

# **REPORT ON AMBIENT NOISE MONITORING IN METROPOLITAN CITIES-2022**



**MAHARASHTRA POLLUTION CONTROL BOARD**

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**December- 2022**

## **ABSTRACT**

Urban noise pollution is the propagation of noise or sound that has varying effects on the activity of human or animal life and must be addressed immediately. Millions of people around the world are impacted by it, and it greatly stresses and disturbs them. The problem is getting worse as a result of population growth, urbanization, and technological advancement. Along with disrupting sleep, continuous noise can also lead to stress, fatigue, hypertension and reduced productivity etc. Traffic (road, rail, and air), industrial facilities, civil construction and social activities (parties, fairs and open air markets, and residential noise), all contribute to noise pollution. However, road traffic and unnecessary honking from the vehicles are main source of noise in urban areas and the most worrisome when it comes to annoyance.

To determine the level of urban noise pollution and its effects, Maharashtra Pollution Control Board (MPCB) carried out an Ambient Noise Level Monitoring Programme in 27 municipal corporations throughout the state at 104 locations for a duration of 24 hours during day time (06:00 am to 10:00 pm) and night time 10:00 pm to 06:00 am). The monitoring was carried out for two days comprising of one non-working day i.e. 25<sup>th</sup> December 2022 (Sunday) and one working day i.e. 26<sup>th</sup> December 2022 (Monday).

This report contains monitoring and assessment of the recorded data during the study. Results are expressed in terms of Leq daytime, Leq nighttime, L<sub>10</sub>, L<sub>50</sub>, L<sub>90</sub>, L<sub>max</sub>, and L<sub>min</sub> in dB(A) and compared with the standard limit for their respective zones (Industrial, Commercial, Residential, or Silence).

Field monitoring of this study was conducted by M/s Ashwamedh Engineers and Consultants, Nashik and was supported by all Regional offices of the Board, in the field. The strong support extended by the State Police, Traffic Police Media and NGOs during the monitoring is also acknowledged. The entire study work including planning, coordination, and report preparation was done at the PAMS division of the Board. The contributions of Dr. V.M Motghare (Joint Director, Air) and Ms. Sneha Kamble are highly appreciated.

December, 2022

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## 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 is a by-product of the modern developments in technology and spreads both vertically and horizontally with increase in social and industrial progress. The word “NOISE” is derived from the latin word “Nausea”, meaning sea sickness. It is defined as “unwanted or disturbing sound” by Environmental Protection Agency (EPA).

Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one’s quality of life. The noise can be intermittent, multi-frequency and impulsive in nature. Road traffic is major contributor to noise pollution in urban areas. Research shows that there has been a 40% increase in number of cars on the road over the past 25 years. With the greatest amount of ambient noise coming from traffic, and a large number of additional cars driving the roads each year, no wonder everything sounds louder! Particularly in cities, which are experiencing accelerated growth in the past few years. Construction of roads, buildings, apartments, highways, etc. uses heavy equipment such as excavators, compressors, hammers, etc. These create a lot of noise, causing disturbance to its surroundings, flora, fauna and adverse health related problems in humans like stress, high blood pressure, speech interference, hearing loss, etc.

In order to assess the impact of noise pollution, Maharashtra Pollution Control Board have been studying the ambient noise levels in Metropolitan cities across the state of Maharashtra from last so many years. This year also, MPCB has conducted the ambient noise monitoring study at 104 locations across 27 Municipal Corporations of Maharashtra for 2 days viz. 25<sup>th</sup> December (non-working day) and 26<sup>th</sup> December (working day) 2022. 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 list of locations comprised of all categories of the area namely residential, commercial, industrial and silence zone. The measured noise levels were then compared with their respective standards of Noise Pollution (Regulation & Control) Rules, 2000.

### 1.1 Measurement Scale

Sound is usually made up of a wide range of different frequencies. The spread of sound energy across the audible frequency “spectrum” (about 20Hz – 20kHz) is one factor that helps to make it identifiable to the human ear. The human ear is a very sensitive system with an extensive dynamic range. To accommodate this very large range, sound levels are measured using the **decibel (dB) scale**.

A sound level meter theoretically has a flat response, in other words it responds exactly the same at different frequencies. Unlike a sound level meter, the human ear responds differently at different frequencies, so a weighting, or filter, can be used so that the meter responds 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 =  $20 \log_{10} P/Pr$ .

## 1.2 Noise Descriptors

- **LAeq** is used to quantify the noise where the  $L_p$  varies over time. In most situations, the LAeq 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  $L_{90}$ .

## 2 OBJECTIVES

The main objectives of the study are:

- 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.

## 3 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 25, 2022, and the working day December 26, 2022 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 3.1** below:

**Table 3.1: Noise Monitoring Locations at Metropolitan Cities in Maharashtra: 2022**

Sr.	Municipal Corporation	Number of locations
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**.

#### 4 RESULTS

Hourly Noise Levels on 25<sup>th</sup> and 26<sup>th</sup> December in Metropolitan cities at different locations in Maharashtra is given in **Annexure IV**. 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.

#### 4.1.1 Mumbai

In Mumbai, a total of 15 locations were monitored continuously for 24 hours. The highest noise level during day time on 25<sup>th</sup> December and 26<sup>th</sup> December 2022 was observed with 81.0 dB(A) and 81.3 dB(A) respectively at Mumbadevi temple. During night time the highest noise level on 25<sup>th</sup> December was observed again at Mumbadevi temple with 76.4 dB(A) and on 26<sup>th</sup> December, it was observed highest at Shivaji Park, Dadar with 76.9 dB(A).

**Table 4.1: Ambient Noise Levels in Mumbai**

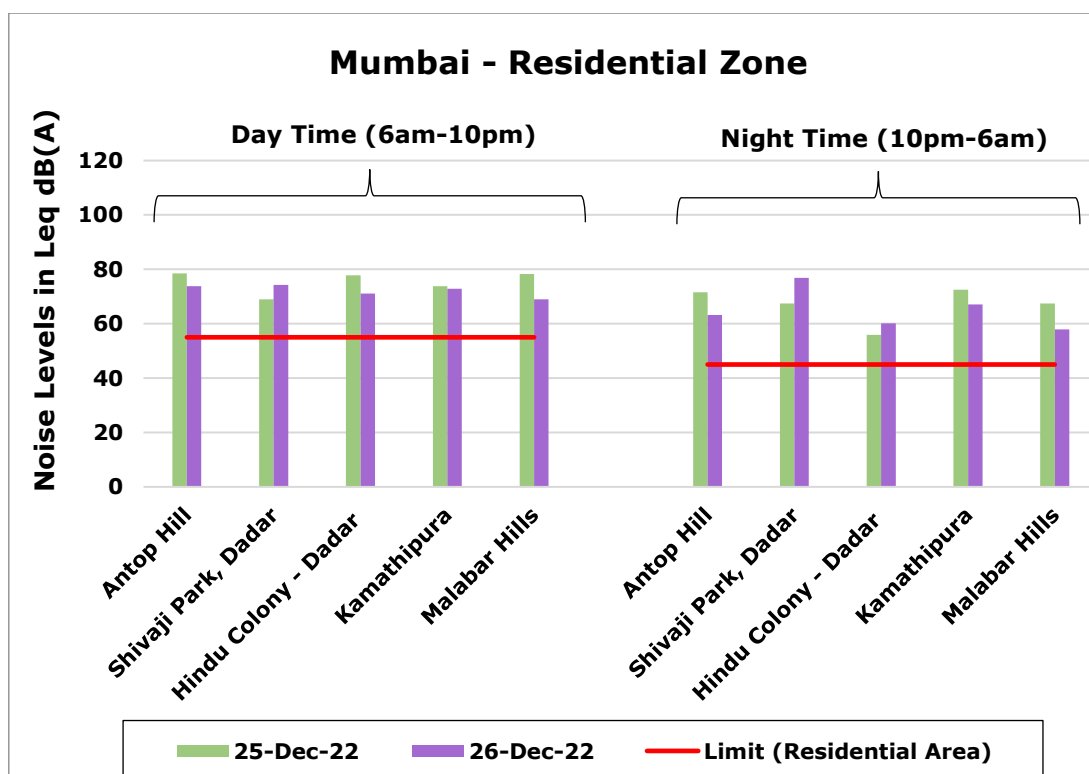
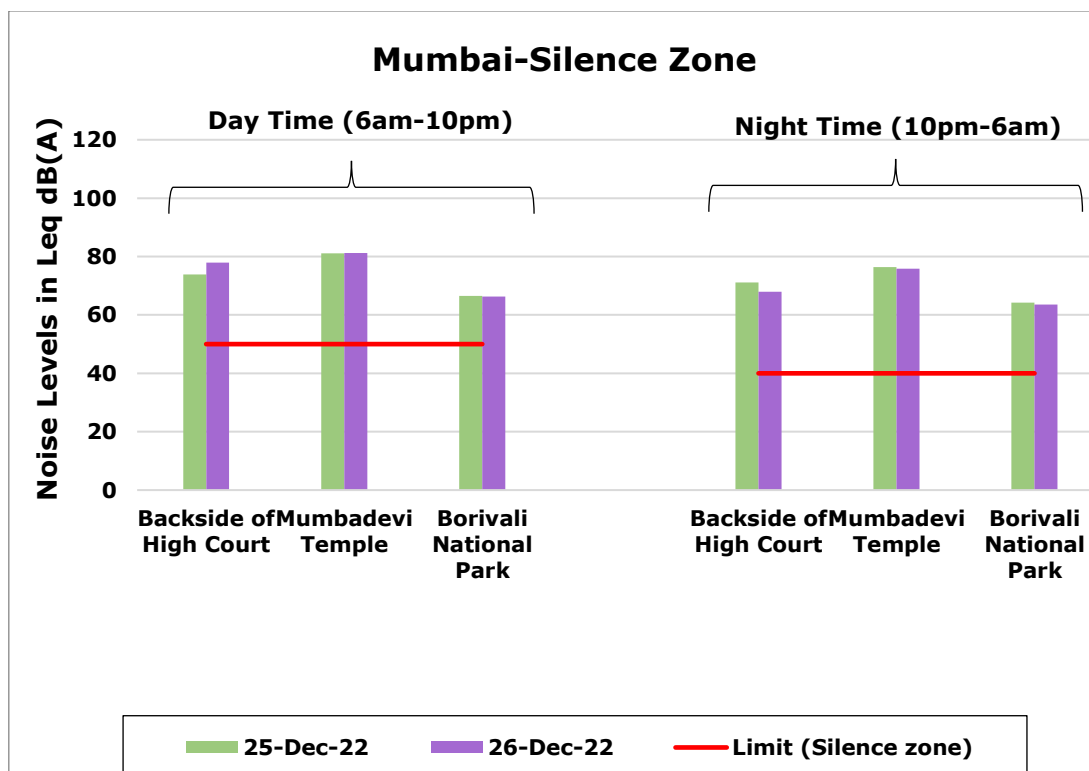
Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 – MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	$L_{eq}$	$L_{min}$	$L_{max}$	$L_{10}$	$L_{50}$	$L_{90}$	$L_{eq}$	$L_{min}$	$L_{max}$	$L_{10}$	$L_{50}$	$L_{90}$
Backside of High Court	73.8	51.6	85.2	78.3	68.6	58.2	71.1	51.1	82.4	75.5	65.4	55.4
Mumbadevi Temple	81.0	60.8	89.9	85.7	76.9	70.1	76.4	62.3	85.1	79.9	73.4	66.4
Borivali National Park	66.5	56.2	69.8	68.4	66.5	62.9	64.2	54.1	70.6	67.6	62.2	57.5
Antop Hill	78.5	61.3	88.8	81.7	73.7	68.6	71.5	50.5	84.6	75.5	60.4	53.5
Shivaji Park, Dadar	69.0	51.0	80.9	71.3	64.6	57.9	67.5	44.5	81.1	70.3	55.1	43.2
Santacruz Airport	76.0	60.1	87.4	78.6	72.3	67.9	71.3	49.6	83.6	75.6	61.6	55.6
Ghatkopar (W)	80.0	50.4	92.1	83.8	72.3	58.6	69.7	40.3	81.6	72.8	59.0	47.3
Vashi Naka, Chembur	77.8	60.9	87.2	81.7	74.7	68.4	67.8	45.0	79.0	69.5	63.6	55.4
Goregaon (E)	80.8	65.1	90.7	84.8	77.8	69.7	57.0	50.4	65.4	58.6	56.5	52.7

