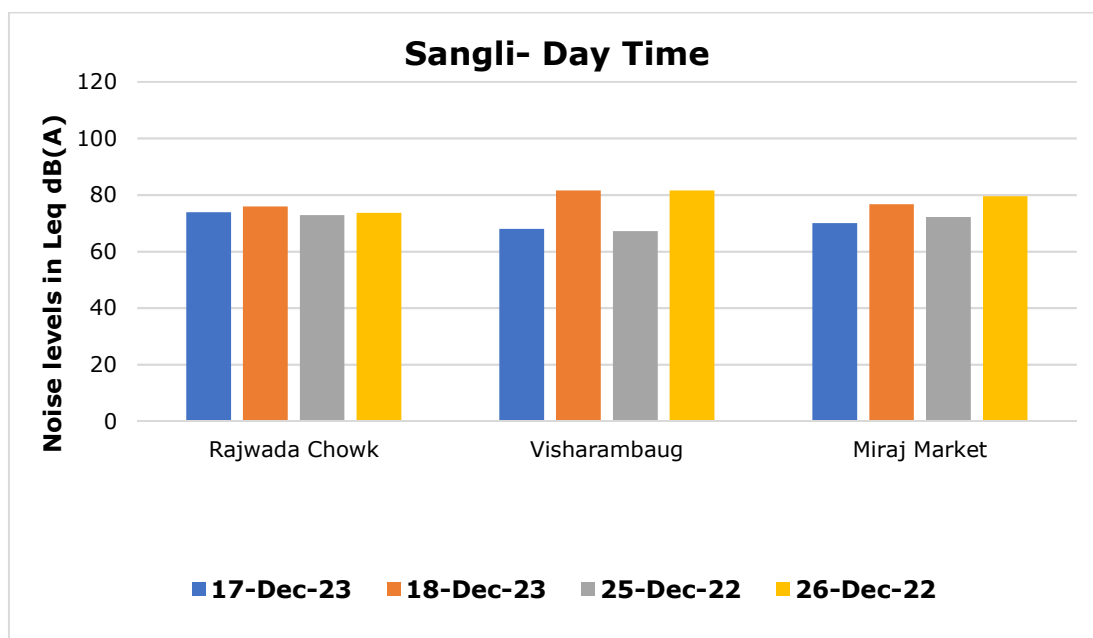
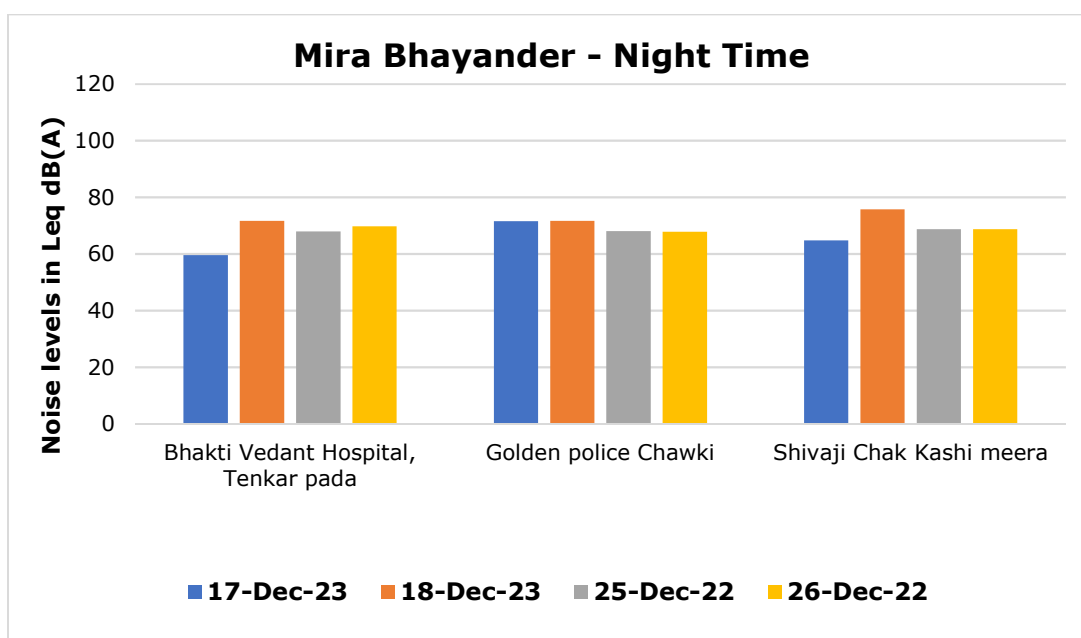
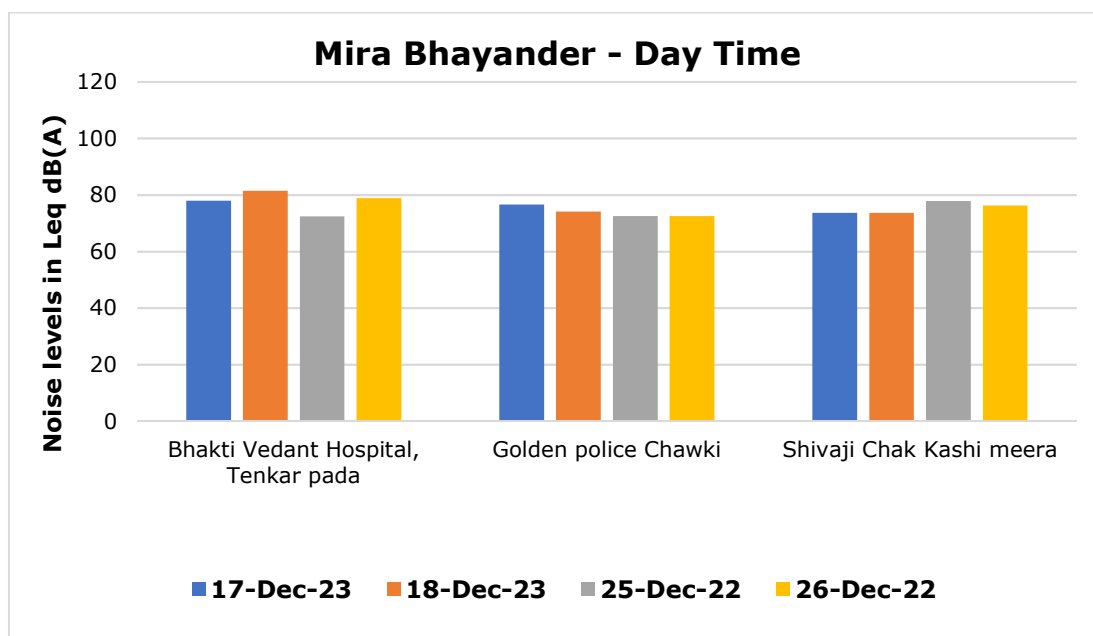


Chart 7.12: Comparison of Noise Levels for the years 2023 and 2022 in Sangli

### 7.13 Mira-Bhayander

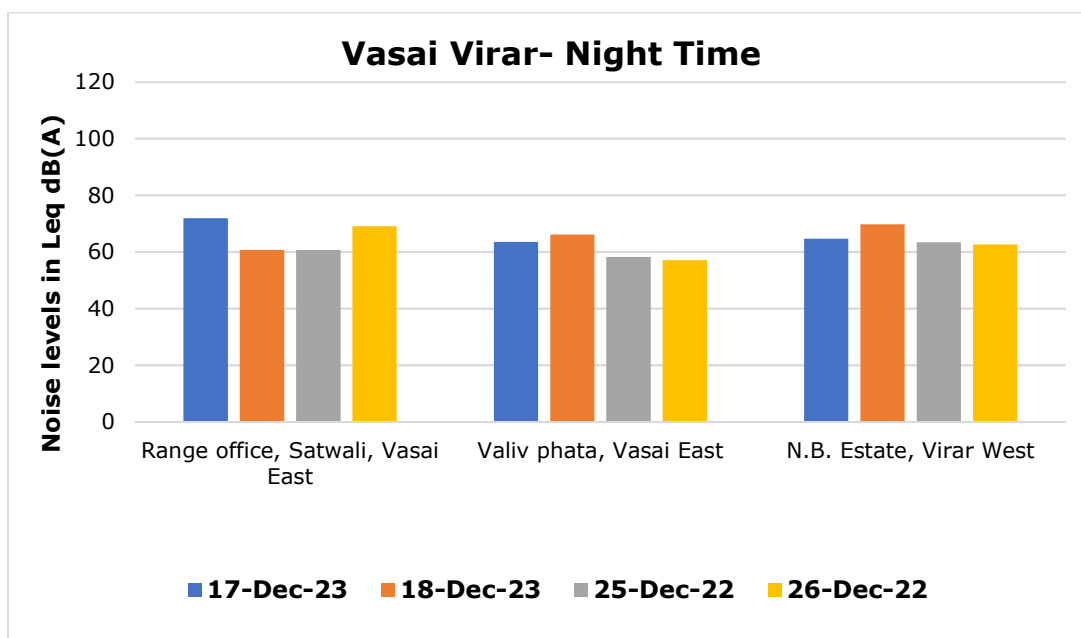
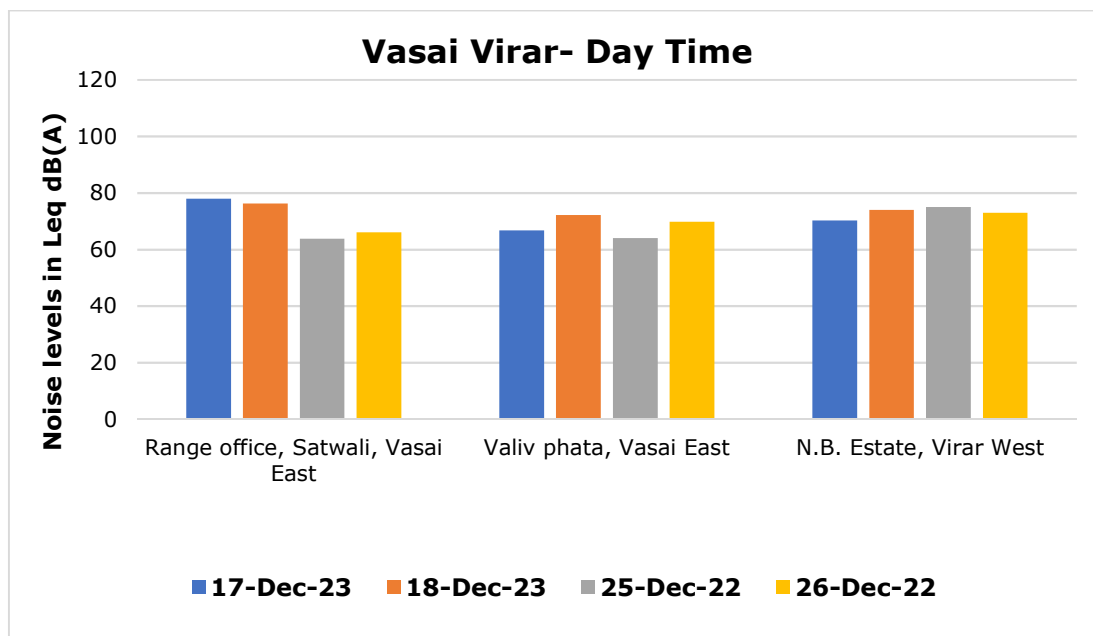
The noise dynamics in Mira-Bhayander on December 17, 2023, were diverse. Bhakti Vedant Hospital exhibited a significant 7.7% increase in daytime noise, contrasting with Golden Police Chowki, which had a 12.2% decrease at night. On December 18, Shivaji Chak Kashi Meera showed a substantial 5.4% decrease in daytime noise. These variations suggest distinct noise level shifts across different locations in Mira-Bhayander.



**Chart 7.13: Comparison of Noise Levels for the years 2023 and 2022 in Mira-Bhayander**

### 7.14 Vasai-Virar

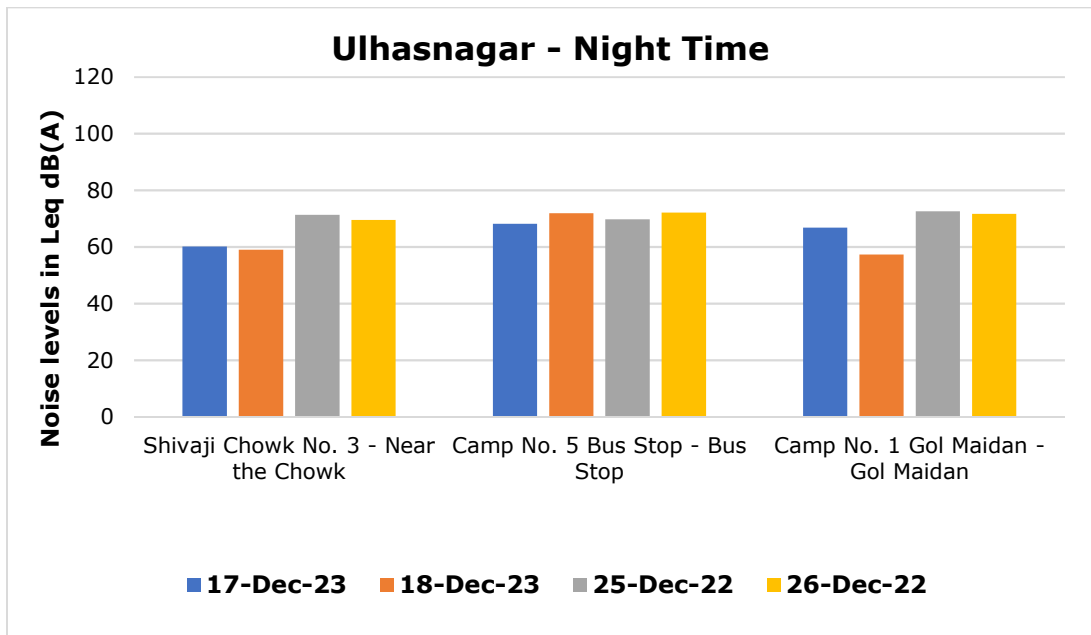
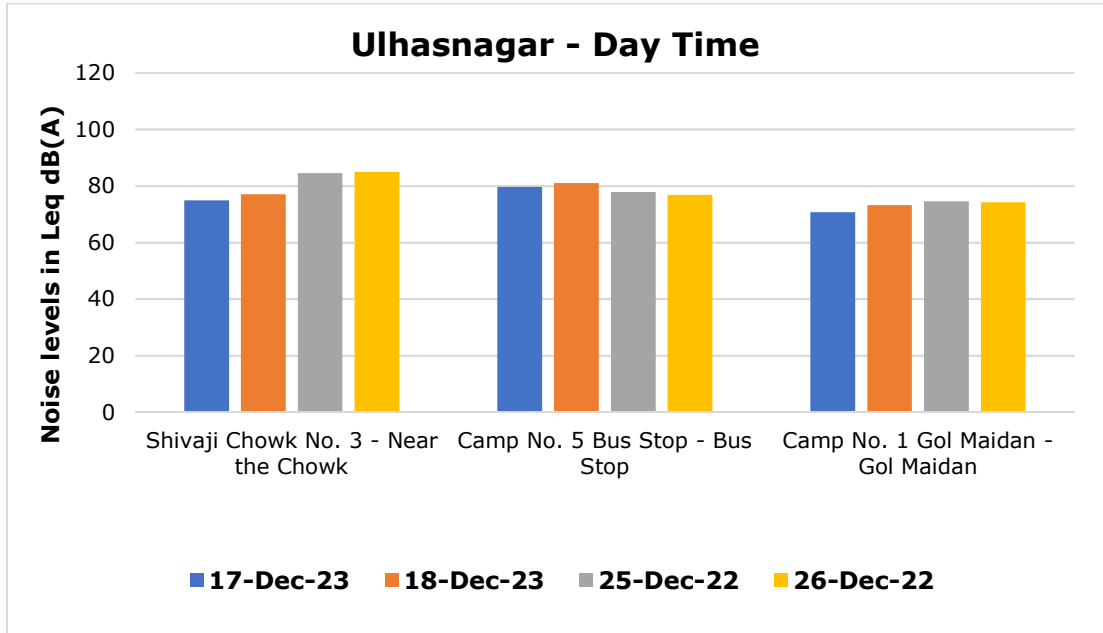
Vasai-Virar witnessed varied noise level changes on December 17, 2023. Range office, Satwali, Vasai East, had a substantial 22.2% increase in daytime noise, while N.B. Estate, Virar West, experienced a 6.3% decrease. On December 18, Valiv Phata, Vasai East, showed a notable 15.7% increase in nighttime noise. These diverse patterns indicate significant fluctuations in noise levels across Vasai-Virar.