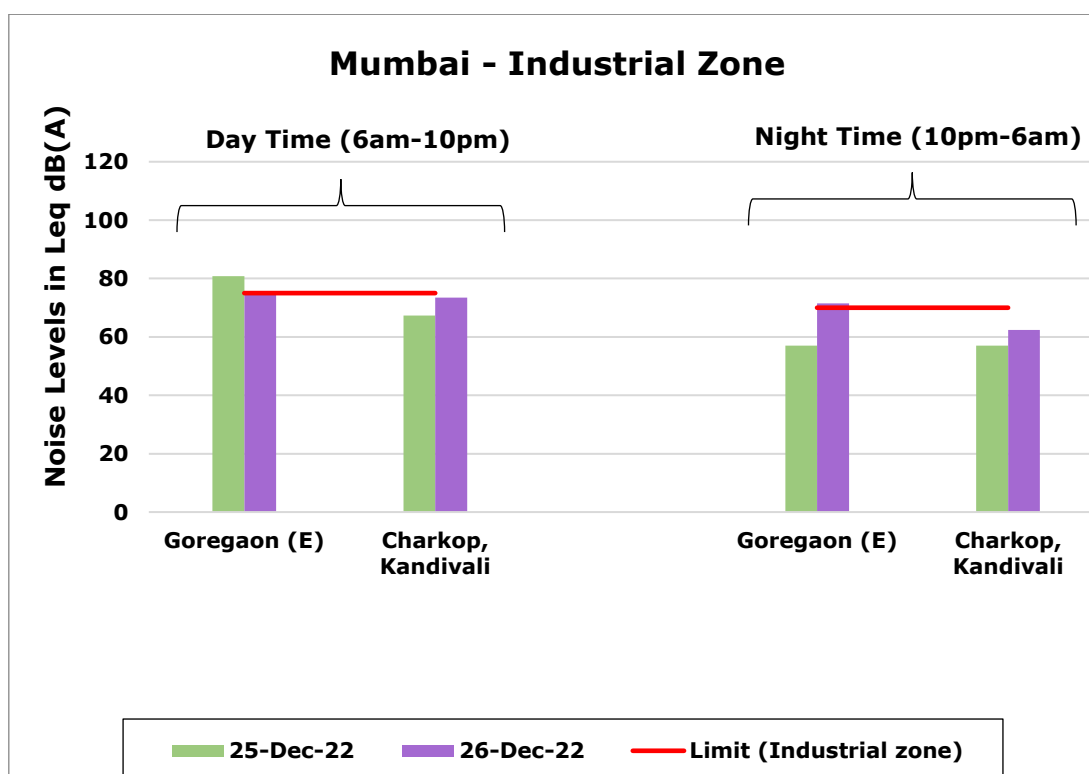
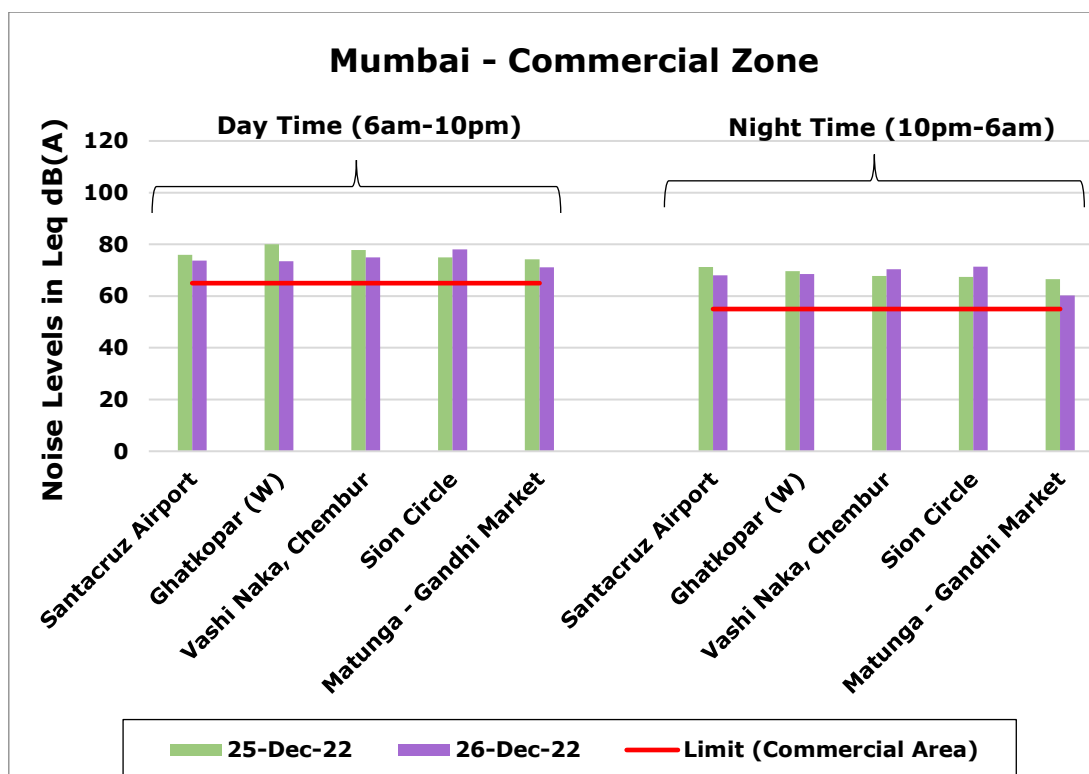
Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 – MUMBAI												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Charkop, Kandivali	67.3	50.4	77.4	70.4	64.5	56.2	57.0	50.4	65.4	58.6	56.4	52.7
Sion	75.0	63.7	85.3	78.4	72.6	66.7	67.4	48.7	75.4	72.2	60.4	53.5
Hindu Colony	77.8	39.1	89.0	83.4	60.1	50.0	55.9	45.1	61.0	57.7	55.7	53.0
Matunga	74.3	38.3	87.8	77.8	64.1	52.8	66.6	41.6	79.3	71.5	54.9	45.1
Kamathipura	73.8	51.6	89.3	77.7	68.4	58.2	72.5	53.0	82.5	77.6	64.9	58.4
Malabar Hills	78.3	53.3	89.1	82.4	70.3	60.9	67.4	48.7	75.4	72.2	60.4	53.5

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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	77.9	59.1	89.7	82.4	71.6	64.4	68.0	48.2	76.2	71.7	65.1	52.3
Mumbadevi Temple	81.3	64.8	90.3	85.9	76.8	71.3	75.9	63.7	83.5	79.9	73.1	67.1
Borivali National Park	66.3	59.3	69.6	67.9	66.2	63.5	63.5	51.4	68.8	66.3	62.2	59.4
Antop Hill	73.8	47.8	80.3	77.3	71.7	67.8	63.2	51.9	72.1	66.7	59.5	53.5
Shivaji Park, Dadar	74.3	44.1	88.0	77.0	65.6	55.1	76.9	42.5	89.0	79.0	58.1	48.6
Santacruz Airport	73.8	58.3	79.4	77.4	72.6	65.4	68.0	44.4	80.0	71.3	55.5	46.9
Ghatkopar (W)	73.5	51.5	84.4	78.2	68.5	58.0	68.6	40.6	80.4	71.6	59.3	47.2

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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>
Vashi Naka, Chembur	75.0	53.0	87.9	78.3	72.5	64.7	70.4	42.3	79.6	75.0	65.4	55.3
Goregaon (E)	74.5	59.1	81.1	77.9	73.6	67.9	71.5	50.8	83.3	74.9	68.3	57.5
Charkop, Kandivali	73.5	57.3	85.2	76.8	70.7	64.0	62.4	50.6	69.6	66.0	59.5	53.9
Sion	78.1	61.8	88.9	81.3	74.8	68.7	71.4	50.8	83.3	74.9	67.8	57.9
Hindu Colony	71.1	52.7	83.4	75.1	67.5	60.1	60.2	45.1	71.2	63.4	54.7	48.0
Matunga	71.1	52.7	83.4	75.1	67.5	60.1	60.2	45.1	71.2	63.4	54.7	48.6
Kamathipura	72.8	40.1	83.7	76.1	67.3	52.6	67.1	37.4	80.3	69.8	53.1	41.3
Malabar Hills	69.0	46.7	76.6	72.2	67.2	57.0	57.9	47.1	69.0	61.1	53.3	48.2

Chart 4.1: Ambient Noise Levels in Mumbai





### 4.1.2 Navi Mumbai

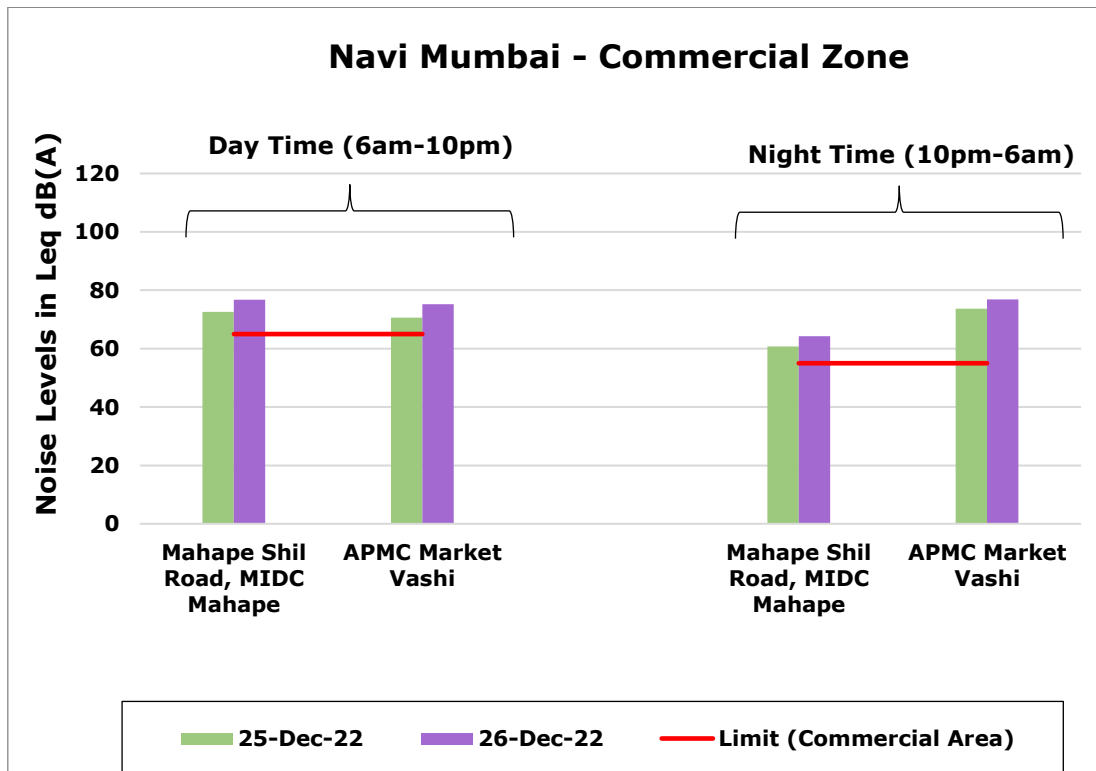
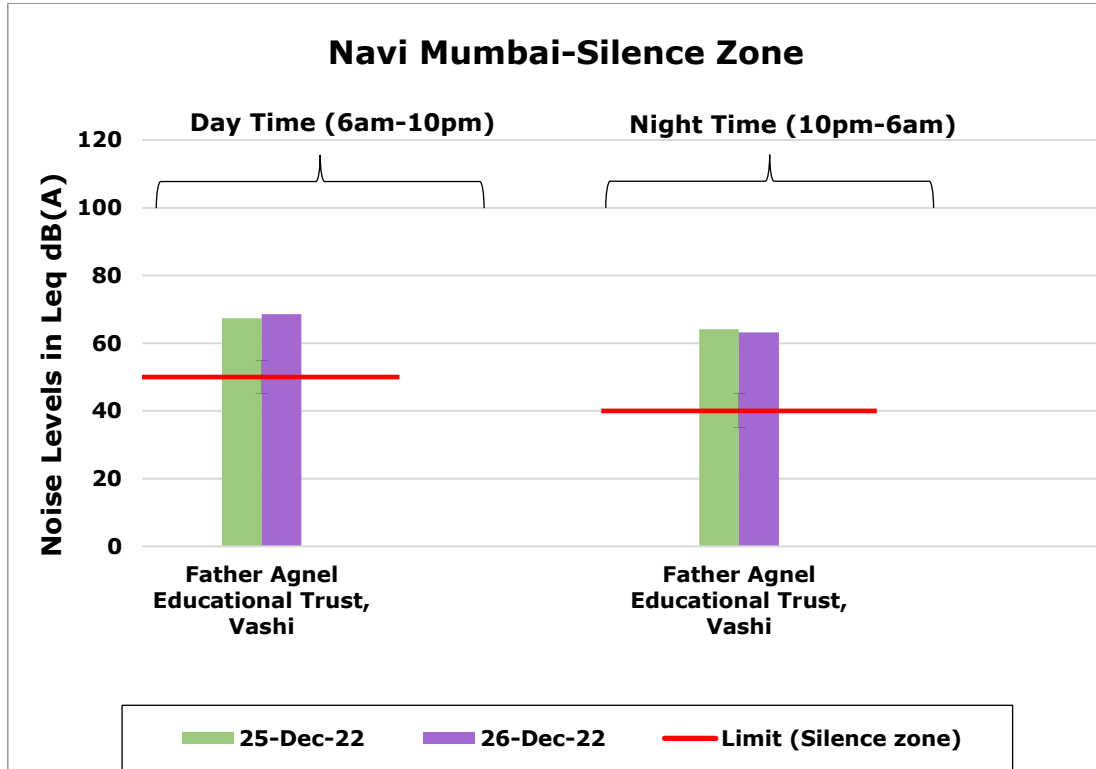
In Navi Mumbai a total of three locations were monitored. The highest noise level during day time on 25<sup>th</sup> December and 26<sup>th</sup> December 2022 was observed with 72.6dB(A) and 76.7dB(A) both at Mahape Road. During night time, the highest noise level 73.7dB(A) and 76.8 dB(A) respectively) on both days of monitoring was observed at APMC Market, Vashi.

**Table 4.2: Ambient Noise Levels in Navi Mumbai**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 - 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	72.6	56.7	82.3	76.5	69.5	62.5	60.8	52.3	68.5	64.4	58.9	54.8
APMC Market Vashi	70.6	63.2	79.7	75.6	67.4	65.2	73.7	61.2	84.2	76.7	71.0	63.8
Father Agnel Educational Trust, Vashi	67.4	41.3	74.5	70.3	66.3	60.8	64.1	46.3	71.3	68.6	61.0	50.1

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022 - 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	76.7	55.9	91.2	78.8	72.6	66.4	64.3	53.5	72.2	68.3	62.1	57.6
APMC Market Vashi	75.2	61.5	83.9	78.8	72.3	67.7	76.8	66.3	84.2	80.7	74.4	68.6
Father Agnel Educational Trust, Vashi	68.5	50.3	76.2	71.3	67.7	62.8	63.2	46.4	69.2	67.8	59.5	50.6