**Chart 7.14: Comparison of Noise Levels for the years 2023 and 2022 in Vasai-Virar**

### 7.15 Ulhasnagar

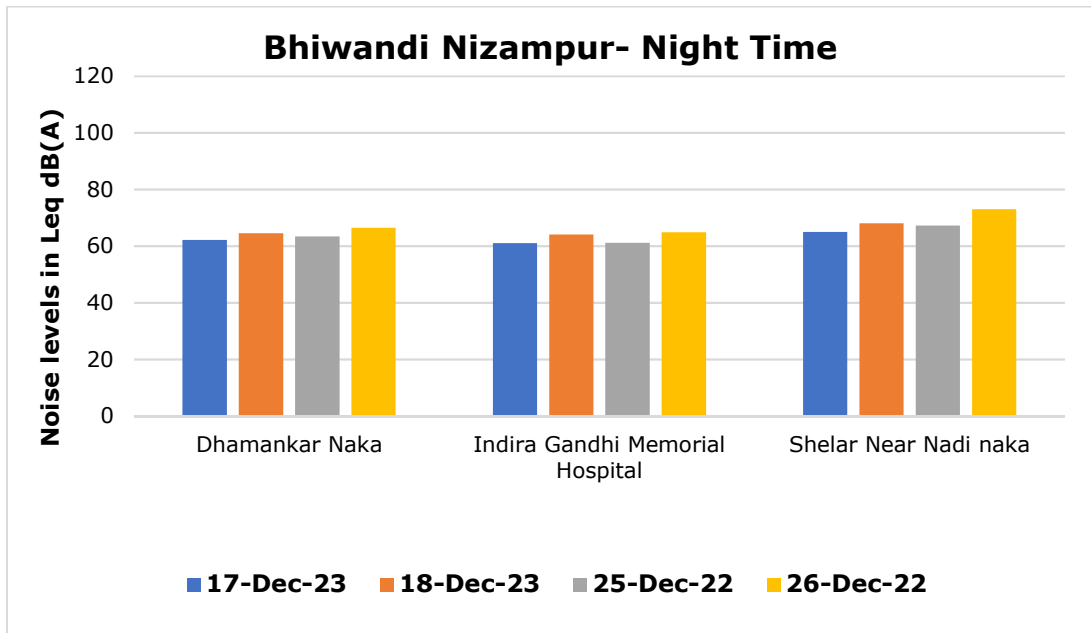
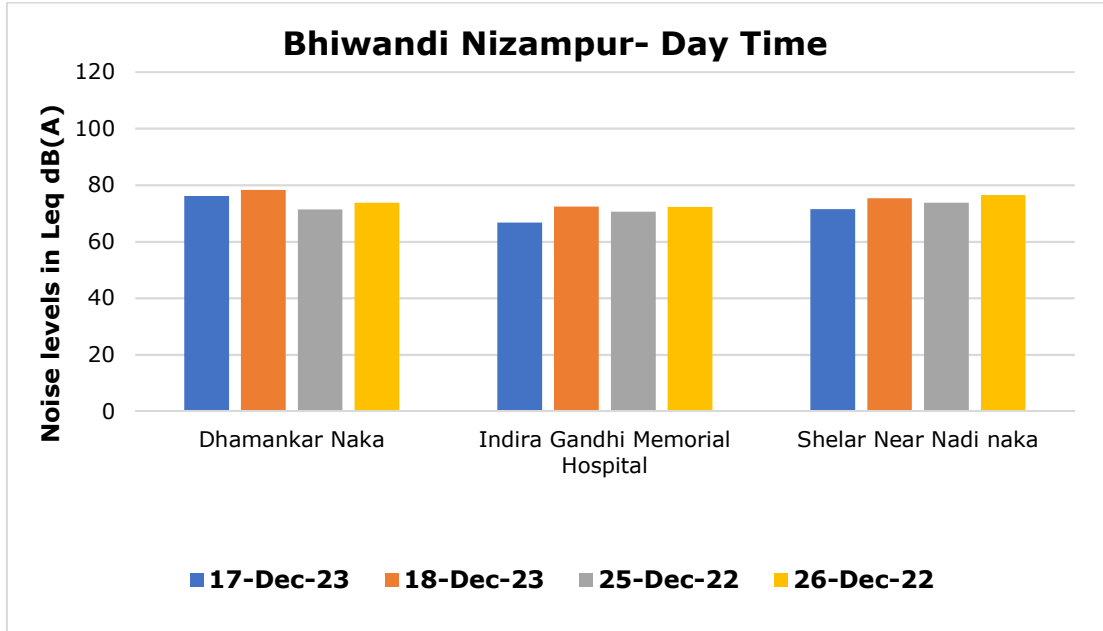
Ulhasnagar displayed diverse noise dynamics on December 17, 2023. Shivaji Chowk No. 3 witnessed a substantial 11.4% decrease in daytime noise, while Camp No. 1 Gol Maidan had a notable 20.0% decrease at night. Camp No. 5 Bus Stop showed a 2.4% increase during the day. These variations suggest significant shifts in noise levels across different locations in Ulhasnagar.



**Chart 7.15: Comparison of Noise Levels for the years 2023 and 2022 in Ulhasnagar**

## 7.16 Bhiwandi

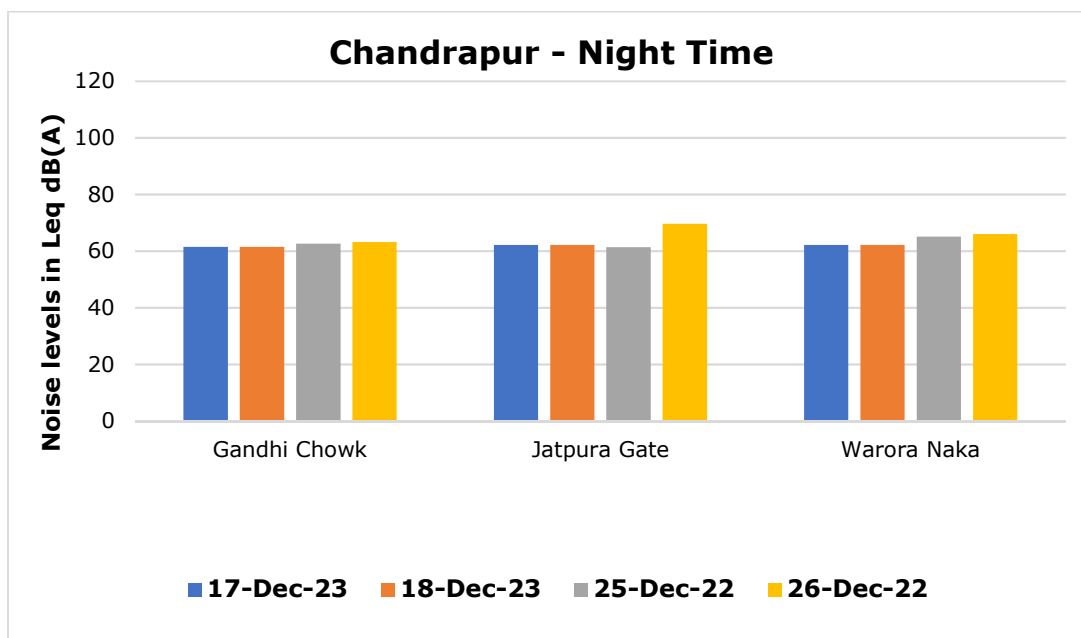
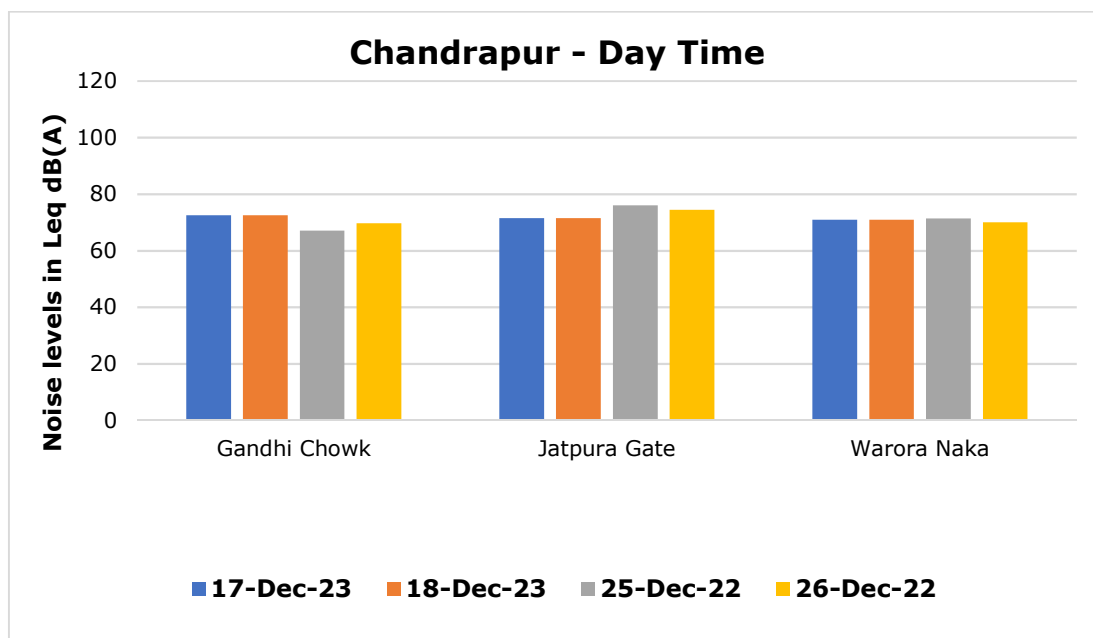
On December 17, 2023, Bhiwandi witnessed varied noise dynamics. Dhamankar Naka experienced a significant 6.7% increase in daytime noise, while Indira Gandhi Memorial Hospital showed a notable 5.4% decrease during the day. On December 18, Dhamankar Naka exhibited a 6.2% increase in daytime noise, indicating fluctuating noise patterns in Bhiwandi.



**Chart 7.16: Comparison of Noise Levels for the years 2023 and 2022 in Bhiwandi-Nizampur**

### 7.17 Chandrapur

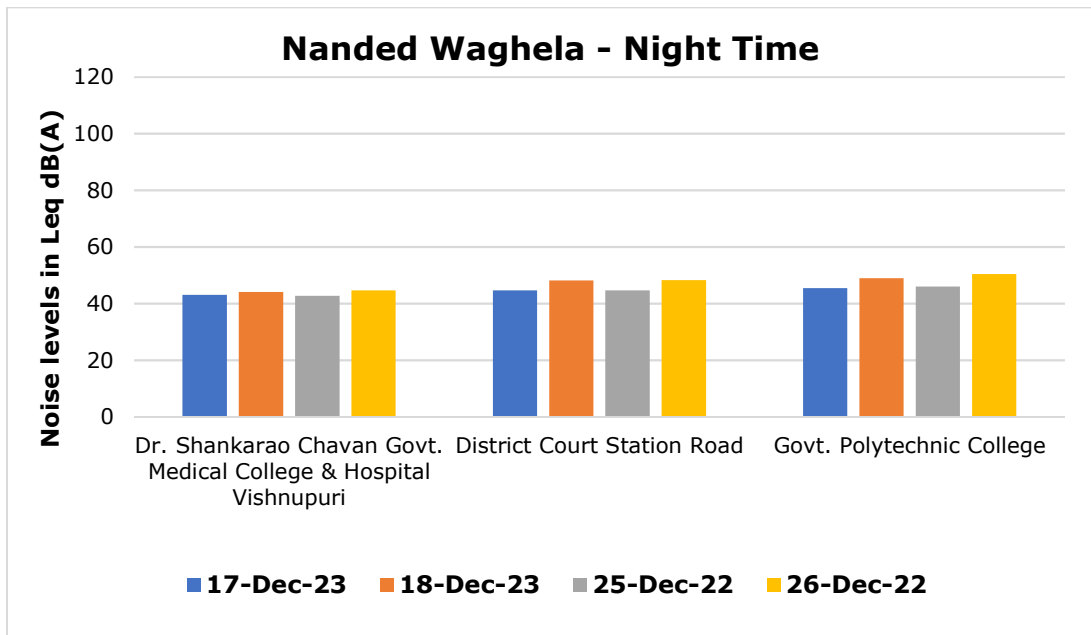
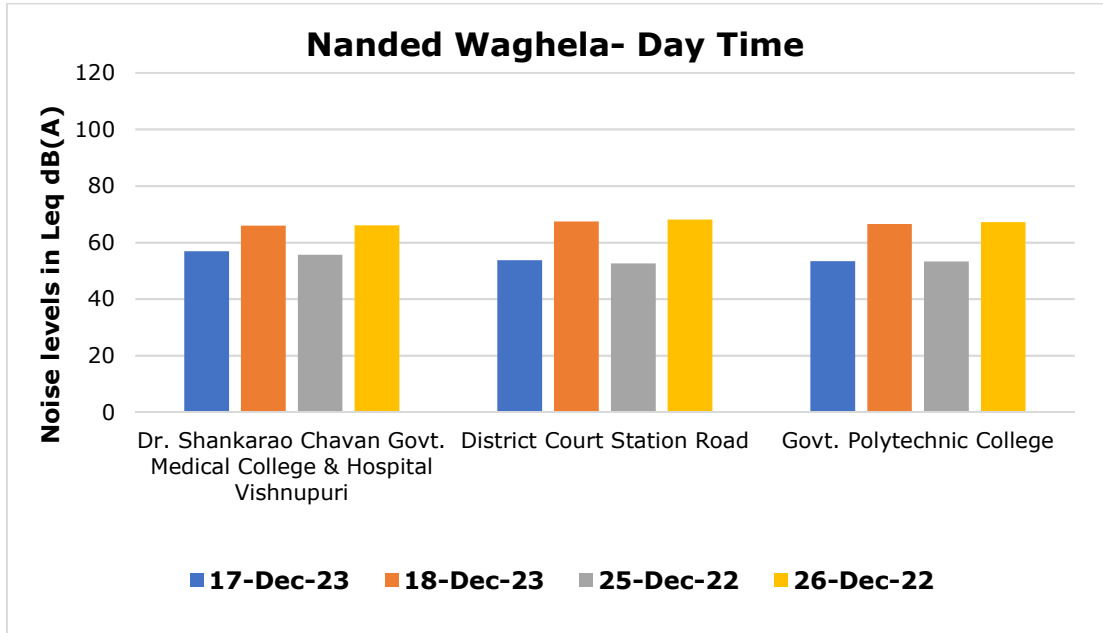
Chandrapur displayed diverse noise trends on December 17, 2023. While Gandhi Chowk witnessed an 8.2% increase in daytime noise, Jatpura Gate had a substantial 5.9% decrease during the day. On December 18, Warora Naka showed a 1.4% increase in daytime noise, suggesting varying noise levels across different locations in Chandrapur.



**Chart 7.17: Comparison of Noise Levels for the years 2023 and 2022 in Chandrapur**

### 7.18 Nanded-Waghela

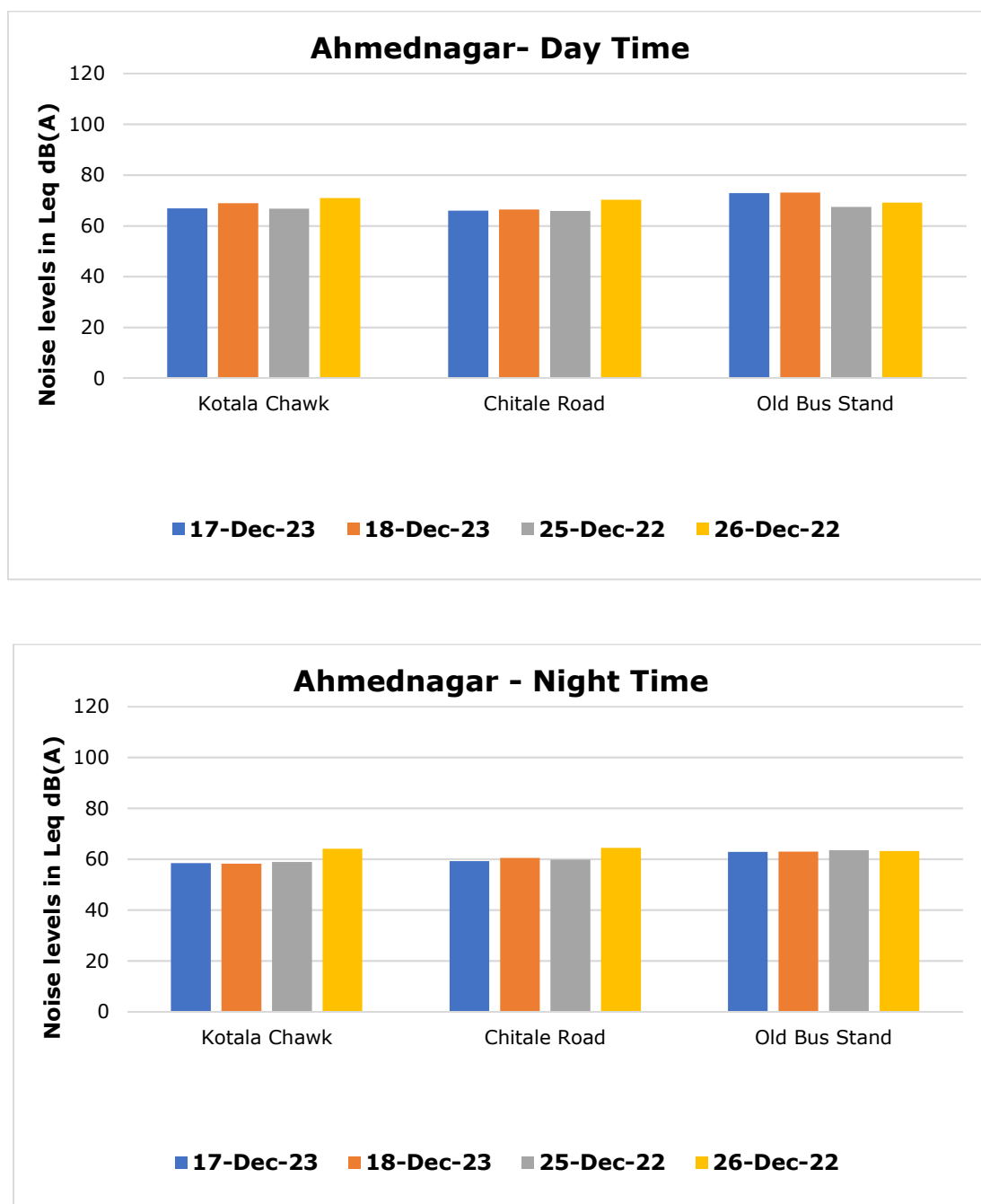
Nanded-Waghela demonstrated nuanced noise dynamics on December 17, 2023. Dr. Shankarao Chavan GMCH Vishnupuri experienced a 2.1% increase in daytime noise, while Govt. Polytechnic College showed a marginal 0.1% change during the day. On December 18, Vishnupuri displayed a slight decrease (-0.3%) in nighttime noise, highlighting diverse noise patterns in Nanded-Waghela.