Chart 4.2: Ambient Noise Levels in Navi Mumbai



### 4.1.3 Thane

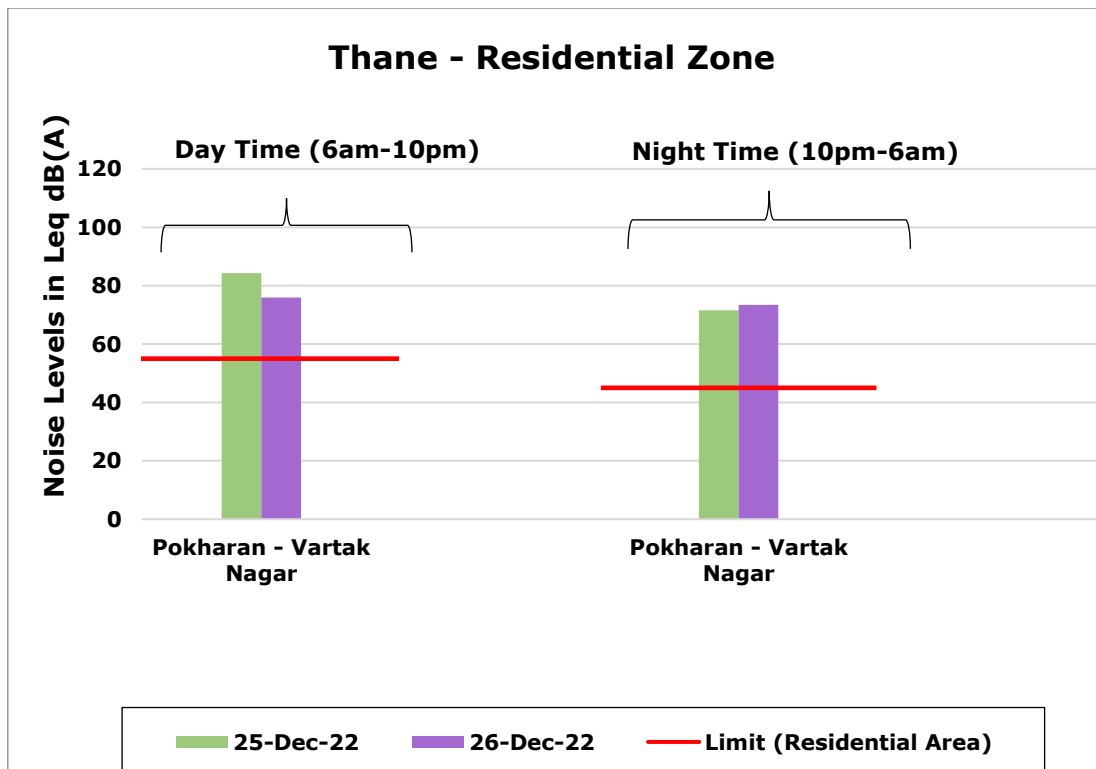
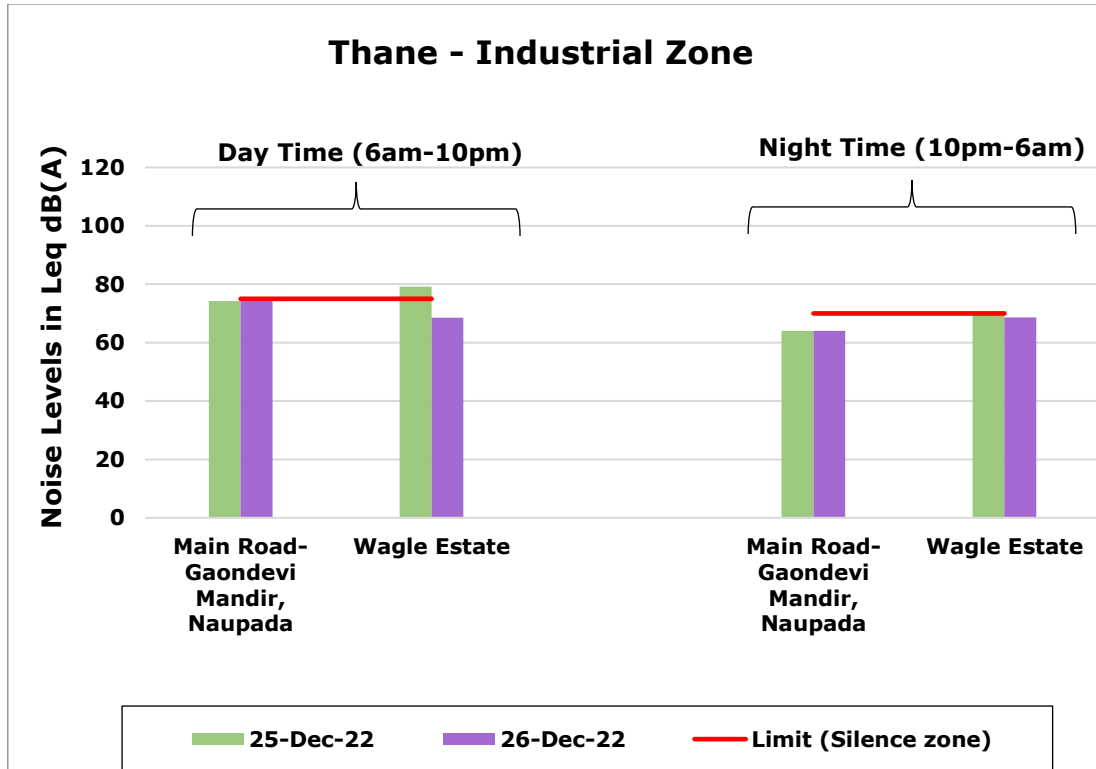
In Thane a total of 5 locations were monitored. The highest noise level during day time on 25<sup>th</sup> December is observed at Pokharan road i.e. 84.3 dB(A) and on 26<sup>th</sup> December, the Tembhi Naka was the loudest with 77.7 dB(A). However, during night time the highest noise level on both days was observed at Pokharan road with 71.5 dB(A) and 73.4 dB(A) respectively.

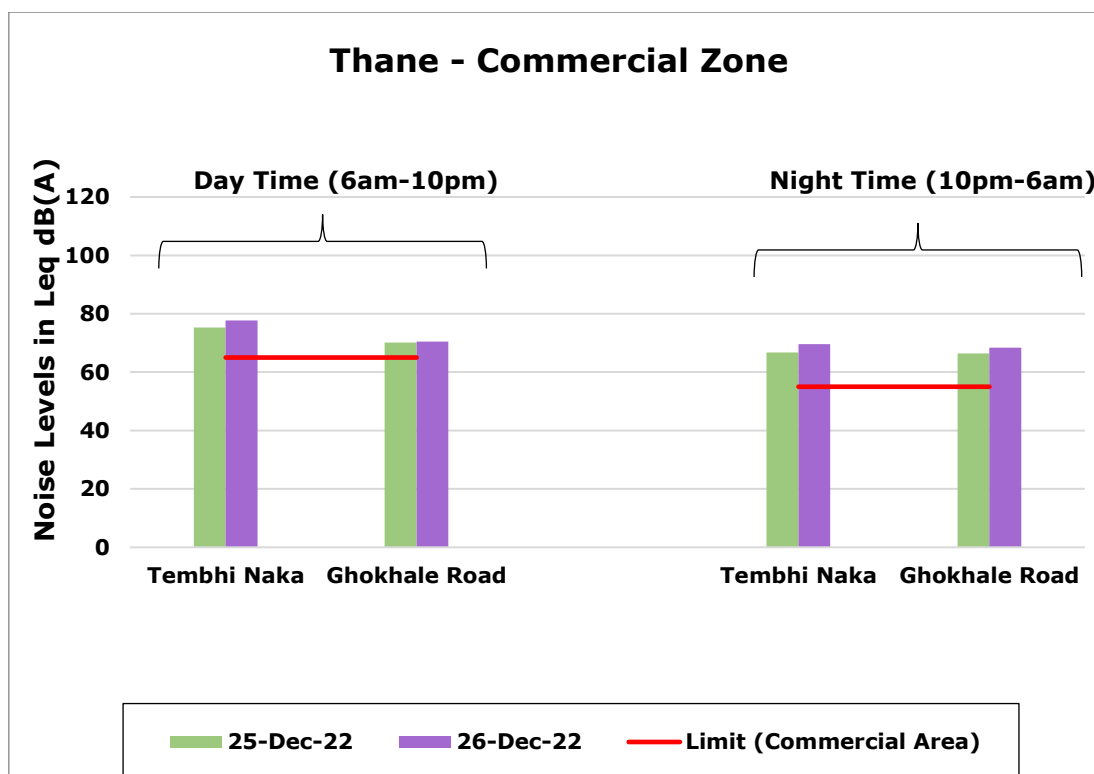
**Table 4.3: Ambient Noise Levels in Thane**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	74.3	46.7	86.2	76.6	71.1	62.2	64.0	50.2	72.3	67.4	63.1	53.4
Tembhi Naka	75.3	44.6	83.7	79.4	73.0	53.5	66.7	43.1	77.2	70.3	58.2	48.2
Ghokhale Road	70.1	51.4	78.9	73.8	68.4	63.2	66.4	49.0	77.0	72.0	57.3	52.9
Pokharan	84.3	64.0	90.8	88.6	81.4	68.2	71.5	50.5	84.6	75.5	60.4	53.3
Wagle Estate	79.2	47.3	90.2	83.9	72.7	61.0	69.7	44.5	82.5	74.3	53.4	48.3

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022 - 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	74.3	46.7	86.2	76.6	71.1	62.2	64.0	50.2	72.3	67.4	63.2	53.4
Tembhi Naka	77.7	47.6	89.9	80.4	75.8	60.7	69.6	43.7	79.2	75.6	63.0	49.9
Ghokhale Road	70.4	58.9	78.9	74.6	68.4	62.9	68.3	49.0	80.3	73.1	57.3	52.9
Pokharan	75.9	58.2	87.3	79.5	71.3	65.8	73.4	56.4	86.7	75.5	68.5	60.8
Wagle Estate	68.5	50.3	76.2	71.3	67.7	62.8	68.7	50.4	79.8	72.5	60.6	53.4

Chart 4.3: Ambient Noise Levels in Thane





#### 4.1.4 Pune

Five locations were monitored in Pune region. During both days of monitoring, Pune University road was observed as noisiest with 76.2dB(A) on 25<sup>th</sup> December and 77.1dB(A) on 26<sup>th</sup> December 2022.

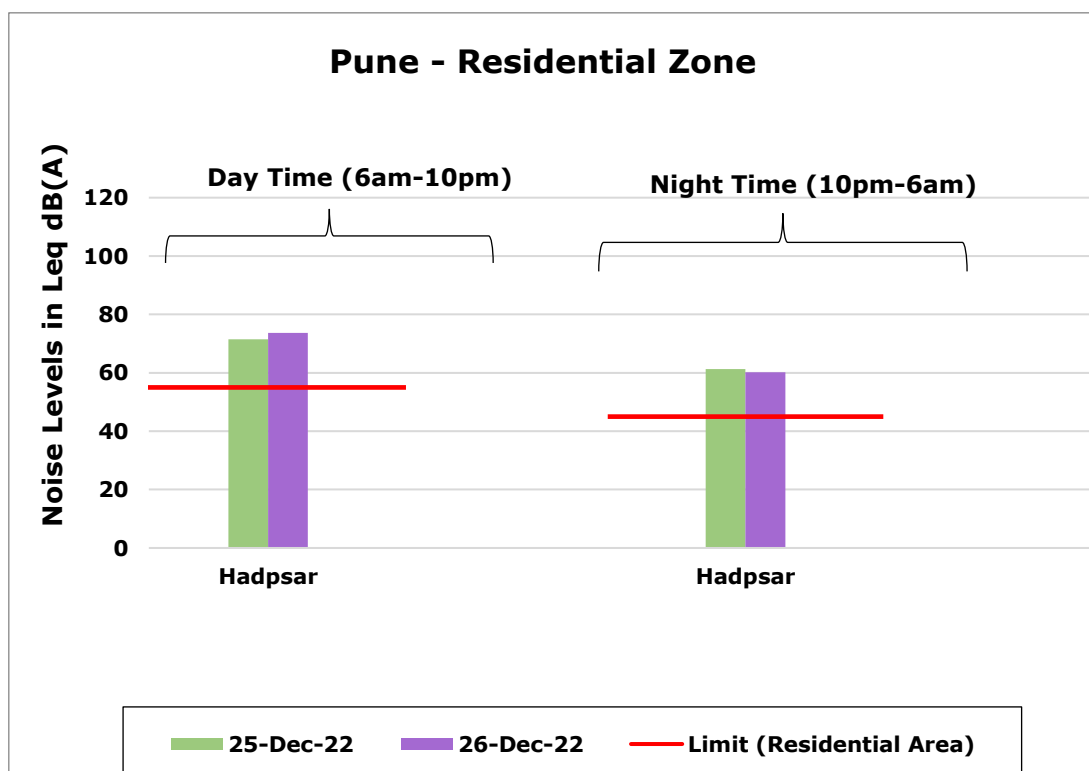
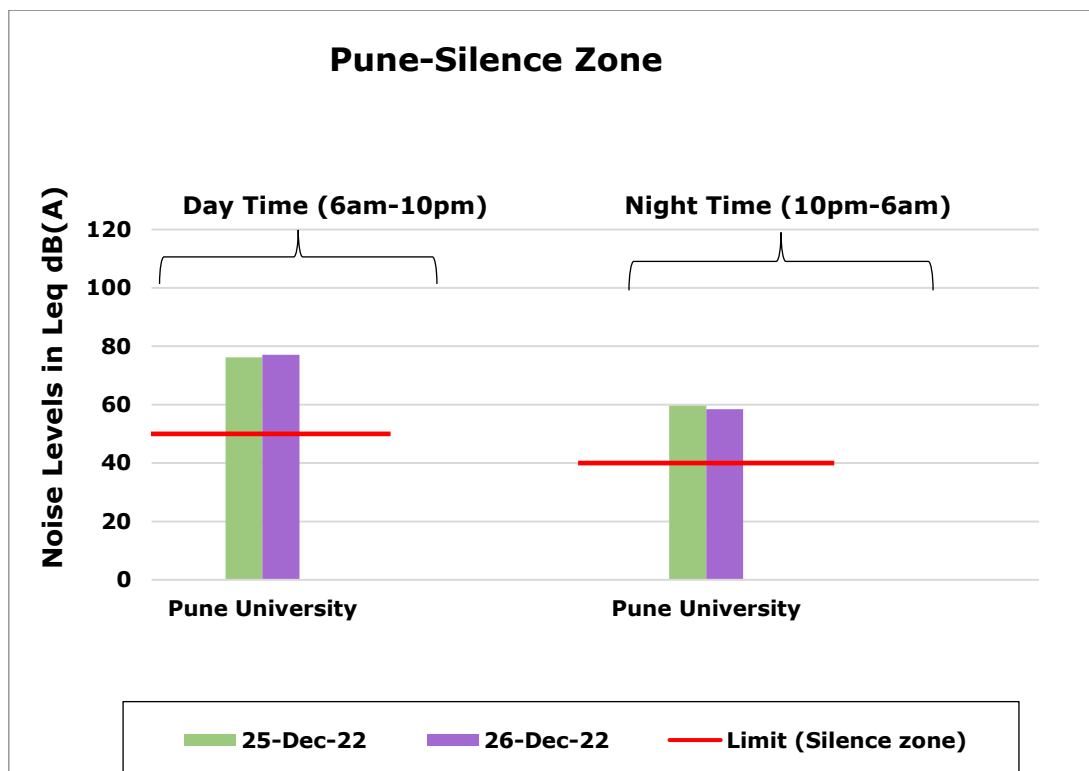
However, during night time of 25<sup>th</sup> December, the highest noise level 61.2dB(A) was recorded at Hadpsar and on 26<sup>th</sup> December, Swargate was observed with the highest noise level of 60.6dB(A).

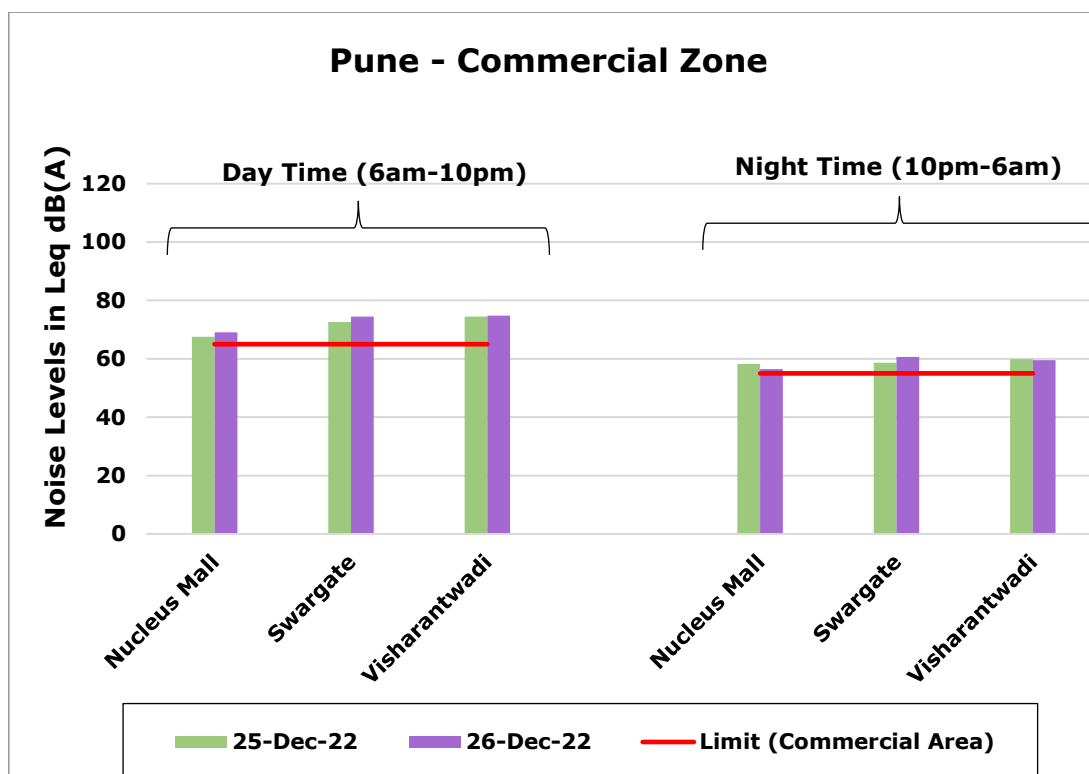
**Table 4.4: Ambient Noise Levels in Pune**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	67.5	51.2	74.0	71.0	65.5	55.8	58.2	41.3	72.6	60.5	48.5	43.7
Pune University	76.2	58.9	84.0	79.3	75.1	68.9	59.7	41.9	72.6	63.8	47.9	44.2
Swargate	72.6	63.2	81.2	75.3	70.2	66.9	58.7	42.5	71.2	62.9	47.4	43.6
Hadpsar	71.5	54.2	79.2	74.9	70.0	63.6	61.2	41.0	73.5	66.2	50.5	44.1
Visharantwadi	74.5	55.2	82.4	78.1	72.2	64.7	59.8	40.9	69.1	64.7	51.8	43.7

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	69.1	52.4	77.9	72.5	66.5	61.2	56.5	42.8	67.3	60.8	47.3	43.7
Pune University	77.1	59.8	82.4	79.6	77.0	68.3	58.5	42.5	69.1	62.4	48.1	43.7
Swargate	74.5	64.7	79.7	78.1	73.5	68.3	60.6	43.6	71.2	66.8	47.3	44.0
Hadpsar	73.7	58.9	81.4	77.2	72.8	66.3	60.2	42.9	72.6	63.4	48.8	44.2
Visharantwadi	74.8	62.0	79.8	78.2	73.7	65.8	59.5	42.9	69.1	63.7	49.0	43.8