**Chart 7.18: Comparison of Noise Levels for the years 2023 and 2022 in Nanded-Waghela**

### 7.19 Ahmednagar

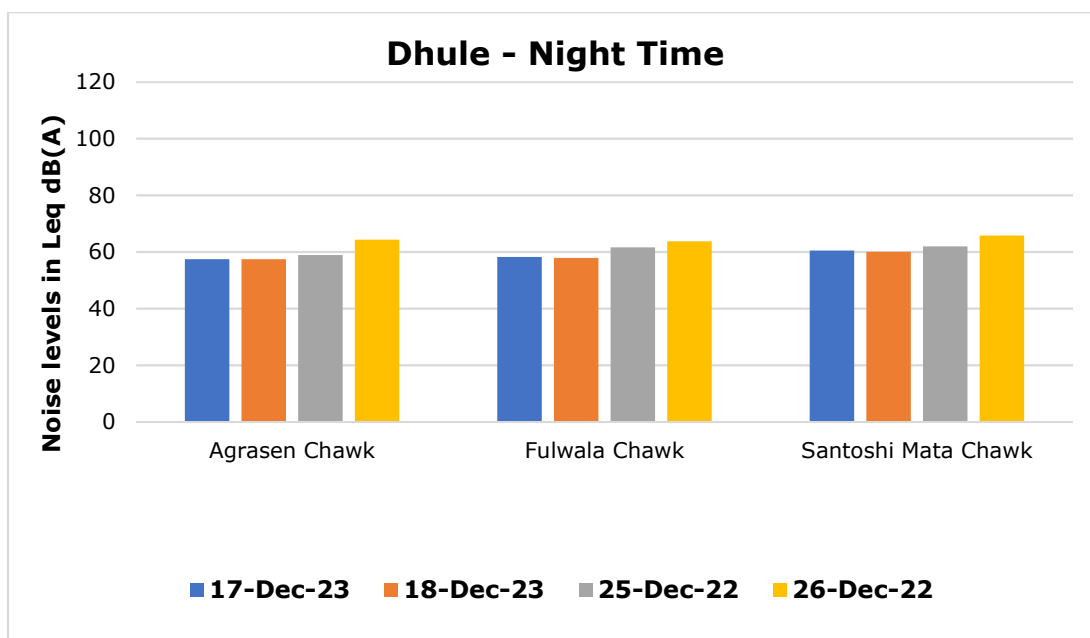
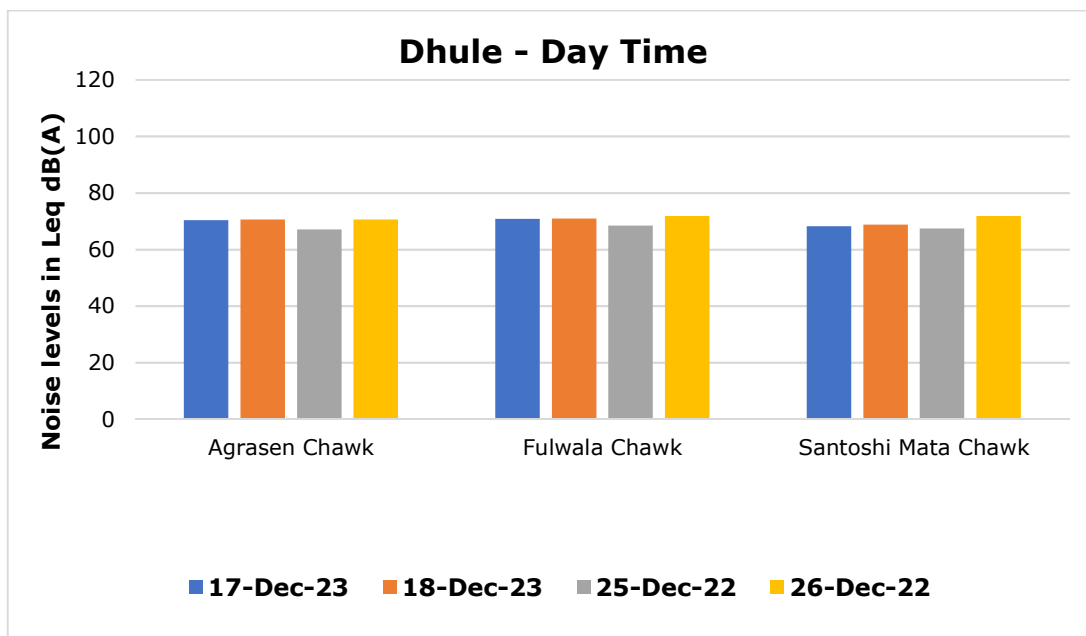
Ahmednagar exhibited diverse noise trends on December 17, 2023. Kotala Chawk and Chitale Road showed minimal changes in daytime noise, while Old Bus Stand experienced a notable 8.2% increase during the day in comparison to the last year noise levels. On December 18, Kotala Chawk and Old Bus Stand displayed a decrease in nighttime noise, emphasizing the varied noise levels across different locations in Ahmednagar.



**Chart 7.19: Comparison of Noise Levels for the years 2023 and 2022 in Ahmednagar**

## 7.20 Dhule

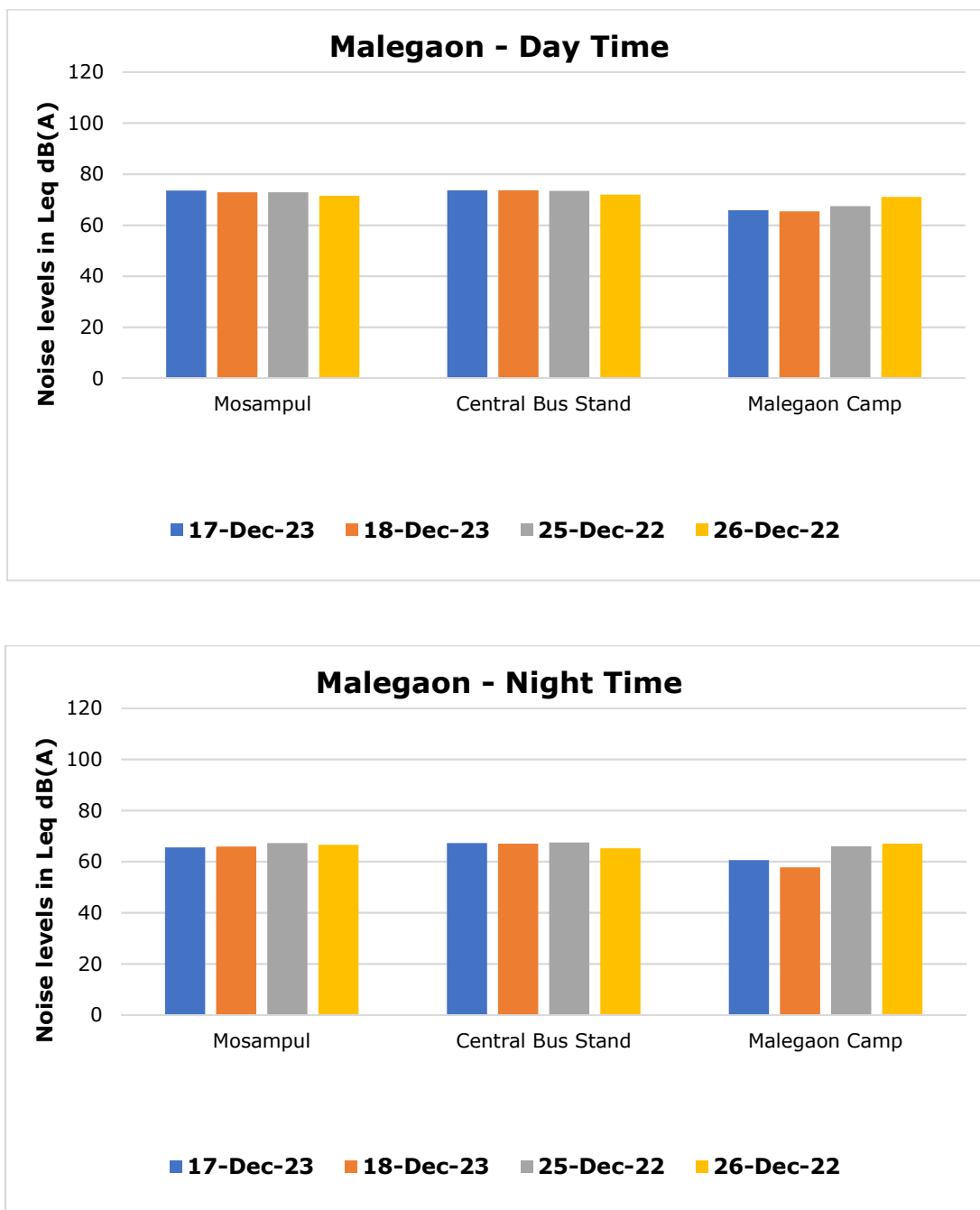
On December 17, 2023, Dhule displayed diverse noise dynamics. Agrasen Chawk showed a 4.9% increase in daytime noise, while Fulwala Chawk experienced a 5.5% decrease during the day. On December 18, Santoshi Mata Chawk exhibited a notable 4.2% decrease in daytime noise in comparison to the last year noise levels, indicating varied noise levels in Dhule.



**Chart 7.20: Comparison of Noise Levels for the years 2023 and 2022 in Dhule**

## 7.21 Malegaon

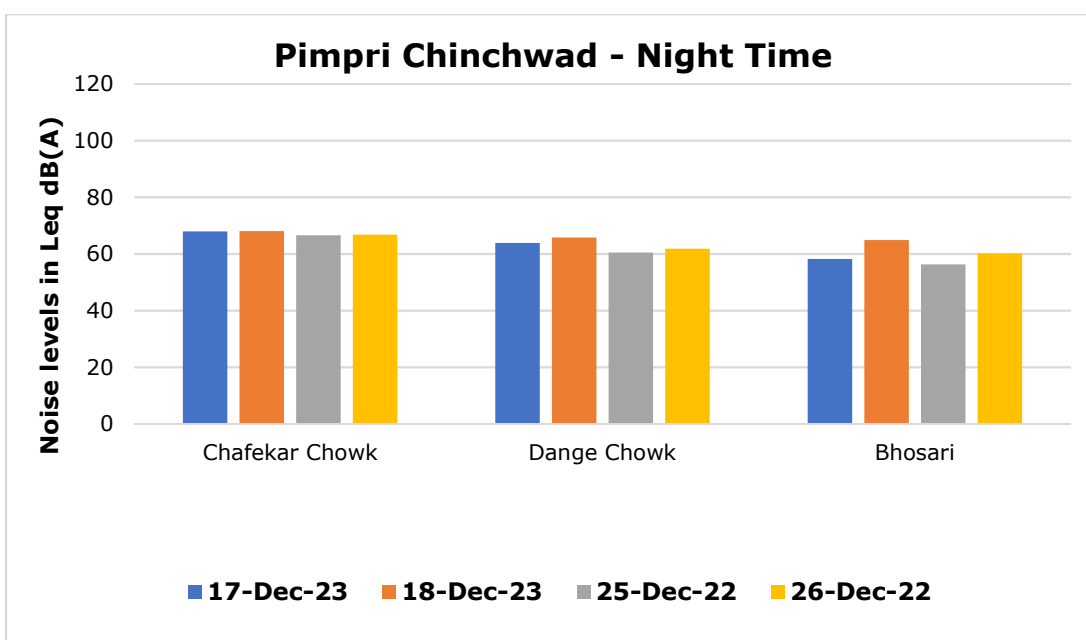
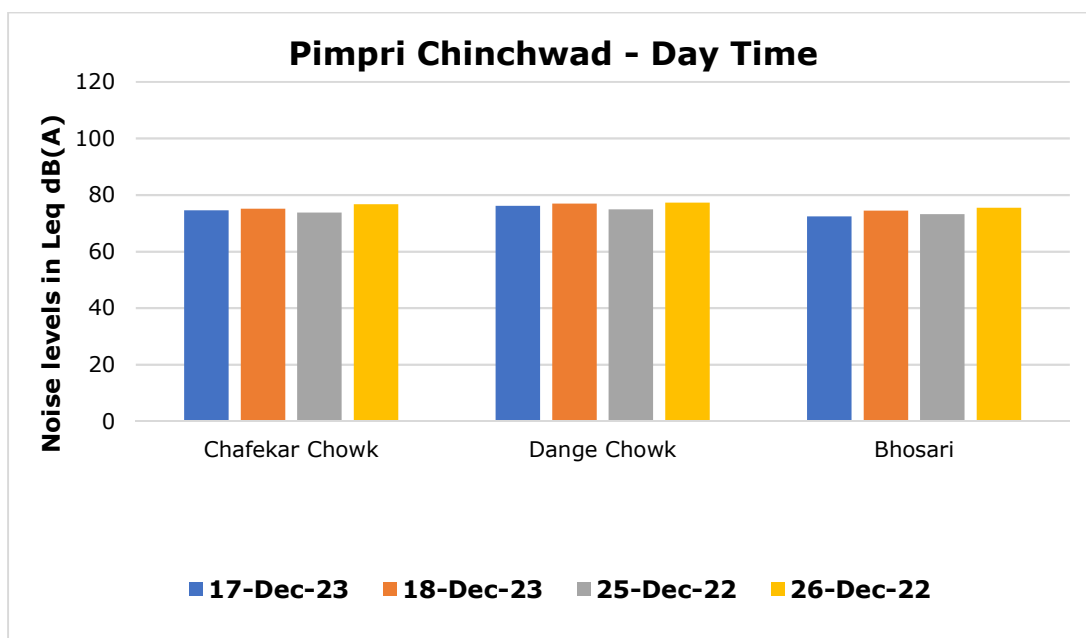
Malegaon demonstrated nuanced noise dynamics on December 17, 2023 in comparison the last year's noise levels. Mosampul and Central Bus Stand experienced marginal changes in daytime noise, while Malegaon Camp showed an 8.3% decrease during the day. On December 18, Mosampul displayed a 1.9% increase in nighttime noise, highlighting varied noise patterns in Malegaon.



**Chart 7.21: Comparison of Noise Levels for the years 2023 and 2022 in Malegaon**

## 7.22 Pimpri-Chinchwad

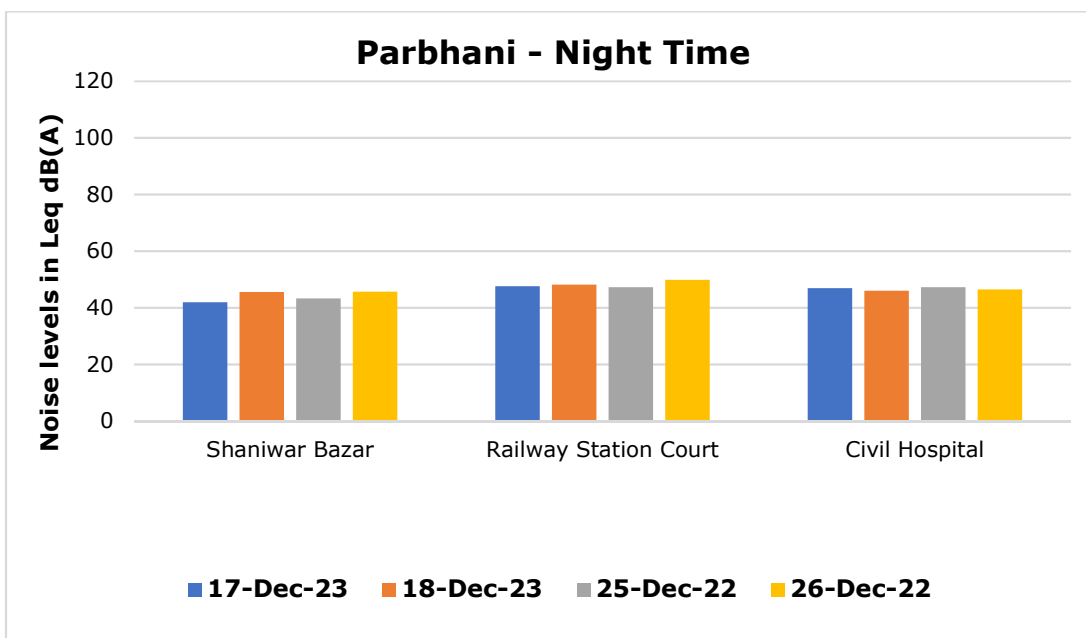
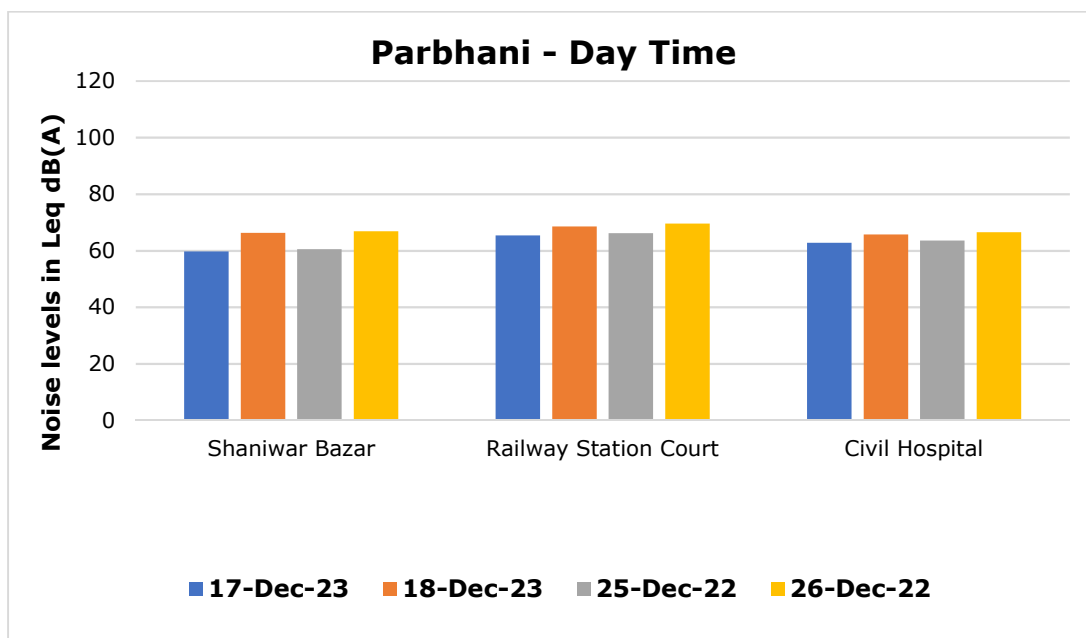
Pimpri-Chinchwad exhibited diverse noise trends on December 17, 2023. Chafekar Chowk and Dange Chowk showed marginal changes in daytime noise, while Bhosari had a 3.3% increase during the day in comparison the last year's noise levels. On December 18, Bhosari exhibited a 1.8% increase in nighttime noise, emphasizing varied noise levels across different locations in Pimpri-Chinchwad.