Chart 4.4: Ambient Noise Levels in Pune





#### 4.1.5 Nashik

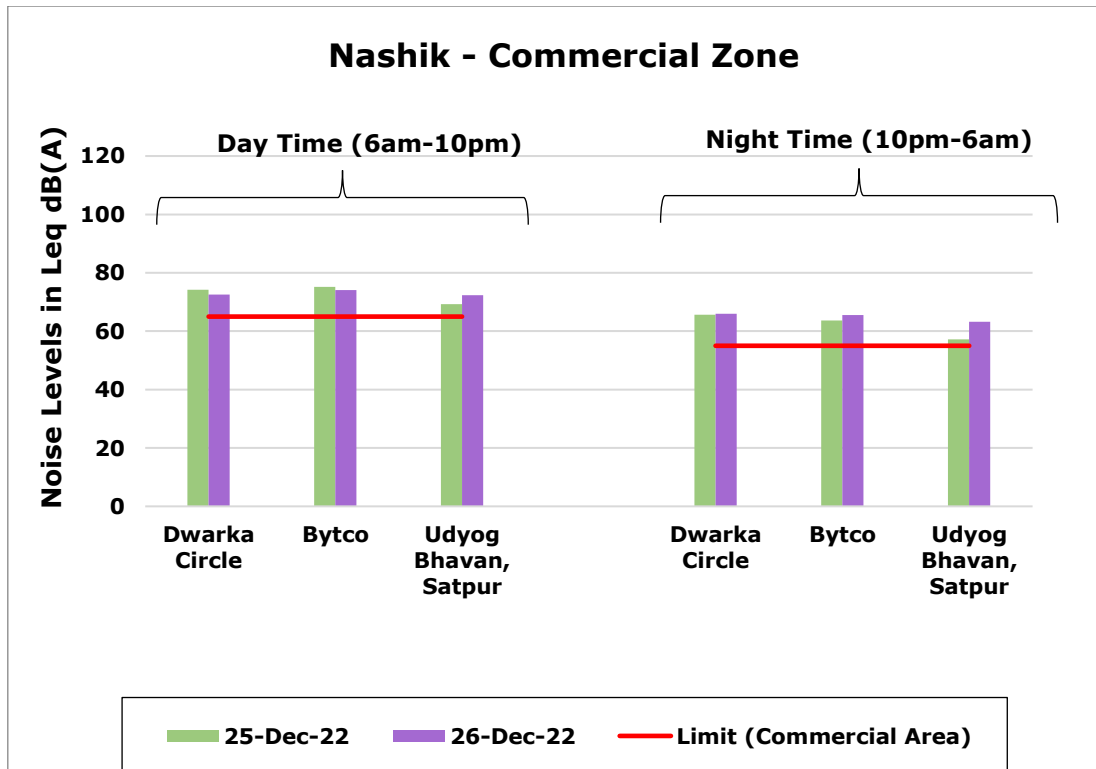
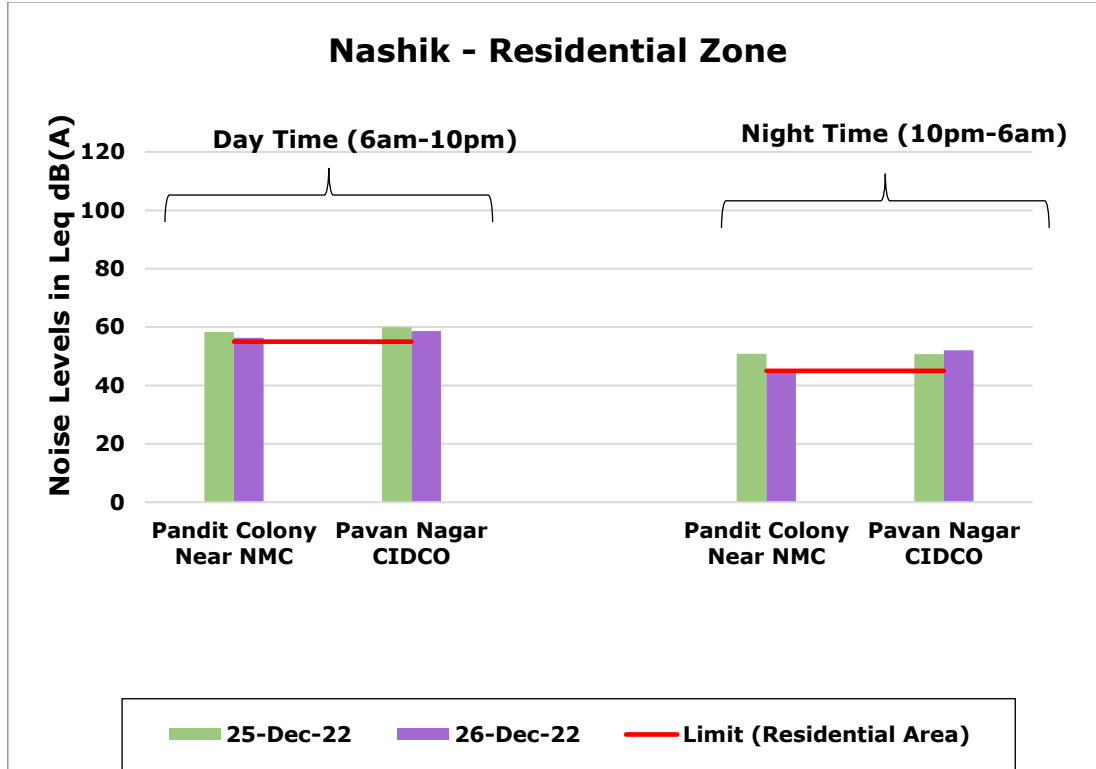
In Nashik also, we have monitored five locations. The highest noise level during day time on 25<sup>th</sup> and 26<sup>th</sup> December 2022 was observed with 75.2 dB(A) and 74.1 dB(A) both at Bytco. During night time the highest noise level on 25<sup>th</sup> December was observed at Dwarka Circle, with 65.7 dB(A) and on 26<sup>th</sup> December was also observed at Dwarka Circle with 66.0 dB(A).

**Table 4.5: Ambient Noise Levels in Nashik**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	74.2	64.0	80.0	77.0	74.0	68.0	65.7	61.0	69.0	68.0	65.0	63.0
Pandit Colony Near NMC	58.3	45.0	65.0	62.0	56.0	48.0	50.8	41.0	56.0	54.0	50.0	45.0
Pavan Nagar CIDCO	59.9	48.0	65.0	63.0	59.0	52.0	50.8	41.0	56.0	54.0	49.0	44.0
Bytco	75.2	68.0	80.0	78.0	75.0	71.0	63.6	54.0	68.0	67.0	63.0	57.0
Udyog Bhavan, Satpur	69.3	62.0	75.0	72.0	68.0	65.0	57.2	50.0	64.0	61.0	54.0	52.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	72.6	62.0	79.0	76.0	72.0	66.0	66.0	60.0	71.0	69.0	65.0	62.0
Pandit Colony Near NMC	56.3	42.0	63.0	59.1	56.0	46.0	44.9	41.0	48.0	47.0	45.0	41.9
Pavan Nagar CIDCO	58.6	45.0	65.0	63.0	57.0	48.0	52.1	42.0	58.0	56.0	49.5	46.0
Bytco	74.1	67.0	78.0	76.0	74.0	70.0	65.5	61.0	69.0	68.0	65.0	63.0
Udyog Bhavan, Satpur	72.3	64.0	76.0	75.0	72.0	67.0	63.3	58.0	68.0	65.0	63.0	60.9

Chart 4.5: Ambient Noise Levels in Nashik



#### 4.1.6 Aurangabad

Five locations were monitored for Aurangabad region. The highest noise level on 25<sup>th</sup> December both during day time and night time was observed at Nirala Bazaar. On 26<sup>th</sup> December, the highest noise level during day time was observed at Swami Vivekanand College with 68.1 dB(A) and during night time the highest noise level was observed at Nirala Bazar 50.4 dB(A).

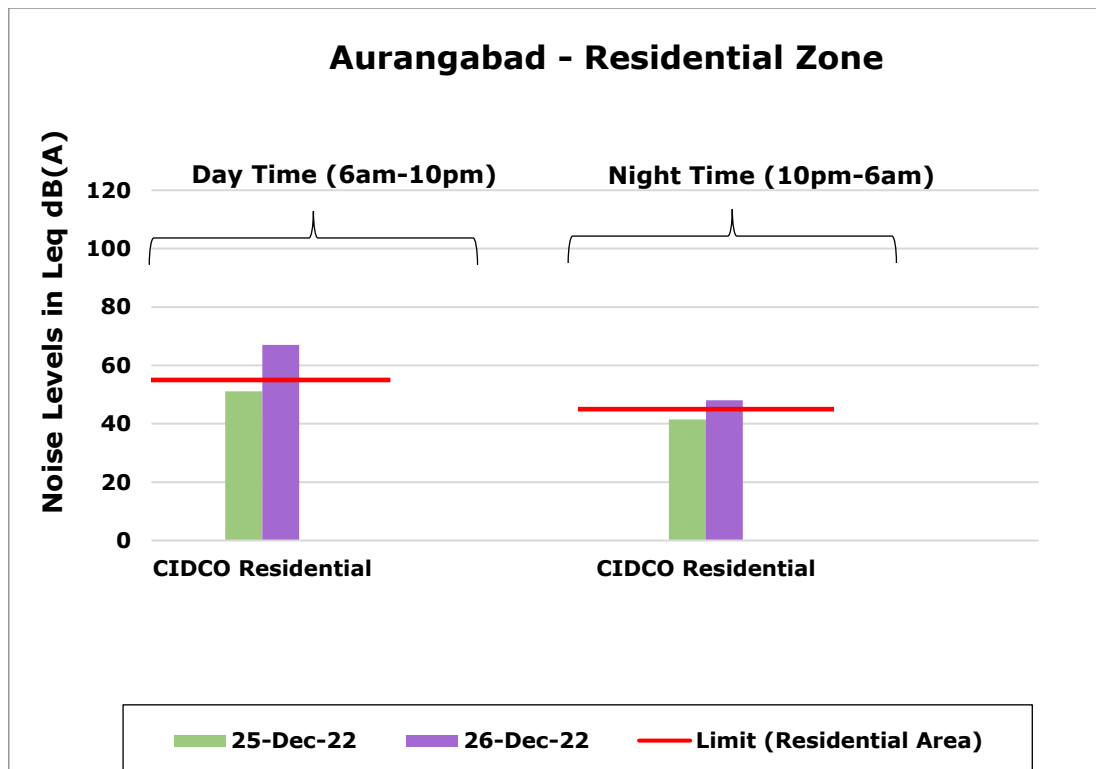
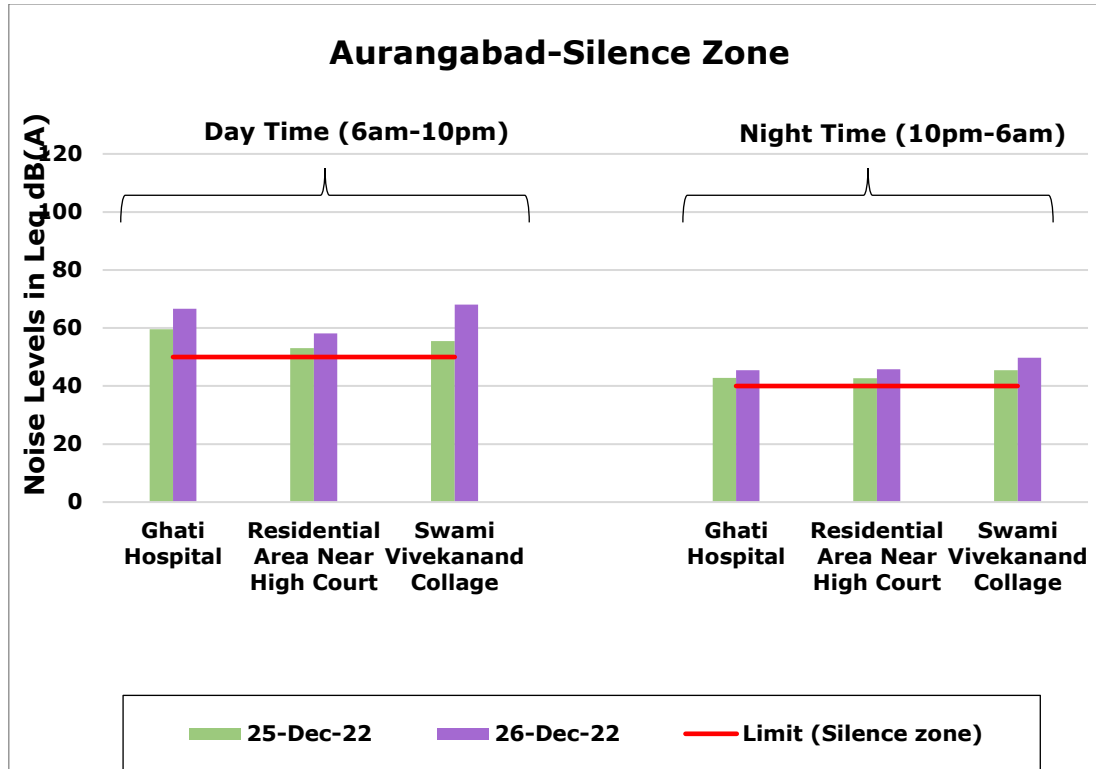
**Table 4.6: Ambient Noise Levels in Aurangabad**