**Chart 7.22: Comparison of Noise Levels for the years 2023 and 2022 in Pimpri-Chinchwad**

### 7.23 Parbhani

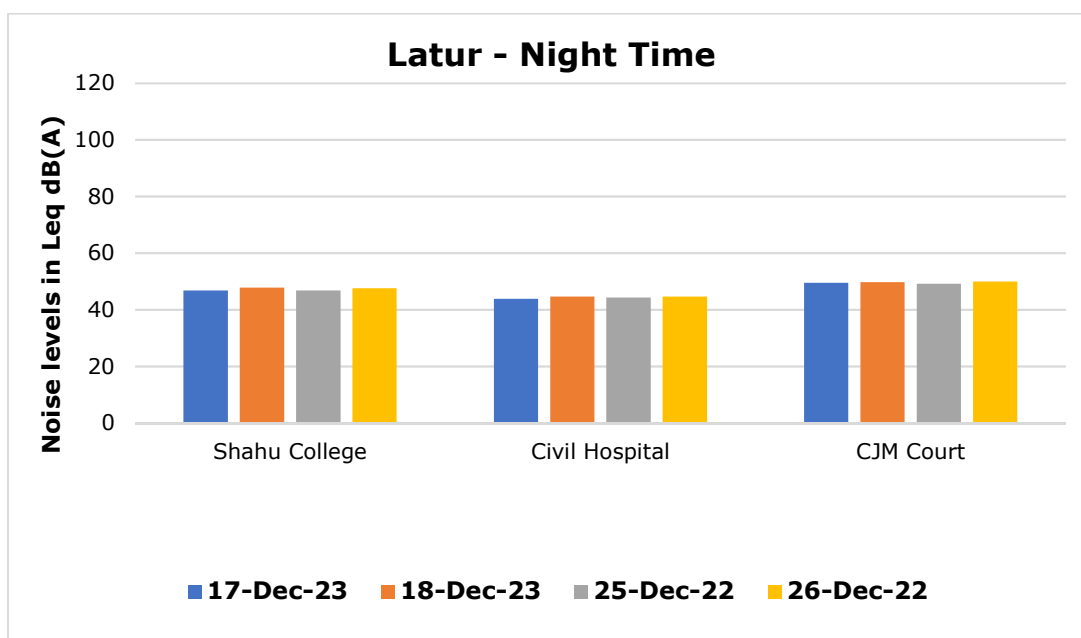
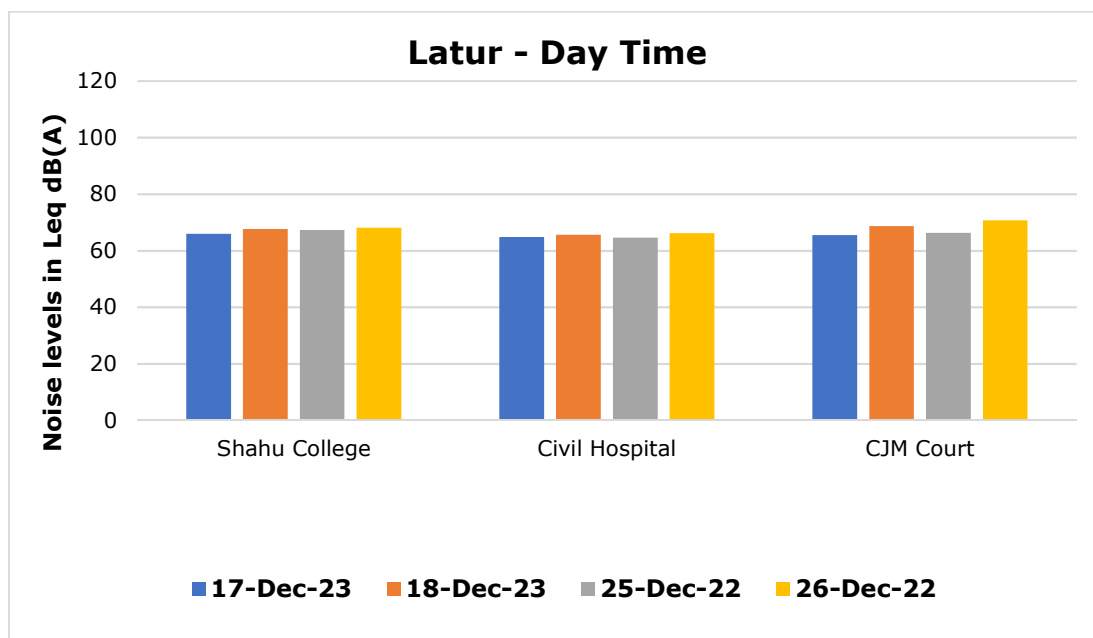
In Parbhani, Shaniwar Bazar experienced a 1.3% decrease in daytime noise, while Railway Station Court showed a marginal 0.8% increase in comparison the last year's noise levels . On December 18, Civil Hospital displayed a slight decrease (0.9%) in nighttime noise, indicating nuanced noise patterns in Parbhani.



**Chart 7.23: Comparison of Noise Levels for the years 2023 and 2022 in Parbhani**

## 7.24 Latur

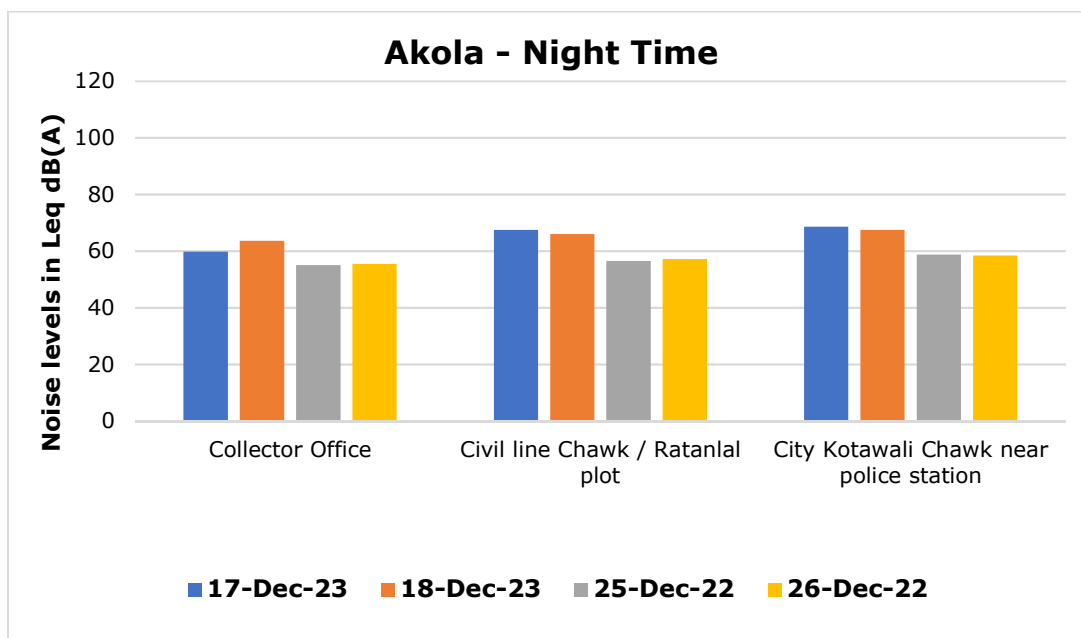
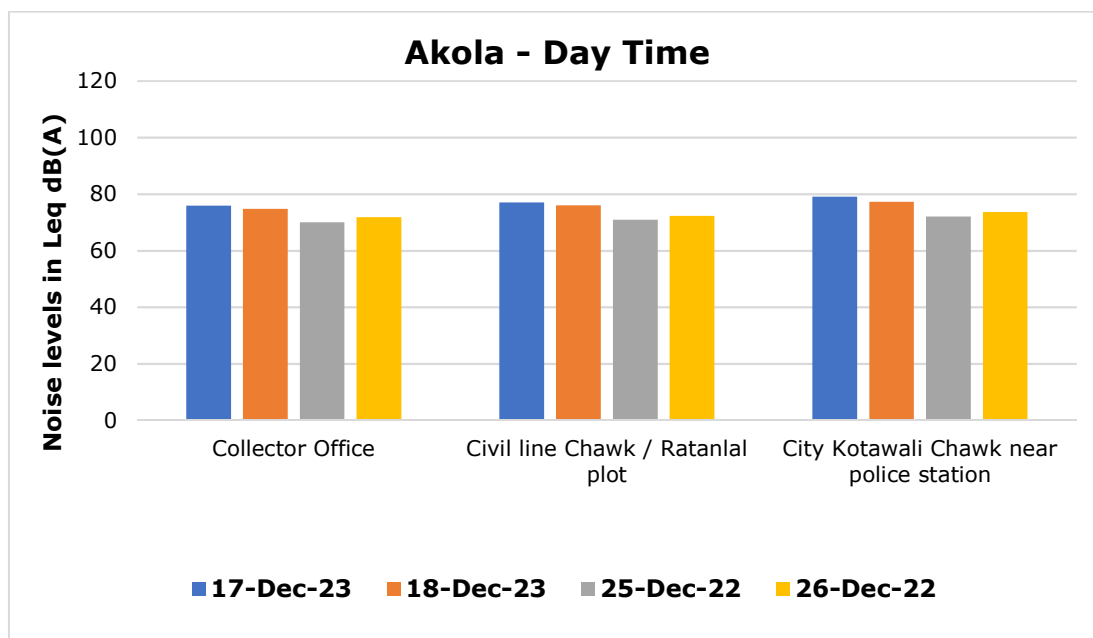
In Latur, Shahu College and Civil Hospital showed marginal changes in daytime noise, while CJM Court had a slight 0.7% increase during the day. On December 18, Shahu College displayed a negligible decrease (0.6%) in nighttime noise, highlighting stable noise levels in Latur.



**Chart 7.24: Comparison of Noise Levels for the years 2023 and 2022 in Latur**

### 7.25 Akola

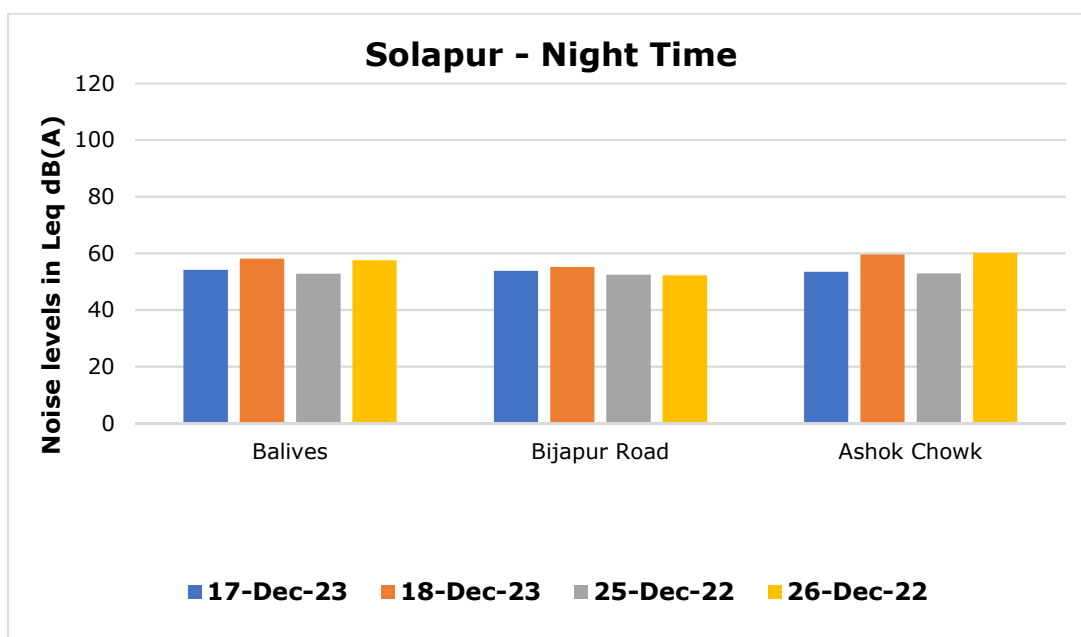
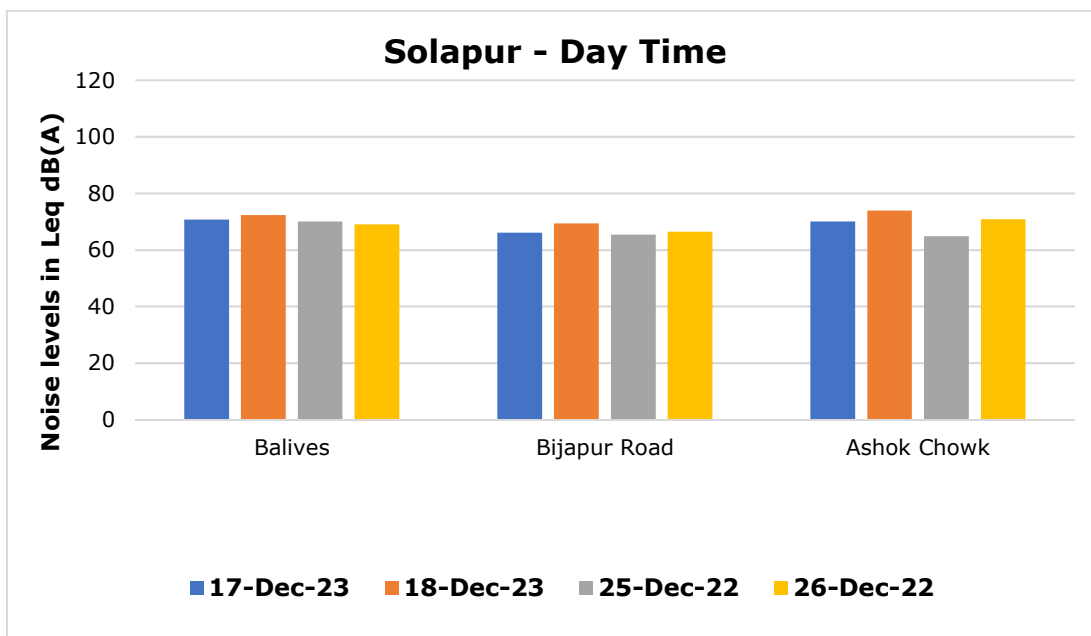
In Akola, Collector Office and Civil line Chawk showed substantial 8.4% and 8.6% increases, respectively, in daytime noise. On December 18, City Kotawali Chawk near the police station exhibited a 5.3% decrease in daytime noise, indicating diverse noise patterns in Akola.