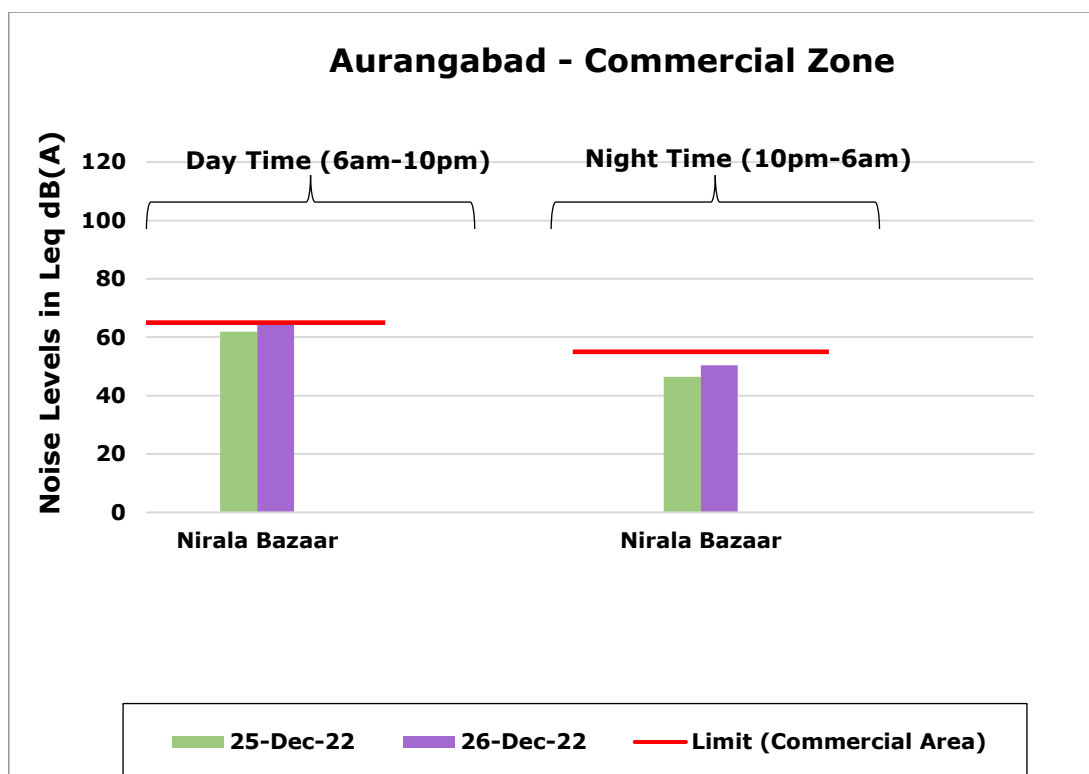
Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- AURANGABAD												
Location	Day Time (6am-10pm)						Night Time (10pm-6am)					
	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Ghati Hospital	59.6	40.0	65.0	64.0	58.0	48.0	42.8	37.0	49.0	45.1	41.0	39.0
Nirala Bazaar	61.9	41.0	68.0	65.0	61.5	52.0	46.4	35.0	54.0	51.0	42.0	40.9
CIDCO N-9	51.1	39.0	57.0	53.1	51.0	45.0	41.5	37.0	47.0	43.0	41.0	38.0
Residential Area near High Court	53.1	38.0	61.0	57.0	51.0	42.0	42.7	36.0	48.0	45.1	42.0	39.0
Swami Vivekanand College	55.5	41.0	62.0	59.0	53.0	48.0	45.5	38.0	53.0	48.1	42.0	41.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	66.6	41.0	74.0	70.0	65.0	45.9	45.4	39.0	50.0	49.0	43.0	41.0
Nirala Bazaar	65.3	41.0	73.0	69.0	64.0	48.9	50.4	40.0	58.0	54.0	49.0	42.0
CIDCO N-9	67.0	41.0	72.0	71.0	67.0	52.0	48.0	37.0	55.0	52.0	45.0	40.0
Residential Area near High Court	58.1	39.0	65.0	62.0	55.5	43.0	45.8	38.0	55.0	49.0	42.0	39.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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>
Swami Vivekanand College	68.1	42.0	74.0	71.0	68.0	51.9	49.8	39.0	59.0	53.1	47.0	41.0

Chart 4.6: Ambient Noise Levels in Aurangabad





#### 4.1.7 Nagpur

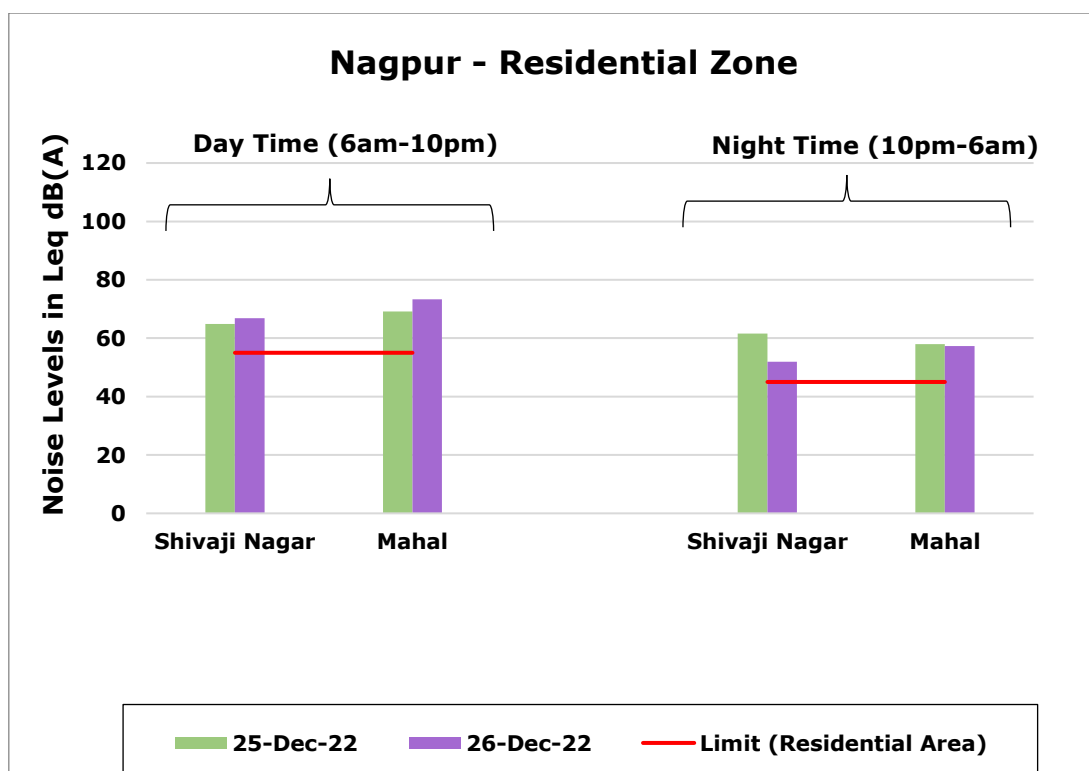
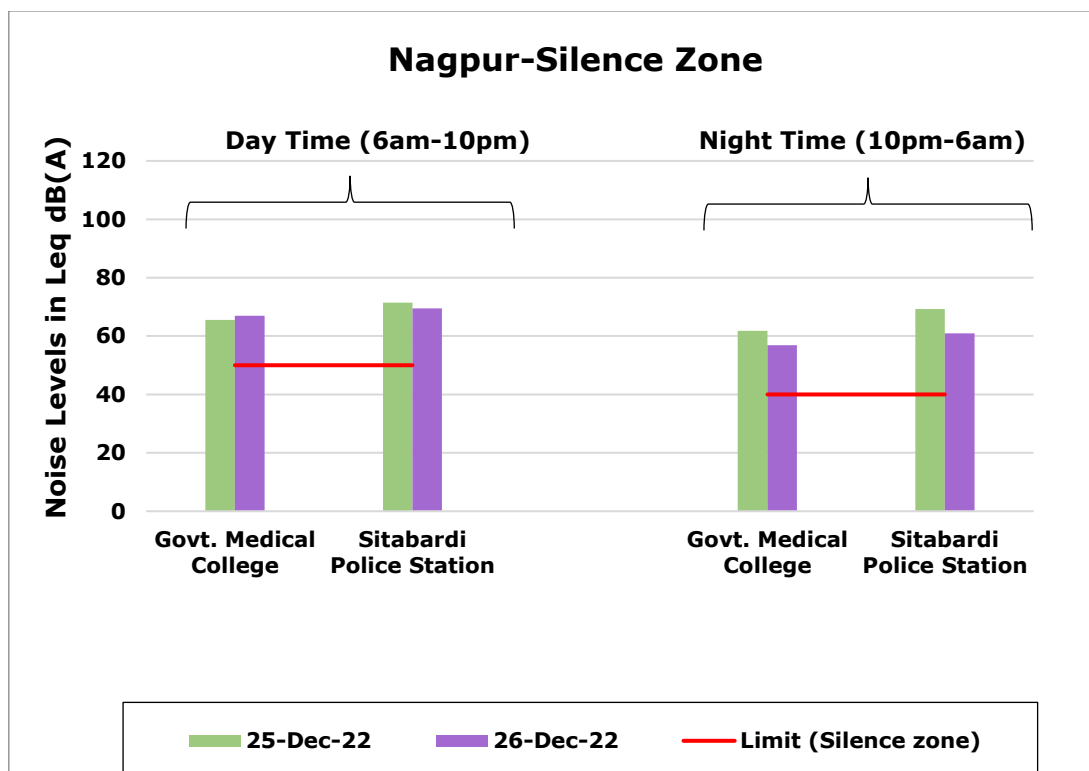
In Nagpur region also, noise levels were recorded at five different locations of the city. On 25<sup>th</sup> and 26<sup>th</sup> December, the highest noise level during daytime were observed at Sitabardi Police Station with 71.5 dB(A) and at Mahal with 73.3 dB(A). On both days during night time, the highest noise level was observed at Sitabardi Police Station.