**Chart 7.25: Comparison of Noise Levels for the years 2023 and 2022 in Akola**

## 7.26 Solapur

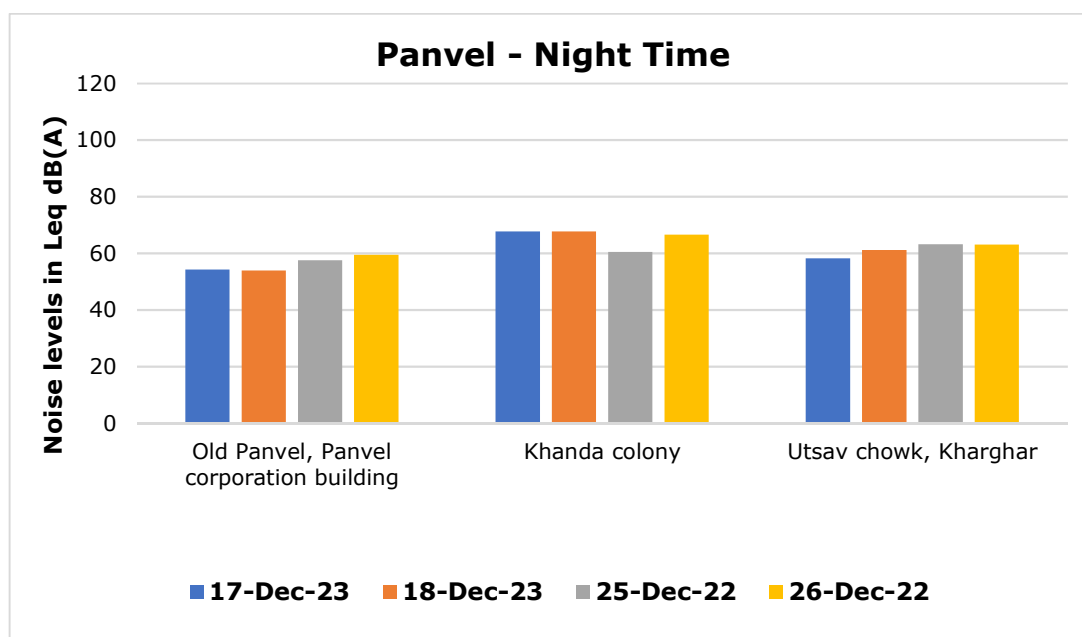
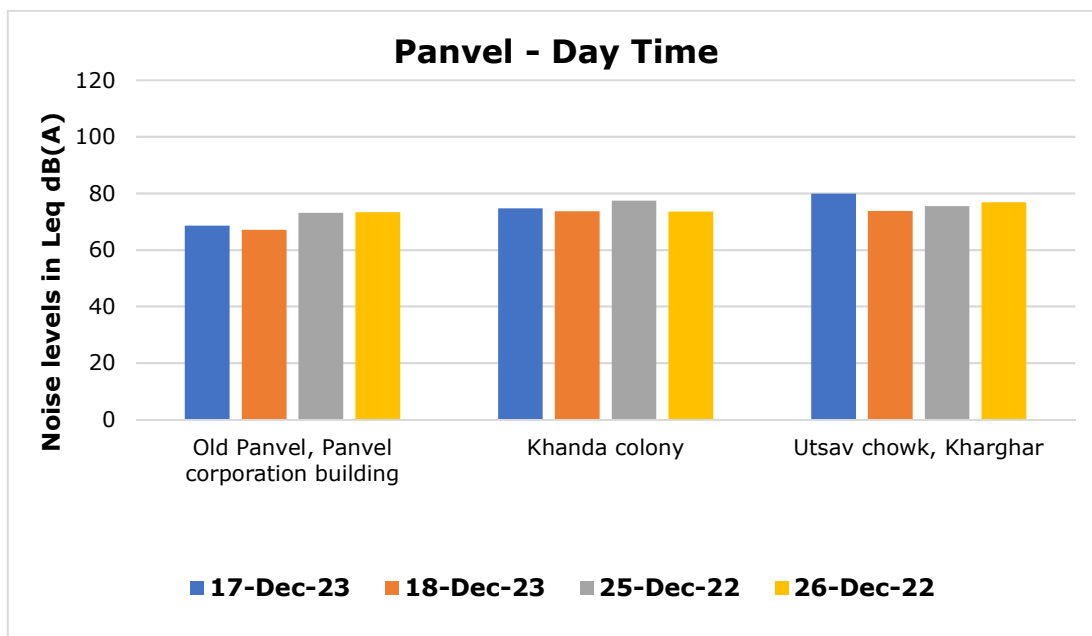
Balives and Bijapur Road in Solapur experienced marginal changes in daytime noise, while Ashok Chowk had an 8.1% increase during the day. On December 18, Ashok Chowk displayed a 4.4% decrease in daytime noise, indicating nuanced noise patterns in Solapur.



**Chart 7.26: Comparison of Noise Levels for the years 2023 and 2022 in Solapur**

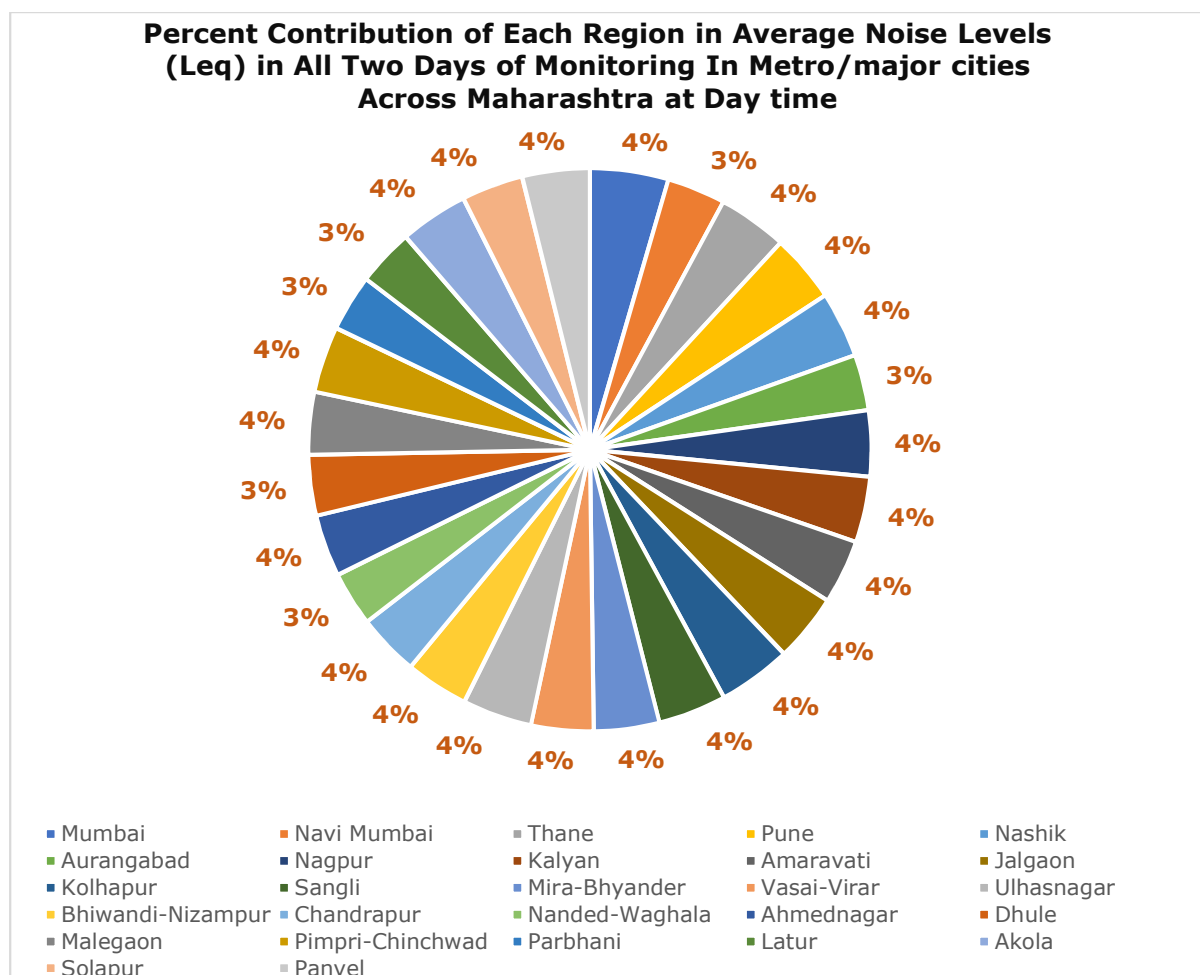
### 7.27 Panvel

In Panvel on December 17, 2023, Old Panvel and Khanda colony exhibited substantial -6.3% and -3.5% decreases, respectively, in daytime noise. On December 18, Utsav chowk, Kharghar, showed a 4.0% decrease in daytime noise, indicating varied noise levels in Panvel.

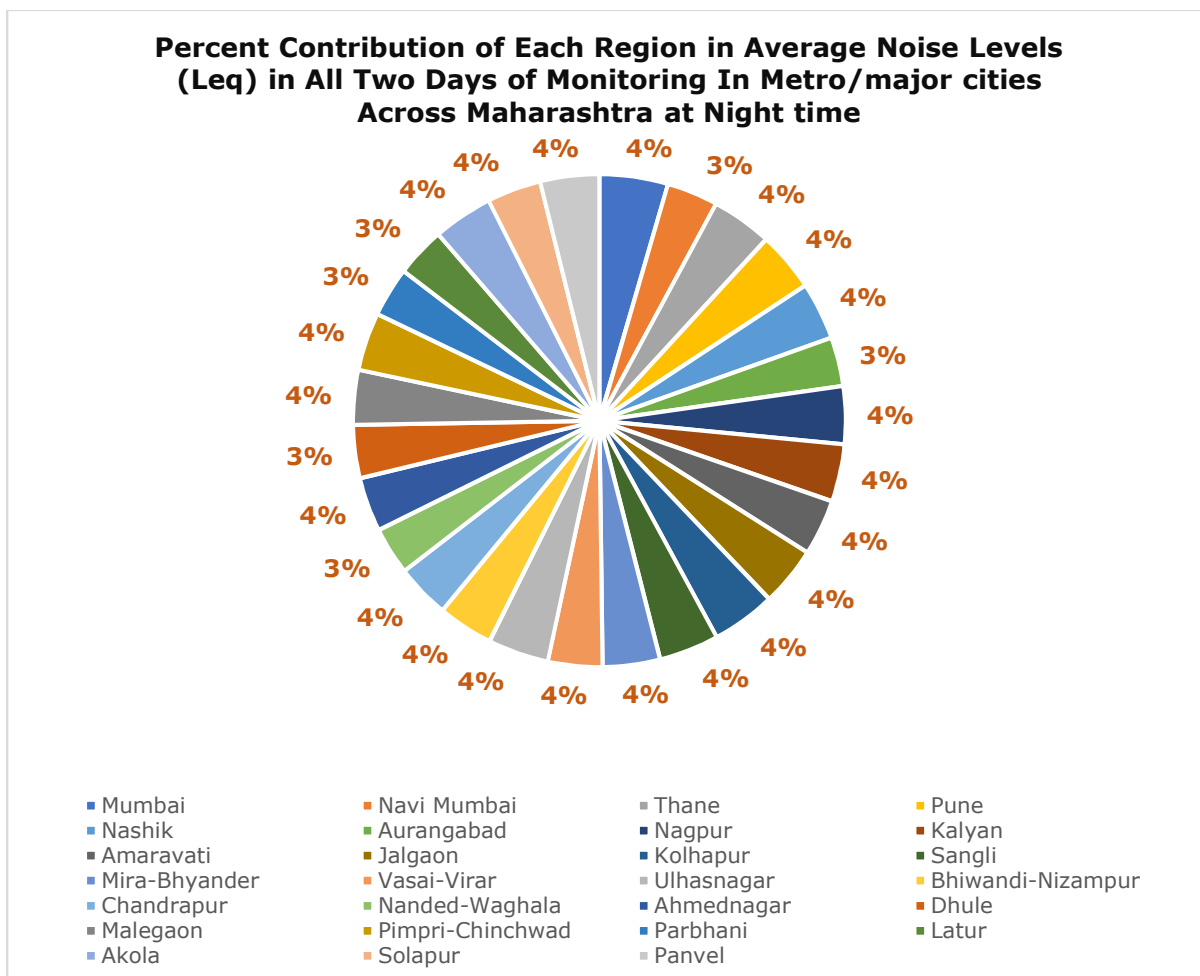


**Chart 7.27: Comparison of Noise Levels for the years 2023 and 2022 in Panvel**

Additionally, the percentage contribution signifies the ratio of each region's noise level to the total noise level, highlighting the relative influence of noise from individual locations within the broader noise environment of the entire region. The pie charts below visually represent the percentage contribution of each region, offering insights into the distribution of noise pollution across various locations within the specified region during day as well as night time.



**Chart 7.28: Percent Contribution of each Region in Average Noise Levels (Leq) in All Two Days of Monitoring in metro/major Cities Across Maharashtra during Day Time**



**Chart 7.29: Percent Contribution of each Region in Average Noise Levels (Leq) in All Two Days of Monitoring in metro/major Cities Across Maharashtra during Night Time**

## 8 CONCLUSION

The annual noise monitoring study conducted by the Maharashtra Pollution Control Board (MPCB) in major cities of the state aimed to evaluate noise intensity. The study involved continuous monitoring at 104 locations over a 24-hour period, encompassing both day time (from 06:00 am to 10:00 pm) and night time (from 10:00 pm to 06:00 am) in 27 Municipal Corporations across Maharashtra. The monitoring spanned two days, covering both a non-working day (Sunday, December 17) and a working day (Monday, December 18).

Results from the study revealed that the average noise levels during both day and night exceeded the permissible limits in certain zones (Industrial, Commercial, Residential, or Silence) at some locations. However, these levels were lower than those recorded in the previous year (2022) in most of the studied areas. The primary contributors to noise pollution in urban areas were identified as large public gatherings, persistent honking, and increased vehicular activity.

The results showed that in Mumbai, the Hindu Colony in Dadar stands out as the noisiest location, with an alarming maximum Leq of 83.3 dB(A) during the day and 82.9 dB(A) at night, underscoring the persistent high noise levels in this area. Navi Mumbai, Mahape Shil Road witnesses elevated noise levels during the daytime, reaching a maximum Leq of 72.3 dB(A). In Thane, the Main Road-Gaondevi Mandir experiences a substantial noise surge, with a maximum Leq of 81.5 dB(A) during the day. In Pune, Nucleus Mall records a maximum Leq of 76.0 dB(A) during the day, while in Nashik, Dwarka Circle hits 74.7 dB(A) during the day. cities like Jalgaon, Kolhapur, Sangli, and Solapur, certain locations exhibit higher noise levels compared to others. In Jalgaon, Shashtri Tower Chowk records the highest Leq of 79.5 dB(A) during the day.

The dataset highlights significant variations in noise levels in specific locations such as Mira-Bhayander, Vasai-Virar, Ulhasnagar, Bhiwandi-Nizampur, and Chandrapur. Notably, Mira-Bhayander's Bhakti Vedant Hospital and Vasai-Virar's Range Office in Satwali recorded the highest daytime noise levels, reaching 81.4 dB(A) and 78.0 dB(A), respectively. Ulhasnagar's Shivaji Chowk No. 3 registered the highest daytime noise at 77.0 dB(A). Bhiwandi-Nizampur displayed fluctuations, with Dhamankar Naka reaching 78.4 dB(A). Chandrapur's Gandhi Chowk peaked at 72.6 dB(A).

In recent years, the Government of Maharashtra, MPCB (Maharashtra Pollution Control Board), and the state Traffic Police have implemented a range of methods and initiatives to address noise pollution and its adverse impact on the health of the state's residents. Extensive awareness campaigns, involving educational institutions, club coordination committees, non-profit organizations, and more, have been conducted statewide to disseminate information about the harmful effects of noise pollution and promote mitigation measures.

To mitigate noise levels near residential areas, acoustic barriers have been strategically installed on major flyovers. Additionally, the planting of diverse trees and shrubs along roadsides, near hospitals, and educational institutes aims to reduce urban sound levels. The Transport Department and Traffic Police have been actively enforcing strict measures against reckless driving, the use of pressure horns, and vehicles operating without mufflers or silencers.

On an individual level, residents are encouraged to contribute to noise pollution reduction by planting more trees, ensuring regular maintenance of vehicles and machinery, and opting for public transport to decrease the overall number of vehicles on the road. This collective effort not only helps reduce traffic congestion and noise pollution from unnecessary honking but also contributes to mitigating air pollution.

## 9 INITIATIVES TAKEN BY MPCB AND GOVERNMENT OF MAHARASHTRA TO REDUCE NOISE POLLUTION DURING DIWALI

The Maharashtra government's initiative to curb noise pollution in metro/major cities of the state in past few years includes:

- a) The government, as per Circular No. TPB 4308/4011/CR-343/08/UD-11 dated 3rd December 2008, issued guidelines to reduce noise pollution from elevated roads and rail corridors, emphasizing the need for clarity on exposure limits, acoustic design, barrier materials, dimensions, and international standards for effective noise abatement.
- b) Encouraging sustainable and clean transport measures such as:
  - Electrification of BMC vehicles and provision of charging infrastructure
  - Procurement of 3000 electric BEST buses
  - Conversion of old BMC diesel/ petrol vehicles into CNG vehicles
  - Fully Adaptive Traffic Control systems are installed at 258 junctions. They are to be upgraded to latest technologies and impact on the traffic flow and pollution would be studied and to be further expanded for balance 395 junctions.
- c) Ecologically sustainable urban greening projects
  - More than one lakh trees to be planted through ecologically sustainable planting practices.
  - Avenue planting on high pollution roads to create green buffers.
  - Adopting sustainable micro-greening guidelines to educate citizens about native species and planting methods.
- d) Declaring Silence zone in 100meters are near hospitals, schools, courts etc.
- e) Regular Noise monitoring in various areas of the state.

## 10 RECOMMENDATIONS

Recommendations for Noise Abatement in the state of Maharashtra:

- a) **Increase Greenery Along Roads and in Building Campuses:** Enhance the number of trees along roads and within building campuses. Greenery serves as a natural barrier that absorbs sound, contributing to a quieter and more pleasant urban environment.
- b) **Incorporate Soundproofing in Construction Materials:** Integrate soundproofing elements into construction materials to mitigate noise transmission. This can be especially crucial in densely populated areas and near busy roadways.
- c) **Installation of Decibel Meters at Major Junctions:** Implement the installation of decibel meters at key junctions to continuously monitor noise levels. This proactive measure enables timely interventions to manage and reduce excessive noise.
- d) **Promote Soundproof Rooms in Industrial Settings:** Encourage the construction of soundproof rooms for noisy machinery in industrial and manufacturing facilities. For residential buildings, noisy equipment should be situated away from living areas to minimize disruptions.
- e) **Ban Jarring Horns and Noisy Vehicles:** Prohibit the use of horns with jarring sounds, and enforce regulations against noisy motorcycles with damaged exhaust pipes and loud trucks. This contributes to reducing unnecessary noise on the streets.
- f) **Strategic Planning of Noisy Facilities:** Plan the location of noise-producing industries, airports, bus and transport terminals, and railway stations away from residential areas. This minimizes the impact of their operations on the quality of life for nearby residents.
- g) **Monitoring and Regulation of Public Gatherings:** Empower community law enforcers to monitor and regulate the use of loudspeakers, public announcements systems, and outdoor events such as parties and discos. This ensures that public spaces remain conducive to peaceful living.
- h) **Establish Silence Zones Near Sensitive Areas:** Enforce community laws designating silence zones near educational institutions, hospitals, and other sensitive areas. This safeguards the tranquility of spaces where minimal noise is essential.
- i) **Encourage Vegetation Along Roads and in Residential Areas:** Promote the planting of trees along roads and in residential areas, as vegetation acts as a natural sound absorber. This eco-friendly approach contributes to reducing overall noise pollution.
- j) **Comprehensive Urban Planning for Noise Pollution Prevention:** Implement thorough urban planning that considers noise pollution prevention. This involves thoughtful zoning, green spaces, and infrastructure design to create a harmonious and quieter urban environment.

These recommendations, coupled with public education, enlightened legislation, and active enforcement of noise ordinances, can collectively contribute to a significant reduction in noise pollution in Indian cities, particularly in the state of Maharashtra.

## 11 DEFINITIONS

### **A-Weighting**

A-weighting" is the frequency weighting characteristic as specified in IEC 123 or IEC 179 and is intended to approximate the relative sensitivity of the normal human ear to different frequencies (pitches) of sound.

### **A-weighted Sound Pressure Level**

The "A-weighted sound pressure level" is the sound pressure level modified by the application of the A-weighting. It is measured in dBA and denoted as dBA.

### **Decibel**

The "decibel" is a dimensionless measure of sound level or sound pressure level; see sound pressure level. It is denoted as dB.

### **Equivalent Continuous Sound Level**

Equivalent continuous sound level, denoted as  $L_{eq}$ , is defined as the steady sound pressure level that, over a given period of time, has the same total energy as the actual fluctuating noise.

### **Fast Response**

"Fast response" is a dynamic characteristic setting of a sound level meter meeting the applicable specifications.

### **Sound**

"Sound" is an oscillation in pressure, stress, particle displacement, or particle velocity, in a medium with internal forces (e.g. elastic, viscous), or the superposition of such propagated oscillations, which may cause an auditory sensation.

### **Sound Level Meter**

A "Sound Level Meter" is an instrument that is sensitive to and calibrated for the measurement of sound.

### **Sound Pressure Level**

The "Sound Pressure Level" is twenty times the logarithm to the base 10 of the ratio of the effective pressure ( $p$ ) of a sound to the reference pressure ( $P_r$ ) of 20  $\mu\text{Pa}$ . Thus, the sound pressure level in  $\text{dB} = 20 \log_{10} P/P_r$ .

## 12 GLIMPSE OF THE EVENT

### Day 1: 17<sup>th</sup> December 2023



Father Angel School  
– Vashi, Navi  
Mumbai



Civil Hospital-Latur

Day 1: 17<sup>th</sup> December 2023

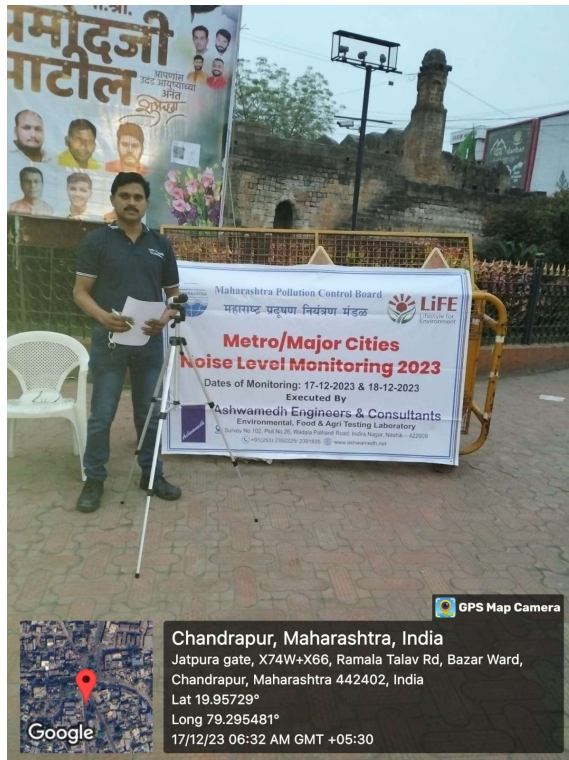


Old Bus Stand -  
Malegaon



Irwin Square-  
Amravati

Day 1: 17<sup>th</sup> December 2023



Jatpura Gate-  
Chandrapur



Hadapsad – Pune

Day 1: 17<sup>th</sup> December 2023



Visharambaug - Sangli

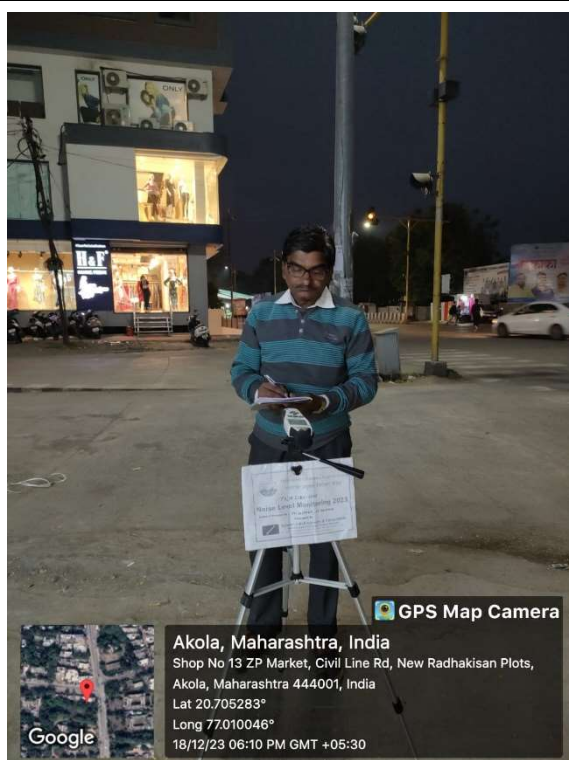


Tembhi naka-Thane West

## Day 2: 18<sup>th</sup> December 2023



Sadar Bazar-Nagpur

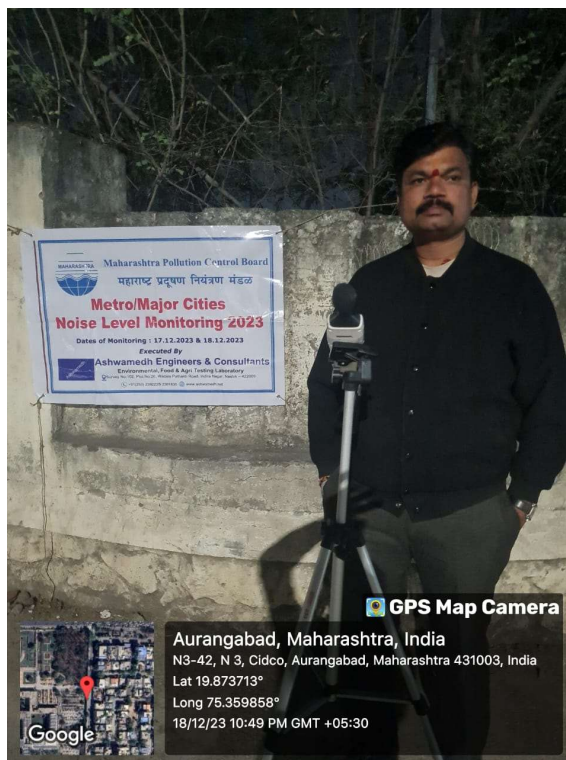


Civil lines - Akola

Day 2: 18<sup>th</sup> December 2023

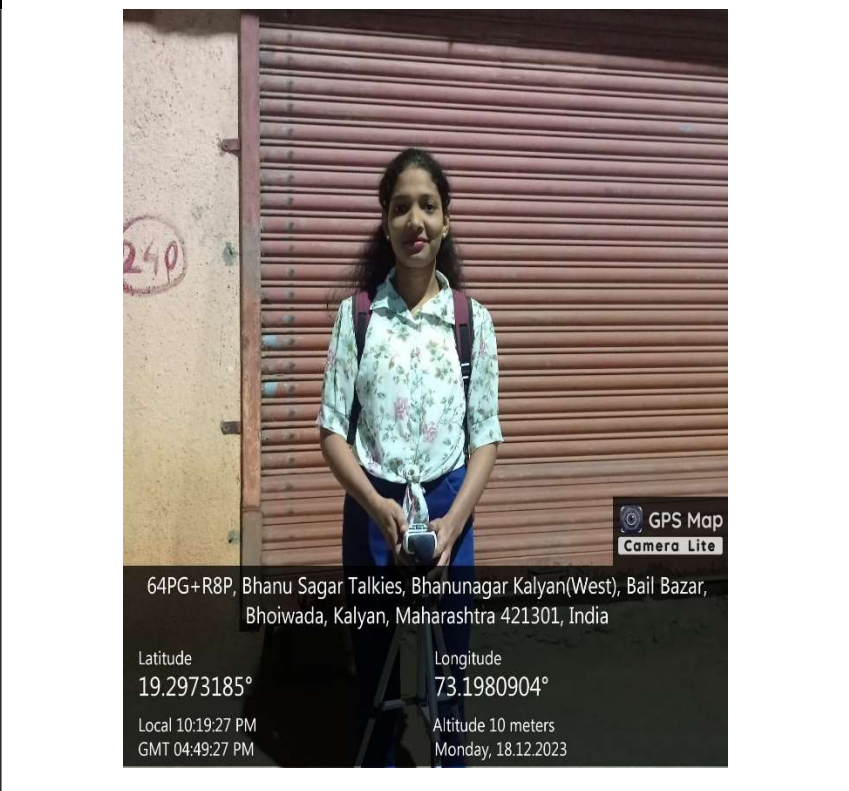


Udyog Bhavan -  
Nashik



High court N-3 -  
Aurangabad

## Day 2: 18<sup>th</sup> December 2023



**Bail Bazar -Kalyan  
(West)**



**Malabar Hill -  
Mumbai**

## Day 2: 18<sup>th</sup> December 2023



Old bus stand -  
Malegaon



Ghati hospital -  
Aurangabad

### 13 COMPARATIVE AMBIENT NOISE LEVELS DURING THE YEAR 2022 & 2023

	Day Time			Night Time			Day Time			Night Time		
	25-Dec-22			17-Dec-23			26-Dec-22			18-Dec-23		
Location	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>
MUMBAI												
Backside of High Court	73.8	51.6	85.2	81.1	50.4	89.6	71.1	51.1	82.4	76.4	36.1	88.4
Mumbadevi Temple	81.0	60.8	89.9	77.3	58.2	84.7	76.4	62.3	85.1	65.8	57.8	72.9
Borivali National Park	66.5	56.2	69.8	76.7	59.5	87.7	64.2	54.1	70.6	71.4	50.3	84.6
Antop Hill	78.5	61.3	88.8	78.7	44.3	94.8	71.5	50.5	84.6	71.5	50.5	84.6
Shivaji Park, Dadar	69.0	51.0	80.9	73.8	52.2	87.9	67.5	44.5	81.1	69.9	59.5	79.8
Santacruz Airport	76.0	60.1	87.4	75.9	58.2	87.3	71.3	49.6	83.6	73.4	56.4	86.7
Ghatkopar (W)	80.0	50.4	92.1	77.4	48.0	88.0	69.7	40.3	81.6	68.1	43.4	78.7
Vashi Naka, Chembur	77.8	60.9	87.2	82.0	62.9	89.9	67.8	45.0	79.0	70.5	42.8	82.7
Goregaon (E)	80.8	65.1	90.7	70.8	56.4	79.6	57.0	50.4	65.4	63.5	54.9	71.7
Charkop, Kandivali	67.3	50.4	77.4	77.1	56.9	86.2	57.0	50.4	65.4	65.0	44.1	75.4
Sion - Sion Circle	75.0	63.7	85.3	79.0	58.2	88.3	67.4	48.7	75.4	68.0	41.4	78.7

Hindu Colony - Dadar Hindu Colony	77.8	39.1	89.0	83.3	61.5	94.4	55.9	45.1	61.0	82.9	53.1	92.9
Matunga - Gandhi Market	74.3	38.3	87.8	75.3	35.5	85.8	66.6	41.6	79.3	74.9	45.0	88.9
Kamathipura - Kamathipura	73.8	51.6	89.3	79.5	54.8	89.9	72.5	53.0	82.5	75.5	47.5	86.6
Malabar Hills - Sahyadri Guest House	78.3	53.3	89.1	76.9	30.4	88.5	67.4	48.7	75.4	71.5	50.5	84.6
<b>NAVI MUMBAI</b>												
Mahape Shil Road, MIDC Mahape	72.6	56.7	82.3	69.3	53.9	77.3	60.8	52.3	68.5	66.0	58.4	74.3
APMC Market Vashi	70.6	63.2	79.7	68.1	56.7	77.6	73.7	61.2	84.2	70.9	63.2	76.9
Father Agnel School, Vashi	67.4	41.3	74.5	62.0	44.3	68.2	64.1	46.3	71.3	58.3	41.1	65.7
<b>THANE</b>												
Main Road- Gaondevi Mandir, Naupada	74.3	46.7	86.2	79.7	60.0	95.2	64.0	50.2	72.3	81.5	62.0	95.2
Tembhi Naka	75.3	44.6	83.7	67.8	49.0	79.4	66.7	43.1	77.2	62.0	49.0	69.7
Ghokhale Road	70.1	51.4	78.9	70.1	51.4	78.9	66.4	49.0	77.0	70.6	58.1	83.4
Pokharan - Vartak Nagar	84.3	64.0	90.8	82.0	62.1	90.7	71.5	50.5	84.6	71.0	50.3	79.6

Wagle Estate	79.2	47.3	90.2	66.3	40.4	76.2	69.7	44.5	82.5	56.9	40.4	72.2
<b>PUNE</b>												
Nucleus Mall	67.5	51.2	74.0	68.5	50.7	79.3	58.2	41.3	72.6	57.2	42.8	64.7
Pune University	76.2	58.9	84.0	76.0	58.4	83.4	59.7	41.9	72.6	63.9	43.3	72.1
Swargate	72.6	63.2	81.2	73.2	62.3	81.6	58.7	42.5	71.2	63.7	43.3	73.3
Hadpsar	71.5	54.2	79.2	73.0	58.4	82.4	61.2	41.0	73.5	60.7	42.9	72.1
Visharantwadi	74.5	55.2	82.4	72.6	57.6	80.6	59.8	40.9	69.1	61.6	42.3	71.6
<b>NASHIK</b>												
Dwarka Circle	74.2	64.0	80.0	74.7	67.0	79.0	65.7	61.0	69.0	61.7	54.0	66.0
Pandit Colony Near NMC	58.3	45.0	65.0	58.1	42.0	68.0	50.8	41.0	56.0	50.2	42.0	56.0
Pavan Nagar CIDCO	59.9	48.0	65.0	61.1	42.0	68.0	50.8	41.0	56.0	48.4	41.0	53.0
Bytco	75.2	68.0	80.0	76.5	70.0	81.0	63.6	54.0	68.0	64.0	55.0	69.0
Udyog Bhavan, Satpur	69.3	62.0	75.0	71.4	63.0	76.0	57.2	50.0	64.0	55.6	48.0	62.0
<b>AURANGABAD</b>												
Ghati Hospital	59.6	40.0	65.0	59.7	40.0	68.0	42.8	37.0	49.0	42.5	34.0	49.0
Nirala Bazaar	61.9	41.0	68.0	61.6	41.0	66.0	46.4	35.0	54.0	45.6	34.0	54.0
CIDCO N-9	51.1	39.0	57.0	51.3	41.0	56.0	41.5	37.0	47.0	40.3	34.0	43.0

Residential Area Near High Court	53.1	38.0	61.0	55.1	41.0	65.0	42.7	36.0	48.0	46.3	37.0	53.0
Swami Vivekanand College	55.5	41.0	62.0	53.2	39.0	61.0	45.5	38.0	53.0	42.1	37.0	48.0
<b>NAGPUR</b>												
Govt. Medical College	65.5	47.9	78.1	61.4	48.9	69.7	61.8	47.9	72.1	49.3	44.3	54.6
Sitabardi Police Station	71.5	50.7	80.4	78.2	48.5	86.5	69.2	50.1	78.1	64.3	40.0	79.5
Shivaji Nagar	64.8	40.6	74.7	66.2	47.2	74.7	61.6	47.9	72.1	61.5	51.2	69.7
Mahal	69.2	40.2	77.1	69.3	41.6	79.2	58.0	44.2	64.5	60.7	43.3	71.0
Sadar	68.8	35.1	80.1	63.7	51.3	71.1	59.6	45.7	68.7	59.2	40.1	67.6
<b>KALYAN</b>												
Katemanivali	68.6	54.7	75.1	76.9	41.5	86.2	71.4	50.5	84.6	64.1	41.5	75.8
Birla College	67.2	41.3	74.5	72.9	45.7	83.4	70.0	49.0	79.7	65.9	45.5	78.8
Bail Bazar	70.4	51.4	78.9	72.1	47.8	84.3	68.0	44.9	80.0	65.0	47.2	81.0
<b>AMRAVATI</b>												
Ervin Hospital Square	66.2	48.3	73.2	65.1	51.6	72.8	55.9	39.3	62.4	58.6	46.4	68.8
Budhwara	66.0	48.6	74.6	71.6	48.3	81.7	51.1	38.5	63.2	69.5	45.9	78.5
Rajkamal Chowk	76.8	63.9	86.1	73.6	58.7	80.2	62.2	46.0	69.6	67.6	42.7	77.2

<b>JALGAON</b>												
Near Civil Hospital	69.1	56.6	77.2	74.4	58.8	81.3	55.3	50.3	67.3	52.1	34.3	61.0
Shivaji Chowk (Near Court)	73.5	59.1	83.5	73.6	55.3	80.3	58.7	46.6	73.2	51.5	33.2	60.9
Shashtri Tower Chowk	73.7	60.2	81.0	77.1	33.8	88.2	53.8	43.8	74.1	48.8	34.1	62.5
<b>KOLHAPUR</b>												
Rajarampuri chowk	81.9	50.2	92.6	78.5	47.2	92.6	50.1	40.6	58.4	48.6	37.8	56.8
Papachi Tickti	81.0	50.4	92.8	80.0	50.4	95.6	50.6	40.2	62.1	47.7	37.8	55.8
Gokhale College	82.2	50.4	94.6	82.0	52.1	95.3	51.5	40.8	61.4	49.3	38.9	58.2
Dabhorakar Corner	81.3	50.6	91.7	79.6	48.9	92.6	50.8	40.6	56.6	51.6	40.3	58.2
<b>SANGLI</b>												
Rajwada Chowk	72.9	48.5	84.3	73.8	40.3	88.9	64.7	41.2	75.3	63.1	44.5	73.6
Visharambaug	67.2	42.6	79.5	68.0	40.2	80.1	64.4	40.9	72.2	65.8	40.3	77.8
Miraj Market	72.2	42.5	84.6	70.0	40.2	84.5	65.3	42.2	72.5	64.9	45.6	72.5
<b>MIRA-BHAYANDER</b>												
Bhakti Vedant Hospital, Tenkar pada	72.4	50.2	78.6	77.9	50.9	89.5	67.9	51.3	79.0	59.6	50.9	69.1
Golden police Chawki	72.5	50.4	79.3	76.6	50.7	87.7	68.0	50.1	76.4	71.5	50.5	84.6

Shivaji Chak Kashi meera	77.9	53.2	98.7	73.7	50.8	86.0	68.7	50.2	74.8	64.7	44.5	75.3
<b>VASAI-VIRAR</b>												
Range office, Satwali, Vasai East	63.8	52.2	70.8	78.0	54.1	87.3	60.7	50.2	66.9	71.8	56.4	85.6
Valiv phata, Vasai East	64.1	50.0	72.2	66.8	40.8	83.7	58.2	50.0	67.4	63.6	45.0	79.3
N.B. Estate, Virar West	75.0	60.0	79.9	70.3	60.0	77.6	63.4	55.6	69.0	64.7	53.8	73.0
<b>ULHASNAGAR</b>												
Shivaji Chowk No. 3 - Near the Chowk	84.5	42.3	95.6	74.9	45.3	86.4	71.3	49.6	83.6	60.2	42.1	72.8
Camp No. 5 Bus Stop - Bus Stop	77.8	47.3	88.6	79.6	42.5	87.5	69.7	44.5	82.5	68.1	42.9	81.3
Camp No. 1 Gol Maidan - Gol Maidan	74.6	58.8	79.7	70.8	49.4	82.8	72.6	55.1	87.5	66.8	43.2	76.5
<b>BHIWANDI-NIZAMPUR</b>												
Dhamankar Naka	71.4	50.4	79.4	76.2	47.4	85.6	63.4	50.1	74.3	62.2	40.2	73.8
Indira Gandhi Memorial Hospital	70.6	45.2	79.5	66.8	48.8	78.5	61.2	45.5	69.4	61.0	43.2	69.2
Shelar Near Nadi naka	73.8	48.7	80.5	71.6	45.3	82.1	67.3	44.1	79.6	65.0	44.1	78.4

CHANDRAPUR												
Gandhi Chowk	67.1	54.6	74.9	72.6	64.3	80.3	62.6	51.8	72.8	61.5	48.3	72.9
Jatpura Gate	76.0	52.8	88.5	71.5	51.8	78.9	61.4	48.4	70.7	62.2	42.8	72.3
Warora Naka	71.4	53.1	82.6	71.0	48.4	79.9	65.1	50.3	74.7	62.2	46.3	70.1
NANDED-WAGHALA												
Dr. Shankarao Chavan Govt. Medical College & Hospital Vishnupuri	55.7	38.0	64.0	56.9	40.0	64.0	42.7	37.0	49.0	43.0	39.0	49.0
District Court Station Road	52.6	37.0	62.0	53.8	40.0	65.0	44.7	40.0	49.0	44.7	38.0	49.0
Govt. Polytechnic College	53.3	37.0	62.0	53.4	38.0	62.0	46.0	41.0	53.0	45.4	38.0	52.0
AHMEDNAGAR												
Kotala Chawk	66.8	60.0	72.0	66.8	60.0	72.0	58.9	52.0	65.0	58.4	52.0	66.0
Chitale Road	65.9	56.0	72.0	65.9	56.0	72.0	59.8	52.0	66.0	59.2	50.0	66.0
Old Bus Stand	67.4	56.0	73.0	72.9	58.0	78.0	63.5	57.0	68.0	62.9	57.0	68.0
DHULE												
Agrasen Chawk	67.1	56.0	72.0	70.4	56.0	76.0	58.9	53.0	64.0	57.5	51.0	62.0
Fulwala Chawk	68.5	55.0	75.0	70.9	54.0	76.0	61.6	55.0	67.0	58.2	51.0	65.0

Santoshi Mata Chawk	67.4	57.0	74.0	68.2	54.0	75.0	61.9	54.0	68.0	60.5	52.0	66.0
<b>MALEGAON</b>												
Mosampul	72.9	57.0	79.0	73.6	58.0	79.0	67.2	62.0	72.0	65.5	60.0	72.0
Central Bus Stand	73.4	63.0	78.0	73.7	62.0	78.0	67.5	60.0	72.0	67.2	60.0	71.0
Malegaon Camp	67.4	54.0	75.0	65.9	52.0	72.0	66.0	61.0	70.0	60.6	52.0	69.0
<b>PIMPRI-CHINCHWAD</b>												
Chafekar Chowk	73.8	53.3	80.2	74.6	52.4	81.6	66.6	41.2	74.5	67.9	47.7	74.6
Dange Chowk	74.9	60.2	82.5	76.1	63.2	81.9	60.5	42.2	70.8	63.8	42.2	72.4
Bhosari	73.2	55.6	81.2	72.5	57.4	81.2	56.3	40.8	65.5	58.2	42.1	68.7
<b>PARBHANI</b>												
Shaniwar Bazar	60.5	37.0	68.0	59.7	37.0	65.0	43.3	40.0	48.0	42.0	34.0	47.0
Railway Station Court	66.2	41.0	72.0	65.4	42.0	71.0	47.2	41.0	53.0	47.6	40.0	53.0
Civil Hospital	63.6	48.0	71.0	62.8	46.0	70.0	47.2	40.0	54.0	46.9	39.0	55.0
<b>LATUR</b>												
Shahu College	67.3	39.0	75.0	66.0	39.0	72.0	46.8	38.0	55.0	46.8	36.0	54.0
Civil Hospital	64.6	41.0	71.0	64.8	41.0	70.0	44.3	40.0	51.0	43.9	38.0	49.0
CJM Court	66.3	40.0	72.0	65.5	40.0	71.0	49.2	40.0	57.0	49.6	40.0	56.0

AKOLA												
Collector Office	70.1	57.6	77.9	76.0	43.5	90.2	55.0	49.6	62.8	59.9	36.1	74.5
Civil line Chawk / Ratanlal plot	70.9	60.1	74.6	77.0	46.4	90.5	56.5	50.1	68.0	67.5	38.0	81.9
City Kotawali Chawk near police station	72.1	61.5	76.6	79.1	52.0	91.6	58.8	50.5	68.6	68.6	38.4	82.2
SOLAPUR												
Balives	70.1	47.2	78.2	70.8	47.8	82.5	52.8	43.8	60.8	54.1	40.5	61.0
Bijapur Road	65.4	45.3	75.0	66.1	40.3	80.3	52.4	41.2	60.0	53.8	40.2	64.3
Ashok Chowk	64.8	44.6	73.0	70.0	40.2	84.5	52.9	43.8	60.0	53.5	40.6	64.2
PANVEL												
Old Panvel, Panvel corporation building	73.1	54.6	81.8	68.5	47.2	85.2	57.5	50.4	63.5	54.3	43.7	63.3
Khanda colony	77.4	56.2	86.9	74.7	57.3	79.8	60.5	52.5	66.2	67.7	58.6	75.3
Utsav chowk, Kharghar	75.5	55.5	83.9	79.9	60.1	88.3	63.2	51.9	72.1	58.2	41.1	65.7

## 14 ANNEXURES

### 14.1 ANNEXURE I: Detailed list of Studied locations

Sr. No.	City	Location name (details)
1.	Mumbai	Backside of High Court
		Mumbadevi Temple
		Borivali National Park
		Antop Hill
		Shivaji Park, Dadar
		Santacruz Airport
		Ghatkopar (W)
		Vashi Naka, Chembur
		Goregaon (E)
		Charkop, Kandivali
		Sion - Sion Circle
		Hindu Colony - Dadar Hindu Colony
		Matunga - Gandhi Market
		Kamathipura - Kamathipura
		Malabar Hills - Sahyadri Guest House/ 3 Batti/ Bangauga
2.	Navi Mumbai	Mahape Shil Road, MIDC Mahape
		APMC Market Vashi
		Father Agnel Educational Trust, Vashi
3.	Thane	Main Road- Gaondevi Mandir, Naupada
		Tembhi Naka
		Ghokhale Road
		Pokharan - Vartak Nagar
		Wagle Estate
4.	Pune	Nucleus Mall
		Pune University
		Swargate
		Hadpsar
		Visharantwadi
5.	Nashik	Dwarka Circle
		Pandit Colony Near NMC
		Pavan Nagar CIDCO
		Bytco
		Udyog Bhavan, Satpur
6.	Aurangabad	Ghati Hospital
		Nirala Bazaar
		CIDCO N-9
		Residential Area Near High Court
		Swami Vivekanand Collage
7.	Nagpur	Govt. Medical College
		Sitabardi Police Station
		Shivaji Nagar
		Mahal
		Sadar

Sr. No.	City	Location name (details)
8.	Kalyan	Katemanivali
		Birla College
		Bail Bazar
9.	Amravati	Ervin Hospital Square
		Budhwara
		Rajkamal Chowk
10.	Jalgaon	Near Civil Hospital
		Shivaji Chowk (Near Court)
		Shashtri Tower Chowk
11.	Kolhapur	Rajarampuri chowk
		Papachi Tikati
		Gokhale College
		Dabhorakar Corner
12.	Sangli	Rajwada Chowk
		Visharambaug
		Miraj Market
13.	Mira-Bhayander	Bhakti Vedant Hospital, Tenkar pada
		Golden police Chawki
		Shivaji Chawk Kashi meera
14.	Vasai-Virar	Range office, Satwali, Vasai East
		Valiv Phata, Vasai East
		N.B. Estate, Virar West
15.	Ulhasnagar	Shivaji Chowk No. 3 - Near the Chowk
		Camp No. 5 Bus Stop - Bus Stop
		Camp No. 1 Gol Maidan - Gol Maidan
16.	Bhiwandi-Nizampur	Dhamankar Naka
		Indira Gandhi Memorial Hospital
		Shelar Near Nadi Naka
17.	Chandrapur	Gandhi Chowk
		Jatpura Gate
		Warora Naka
18.	Nanded-Waghala	Dr. Shankarao Chavan Govt. Medical College & Hospital Vishnupuri
		District Court Station Road
		Govt. Polytechnic College
19.	Ahmednagar	Kotala Chawk
		Chitale Road
		Old Bus Stand
20.	Dhule	Agrasen Chawk
		Fulwala Chawk
		Santoshi Mata Chawk
21.	Malegaon	Mosampul
		Central Bus Stand
		Malegaon Camp
22.	Pimpri-Chinchwad	Chafekar Chowk
		Dange Chowk
		Bhosari

Sr. No.	City	Location name (details)
23.	Parbhani	Shaniwar Bazar
		Railway Station Court
		Civil Hospital
24.	Latur	Shahu College
		Civil Hospital
		CJM Court
25.	Akola	Collector Office
		Civil line Chawk / Ratanlal plot
		City Kotawali Chawk near police station
26.	Solapur	Balives
		Bijapur Road
		Ashok Chowk
27.	Panvel	Old Panvel, Panvel corporation building
		Khanda colony
		Utsav chowk, Kharghar

## 14.2 ANNEXURE II: Noise Pollution (Regulation & Control) Rules, 2000 amendment dated 21<sup>st</sup> April, 2009

### SCHEDULE

(see rule 3 (1) and 4 (1))

#### Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area	Limits in dB(A) L <sub>eq</sub>	
		Day time	Night time
A)	Industrial area	75	70
B)	Commercial area	65	55
C)	Residential Area	55	45
D)	Silence Zone	50	40

#### **Note:**

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts. The silence zones are zones, which are declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four-abovementioned categories by the competent authority.

\*dB (A) L<sub>eq</sub> denotes the time-weighted average of the level of sound in dB(A) on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A” in dB (A) L<sub>eq</sub>, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

L<sub>eq</sub>: It is an energy mean of the noise level over a specified period

**ध्वनी प्रदूषण (नियंत्रण व नियमन) नियम, २०००  
ची प्रभावीपणे अंमलबजावणी करण्यासाठी  
प्राधिकरणाची नियुक्ती करण्याबाबत**

महाराष्ट्र शासन  
पर्यावरण विभाग, मंत्रालय,  
शासन निर्णय क्रमांक : ध्वनीप्र-२००९/प्र.क्र.९५/तांक-१  
नविन प्रशासन भवन, १५ वा मजला, मादाम कामा रोड, मुंबई - ४०० ०३२  
दिनांक: २१ एप्रिल, २००९

वाचा - १) शासन निर्णय क्रमांक : ध्वनीप्र-२०००/प्र.क्र.२४/तांक ३, दिनांक १६ ऑगस्ट, २००० आणि दिनांक १५ जून, २००१  
२) मे. उच्च न्यायालयाच्या मुंबई खंडपीठामध्ये दाखल करण्यात आलेल्या सार्वजनिक हिताच्या याचिका क्र. (१) २०५३/२००३, (२) ७४/२००७, (३) ८५/२००७ आणि (४) १/२००९ मधील दिनांक २६/२/२००९ चे आदेश

**प्रस्तावना :-**

पर्यावरण विभाग, शासन निर्णय क्र. एन.पी./२०००/२४/क्र.३, दिनांक १६/८/२००० व दिनांक १५/०६/२००१ रोजी ध्वनी प्रदूषण (नियंत्रण व नियमन) नियम, २००० च्या २ (क) नुसार, राज्यातील पोलीस आयुक्त असलेल्या शहरामध्ये पोलीस उप आयुक्त व इतर ठिकाणी जिल्हा पोलीस अधिक्षक यांना एक सदस्य प्राधिकरण म्हणून ध्वनी प्रदूषण नियमाची अंमलबजावणी करण्यासाठी नियुक्ती करण्यात आली आहे.

मा. उच्च न्यायालय, मुंबई खंडपीठाने वरील याचिकांमध्ये महाराष्ट्र शासन व इतर विभागांनी ध्वनी प्रदूषण (नियंत्रण व नियमन) नियम, २००० ची प्रभावी अंमलबजावणी करण्याकरीता दिनांक २६/२/२००९ रोजी ठराविक निर्देश दिलेले आहेत. त्यानुसार स्थानिक स्वराज्य संस्थांनी शहरी भागात शांतता झोन जाहीर करणे आवश्यक आहे.

**शासन निर्णय :-**

१) मा. उच्च न्यायालयाच्या आदेशानुसार तसेच ध्वनी प्रदूषण (नियंत्रण व नियमन) नियम, २००० च्या कलम ३ (५) नुसार स्थानिक स्वराज्य संस्थांनी शहरी भागात शांतता झोन त्वरीत जाहीर करून योग्य ते आदेश काढावेत. तसेच शहरात शांतता झोनचे फलक लावून आदेशाची प्रभावी अंमलबजावणी करण्यासाठी योग्य ती प्रसिध्दी करावी.

- १) शैक्षणिक संस्थांच्या सभोवताली १०० मीटर क्षेत्र
- २) सर्व न्यायालयाच्या सभोवतीली १०० मीटर क्षेत्र
- ३) रुग्णालयाच्या सभोवताली १०० मीटर क्षेत्र

२) ध्वनी प्रदूषणाची वाढती पातळी व निरनिराळे प्रदूषण स्रोत विचारात घेता, शासनाच्या निरनिराळ्या विभागांनी सधःस्थितीत ते राबवीत असलेल्या नियमाद्वारे ध्वनी प्रदूषण नियंत्रण व नियमनाची अंमलबजावणी करावी. त्याकरिता परिशिष्ट १ मध्ये नमूद केल्याप्रमाणे, शासनाच्या संबंधित विभागांच्या अधिपत्याखालील संस्थांच्या अधिकाऱ्यांना पदनाम प्राधिकरण म्हणून जाहीर करण्यात येत आहे. याबाबत संबंधित

रौटा/इच-०१००[४००-५-२००९]-१

२

विभागांनी स्वतंत्र आदेश निर्गमित करावेत. सदर प्राधिकरण, ते राबधित असलेल्या नियमाच्या तरतुदीनुसार तसेच ध्वनी प्रदूषण (नियंत्रण व नियमन) नियम, २००० च्या तरतुदीनुसार ध्वनी प्रदूषण नियंत्रण व नियमनार्थी कार्यवाही करण्यास सक्षम असेल.

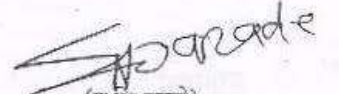
A.

३) ध्वनी प्रदूषण करणारे उपकरणे / स्रोत जसे D.G. Sets (15-500 KVA); Coal Washeries; Fire Crackers Generator Sets with Diesel (upto 1000 KVA) manufactured on or after 1st July, 2003; Vehicles at manufacturing stage from the year, 2003 and 1st April, 2005 respectively as well as Noise Limits for Automobiles and Domestic appliances and construction equipments at the manufacturing stage laid down under the provisions of the Environment (Protection) Act, 1986 and Rules made there under इत्यादींची, सभोयतालच्या हवेतील ध्वनी प्रदूषण गुणवत्तेच्या विहित मर्यादा परिशिष्ट २ मध्ये नमूद केल्याप्रमाणे असेल.

४) या शासन निर्णयान्वये, पर्यावरण विभागाने यापूर्वी दिनांक १६ ऑगस्ट, २००० आणि दिनांक १५ जून, २००२ रोजी या विषयाबाबत निर्गमित केलेला शासन निर्णय खारीज करण्यात येत आहे. हा शासन निर्णय निर्गमित झाल्याच्या दिनांकापासून लागू राहील.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

B.

  
(ग.नि.वराडे)  
संचालक (पर्यावरण)

प्रत माहितीसाठी :-

मा.मुख्यमंत्र्यांचे प्रधान सचिव

मा.उपमुख्यमंत्र्यांचे प्रधान सचिव

मा. मुख्यसचिव

अतिरिक्त मुख्यसचिव, गृह विभाग, मंत्रालय

अतिरिक्त मुख्यसचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय

प्रधान सचिव (अ. व सु.), गृह विभाग

प्रधान सचिव, नगर विकास विभाग (१), मंत्रालय

प्रधान सचिव, नगर विकास विभाग (२), मंत्रालय

प्रधान सचिव, महसूल विभाग, मंत्रालय

प्रधान सचिव, उच्च व तंत्रशिक्षण विभाग, मंत्रालय,

प्रधान सचिव, शालेय शिक्षण विभाग, मंत्रालय

सचिव, गृह विभाग (परिवहन),

सचिव, पर्यावरण

मा. मंत्री (पर्यावरण), यांचे खाजगी सचिव,

मा. राज्यमंत्री (पर्यावरण), यांचे खाजगी सचिव,

सर्व मा. मंत्री / राज्यमंत्री यांचे खाजगी सचिव

सर्व जिल्हाधिकारी

सर्व पोलीस आयुक्त / उप आयुक्त

सर्व जिल्हा पोलीस अधिक्षक / उप अधिक्षक

पर्यावरण विभाग सर्व अधिकारी / कार्यासन / निवडनस्ती - तांक १

परिशिष्ट - १

एच-०१०० -१३

३

ध्वनी प्रदूषण व नियमन व नियंत्रणाची अंमलबजावणी करण्यासाठी शासनाच्या अधिपत्याखाली असलेल्या संस्थांमधील संबंधित अधिका-याची पदनाम प्राधिकरण म्हणून नियुक्ती

Sr. No	Officer /Agency	Concerned Department	Duties
1.	District Magistrate, Sub-Divisional Magistrate,	Revenue	Corresponding Rules for the enforcement of the Noise Pollution Control measures within their respective jurisdiction.
2.	Police Commissioner or any other officer not below the rank of the Deputy Superintendent of Police designated for the maintenance of Ambient Air Quality Standards, as mentioned in the Rule 2(c) of Noise Pollution( Regulation and Control) Rules, 2000.	Home	The Police Authorities will be responsible for initiating further legal actions in respect of the violations.,
3.	Municipal Commissioner, Additional/Deputy Municipal Commissioner/ Chief Officer of Municipal Council/Committee Govt. of Maharashtra not below the rank of the Deputy Superintendent of Police.	Urban Development	<p>Corresponding Rules for the enforcement of noise standards laid down under the Environment (Protection) Rules, 1986 at source for construction projects, utilities for buildings (ACs, DG sets etc.), domestic appliances, development and other activities in their jurisdiction.</p> <p>The urban local bodies shall be responsible for demarcation of the silent zones as per the Noise Rules, 2000 and displaying the same adequately.</p> <p>The urban local bodies shall include an Action Plan for noise control in the Environmental Status Report submitted by them annually, including noise monitoring and noise mapping studies.</p> <p>The Local Body and Urban Development Deptt., Govt. of Maharashtra will not grant any permissions for development activities in consistent with or in conflict with the categorization of zone. In case of overlapping zones, stringent standards will prevail over in that particular area.</p>
4.	Registrar /Head Master of the Educational Institutions duly approved by the concerned Government not below the rank of the Deputy Superintendent of Police	Higher & Technical Education/ School Education	Corresponding Rules for the enforcement and maintenance of the Ambient Noise Standards laid down for domestic appliances, automobiles etc. in respect of any activity in its jurisdiction.
5.	Dean/Superintendent of the Government Hospitals not below the rank of the Deputy Superintendent of Police	Public Health	Corresponding Rules for the enforcement and maintenance of the Ambient Noise Standards laid down for domestic appliances, automobiles etc. in respect of any activity in its

एच-०१०० -२

			jurisdiction.
6.	Head of M.M.R.D.A., M.S.R.D.C., C.I.D.C.O., having local jurisdiction constituted under various Laws and Public Works Department.	Urban Development	<p>Corresponding Rules for the enforcement and maintenance of Noise Standards laid down under the Environment (Protection) Rules, 1986 at source for construction projects, utilities for buildings (ACs, DG sets etc.), domestic appliances, development and other activities in their jurisdiction</p> <p>These Developmental Authorities should include adequate noise abatement measures in their project activities such as noise barriers to the bridges and flyovers, tree plantation for roads etc.</p>
7.	Member Secretary and any officer Maharashtra Pollution Control Board not below the rank of the Deputy Superintendent of Police	Environment Department	<p>(i) Monitoring of Ambient Noise Levels in case of specific requests from other authorities referred in the table and communicating the results to the respective Authorities for further necessary action at their end.</p> <p>(ii) For the enforcement of Noise Pollution Control Measures and Standards in industrial areas.</p>
8.	<p>(i) Any officer from the State Transport Department / Deputy Regional Transport Officer in their respective jurisdiction not below the rank of the Deputy Superintendent of Police</p> <p>(ii) Head of Maharashtra State Road Transport Corporation or any officer/ Depot Manager not below the rank of the Deputy Superintendent of Police.</p> <p>(iii) Traffic Police Authorities not below the rank of the Deputy Superintendent of Police</p>	Home Department (Transport)	<p>Enforcement and maintenance of the Noise Standards laid down under Environment (Protection) Rules, 1986 and Motor Vehicles Act, 1939 for the new and operating vehicles within their respective jurisdiction.</p> <p>The noise levels generated by the in-use vehicles should be monitored while grant of Pollution Under Control Certificate.</p>

4

परिशिष्ट- २

**Schedule**  
(Under rule 3(1) and 4(1)) of Noise Pollution (Control and Regulation) Rules, 1999

**Ambient Air Quality Standards in respect of Noise**

Area Code	Category of Area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

- i. Day time shall mean from 6.00 a.m. to 10.00 p.m.,
- ii. Night time shall mean from 10.00 p.m. to 6.00 a.m.,
- iii. Silence Zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts. The silence zones are zones which are declared as such by the competent authority.
- iv. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

\*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq : it is an energy mean of the noise level, over a specified period.

**2. Standards / Guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) Sets.**

**(A) Noise Standards for DG sets (15-500 KVA)**

The total sound power level,  $L_w$  of a DG set should be less than,  $94 + 10 \log_{10} (KVA)$ , dB(A), at the manufacturing stage, where, KVA is the nominal power rating of a DG set. This level should fall by 5 dB(A) every five years, till 2007, i.e. in 2002 and then in 2007

**(B) Mandatory acoustic enclosure/acoustic treatment of room for stationary DG sets (5KVA and above).**

Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.

The acoustic enclosure / acoustic treatment of the room should be designed for minimum 25 dB (A) Insertion Loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under such circumstances, the performance may be checked for noise reduction upto actual ambient noise level, preferably in the night time). The measurement for Insertion Loss may be done at different points at 0.5 m from the acoustic enclosure/room, and then averaged.

सं-०१००[४००-४-२००२]-३

The DG set should also be provided with proper exhaust muffler with insertion loss of minimum 25dB (A).

A.

(C) Guidelines for the manufacturers/users of DG sets (5 KVA and above).

01. The manufacturer should offer to the user a standard acoustic enclosure of 25 dB(A) Insertion Loss and also a suitable exhaust muffler, with Insertion Loss of 25 dB(A).
02. The user should make efforts to bring down the noise levels due to the D.G. set, outside his premises, within the ambient noise requirements by proper siting and control measures.
03. The manufacturer should furnish noise power levels of the unsilenced DG sets as per standards prescribed under (A).
04. The total sound power level of a D.G. set, at the user's end, shall be within 2 dB(A) of the total sound power level of the DG set, at the manufacturing stage as prescribed under (A).
05. Installation of a DG set must be strictly in compliance with the recommendations of the DG set manufacturer.
06. A proper routine and preventive maintenance procedure for the DG set should be set and followed in consultation with the DG set manufacturer, which would help to prevent noise levels of the DG set from deteriorating with use.

3. Noise Level Standards for Coal Washeries

Operational / Working Zone – not to exceed 85 dB(A) Leq for 8 hours exposure.

The Ambient Air Quality Standards in respect of noise as notified under Environment (Protection) Rules, 1986 shall be followed at the boundary line of the coal washery.

Code of Practice of Coal Washery

Water or Water mixed chemical shall be sprayed at all strategic coal transfer points such as conveyors, loading/unloading points etc. As far as practically possible conveyors, transfer points etc. shall be provided with enclosures.

- \* The crushers/pulverizers of the coal washeries shall be provided with enclosures, fitted with suitable air pollution control measures and finally emitted through a stack of minimum height of 30m, conforming particulate matter emission standards of 150 mg/Nm<sup>3</sup> or provided with adequate water sprinkling arrangement.
- \* Water sprinkling by using fine atomizer nozzles arrangement shall be provided on the coal heaps and on land around the crushers/pulverisers.
- \* Area, in and around the coal washery shall be pucca either asphalted or concreted.
- \* Water consumption in the coal washery shall not exceed 1.5 cubic meter per tonne of coal.
- \* The efficiency of the settling ponds of the waste water treatment system of the coal washery shall not be less than 90%.
- \* Green belt shall be developed along the road side, coal handling plants, residential complex, office building and all around the boundary line of the coal washery.
- \* Storage bunkers, hoppers, rubber decks in chutes and centrifugal chutes shall be provided with proper rubber linings.

U

- \* Vehicles movement in the coal washery area shall be regulated effectively to avoid traffic congestion. High pressure horn shall be prohibited. Smoke emission from heavy duty vehicle operating in the coal washeries should conform the standards prescribed under Motor Vehicle Rules, 1989.

#### 4. Noise Standards for fire-crackers

A.(i) The manufacturer, sale or use of fire-crackers generating noise level exceeding 125 dB(A) or 145 dB(C)<sub>pk</sub> at 4 meters distance from the point of bursting shall be prohibited.

(ii) For individual fire-cracker constituting the series (joined fire crackers), the above mentioned limit be reduced by  $5 \log_{10} (N)$  dB, where N=Number of crackers joined together.

B. The broad requirements for measurement of noise from fire-crackers shall be -

(i) The measurements shall be made on a hard concrete surface of minimum 5 meter diameter or equivalent.

(ii) The measurement shall be made in free field conditions i.e., there shall not be any reflecting surface upto 15 meter distance from the point of bursting.

(iii) The measurement shall be made with an approved sound level meter.

C. The Department of Explosives shall ensure implementation of these standards.

#### 5. Noise Limits for Generator Sets run with diesel

**Noise limit for diesel generator sets (upto 1000 KVA) manufactured on or after 1<sup>st</sup> July, 2003**

The maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the 1<sup>st</sup> July, 2003 shall be 75 dB(A) at 1 meter from the enclosure surface.

The diesel generator sets should be provided with integral acoustic enclosure at the manufacturing stage itself.

The implementation of noise limit for these diesel generator sets shall be regulated as given in below mentioned paragraph.

##### Requirement of certification

Every manufacturer of engine or every importer of engine or product must have valid certificates of Type, Approval and certificates of Conformity of Production for each year, for all engine models being manufactured or for all engines or product models being imported, after the effective date with the emission limit as specified in earlier paragraph.

एच-०१००[४००-४-२००२]-४

6. (1) Noise limits for vehicles applicable at manufacturing stage  
from the year. 2003.

Sr.No.	Type of Vehicle	Noise Limits dB(A)	Date of Implementation
(1)	(2)	(3)	(4)
1.	Two Wheeler		1 <sup>st</sup> January, 2003
	Displacement upto 80 cm <sup>3</sup>	75	
	Displacement more than 80 cm <sup>3</sup> but upto 175 cm <sup>3</sup>	77	
	Displacement more than 175 cm <sup>3</sup>	89	
2.	Three Wheeler		1 <sup>st</sup> January, 2003
	Displacement upto 175 cm <sup>3</sup>	77	
	Displacement more than 175 cm <sup>3</sup>	80	
3.	Passenger Car	75	1 <sup>st</sup> January, 2003
4.	Passenger or Commercial Vehicles		1 <sup>st</sup> July, 2003
	Gross vehicle weight upto 4 tonnes	80	
	Gross vehicle weight more than 4 tonnes but upto 12 tonnes	83	
	Gross vehicle weight more than 12 tonnes	85	

(2) Noise Limits for vehicles at manufacturing stage applicable on and from 1<sup>st</sup> April, 2005

Sr.No.	Type of vehicles	Noise Limits
1.0	<b>Two Wheelers</b>	
1.1	Displacement upto 80 cc	75
1.2	Displacement more than 80 cc but upto 175 cc	77
1.3	Displacement more than 175 cc	80
2.1	<b>Three Wheelers</b>	
2.1	Displacement upto 175 cc	77
2.2	Displacement more than 175 cc	80
3.0	Vehicles used for the carriage of passengers and capable of having not more than nine seats, including the driver's seat	74
4.0	Vehicles used for the carriage of passengers having more than nine seats including the driver's seat and a maximum Gross Vehicle Weight (GVW) of more than tonnes	
4.1	With an engine power less than 150KW	78
4.2	With an engine power of 150 KW or above	80
5.0	Vehicles used for the carriage of passengers having more than nine seats including the driver's seat: Vehicle used for the carriage of goods.	
5.1	With a maximum GVW not exceeding 2 tonnes	76
5.2	With a maximum GVW greater than 3 tonnes but not exceeding 3.5 tonnes	77
6.0	Vehicles used for the transport of goods with a maximum GVW exceeding 3.5 tonnes	
6.1	With an engine power less than 75 KW	77
6.2	With an engine power of 75 KW or above but less than 150KW	78
6.3	With an engine power of 150 KW or above	80

एच-०१०० -५

१०

# 7. Noise Standards Part E:-

## A. Noise limits for Automobiles (Free Field Distance at 7.5 meter in dB(A) at the manufacturing stage.

(a)	Motorcycle, Scooters and Three Wheelers	80
(b)	Passenger Cars	82
(c)	Passenger or Commercial vehicles upto 4 MT	85
(d)	Passenger or Commercial vehicles above 4 MT and Upto 12 MT	89
(e)	Passenger or Commercial vehicles exceeding 12 MT	91

## B. Domestic appliances and construction equipments at the manufacturing stage to be achieved by 31<sup>st</sup> December, 1993.

(a)	Window Air Conditioners of 1 ton to 1.5 ton	68
(b)	Air Coolers	60
(c)	Refrigerators	46
(d)	Diesel generator of domestic purposes	85-90
(e)	Compactors (rollers), Front Loaders, Concrete Mixers, Cranes (moveable), Vibrators and Saws	75

\*\*\*\*\*