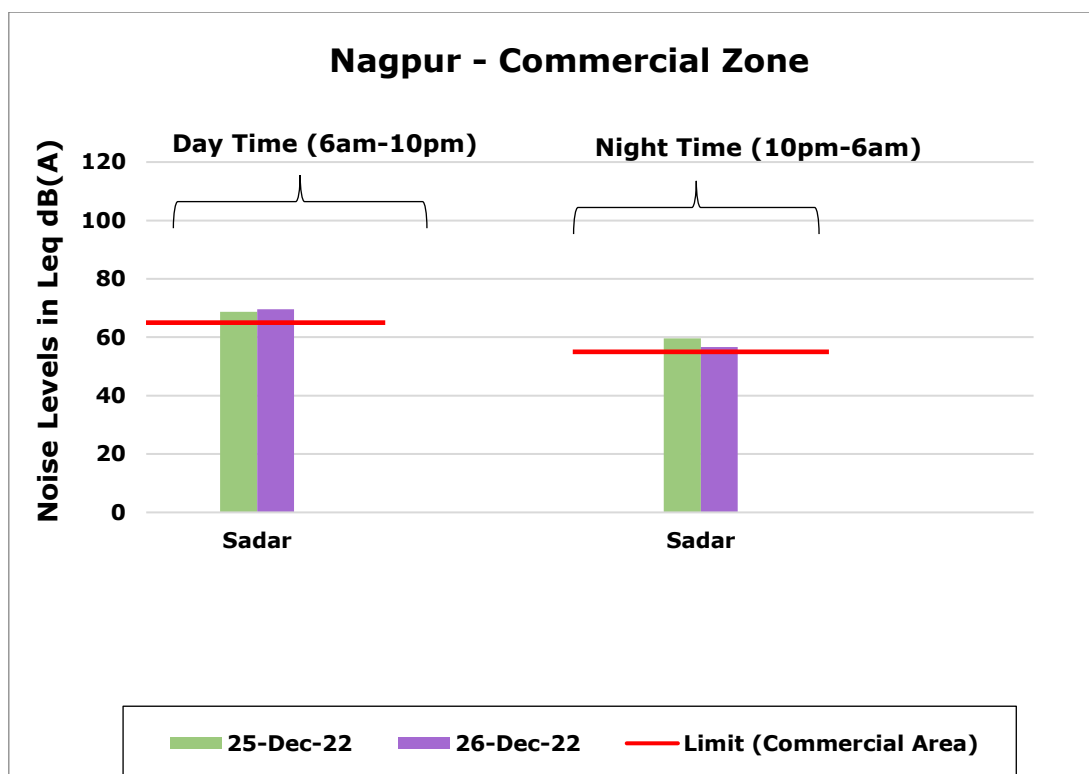
**Table 4.7: Ambient Noise Levels in Nagpur**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- NAGPUR												
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>
Govt. Medical College	65.5	47.9	78.1	68.6	62.4	56.4	61.8	47.9	72.1	65.8	58.4	50.4
Sitabardi Police Station	71.5	50.7	80.4	74.5	69.9	57.6	69.2	50.1	78.1	72.3	66.3	58.2
Shivaji Nagar	64.8	40.6	74.7	67.5	63.7	55.5	61.6	47.9	72.1	65.4	58.2	50.4
Mahal	69.2	40.2	77.1	73.2	67.8	60.8	58.0	44.2	64.5	61.0	57.1	50.1
Sadar	68.8	35.1	80.1	71.3	67.0	59.9	59.6	45.7	68.7	63.5	56.0	49.2

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- NAGPUR												
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>
Govt. Medical College	66.9	52.9	78.2	70.4	64.4	59.4	56.9	52.4	62.3	58.9	56.3	54.2
Sitabardi Police Station	69.5	54.5	76.6	73.5	68.3	60.8	60.9	43.2	73.4	64.7	53.2	50.1
Shivaji Nagar	66.9	45.8	77.0	70.2	64.6	57.4	51.9	44.8	60.6	55.4	49.3	46.1
Mahal	73.3	47.8	91.3	74.8	68.8	60.1	57.3	46.8	63.3	60.4	55.8	49.6
Sadar	69.6	42.3	77.8	73.3	67.4	60.2	56.6	40.4	64.9	61.3	51.3	48.0

Chart 4.7: Ambient Noise Levels in Nagpur





### 4.1.8 Kalyan

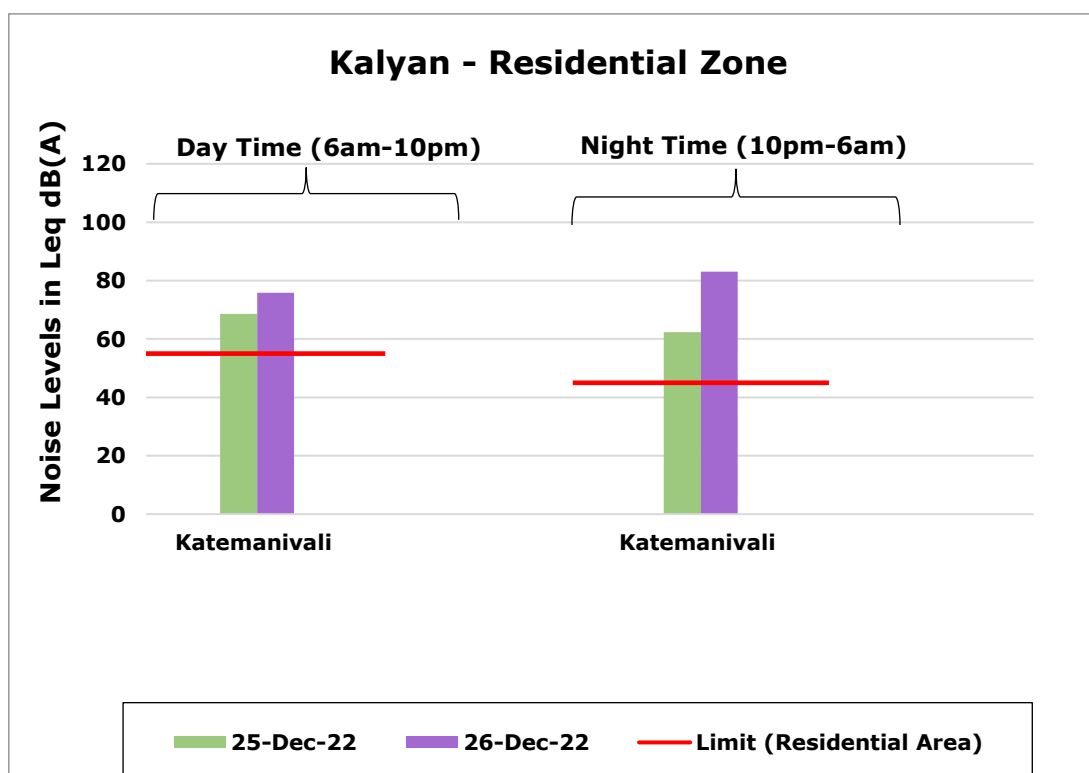
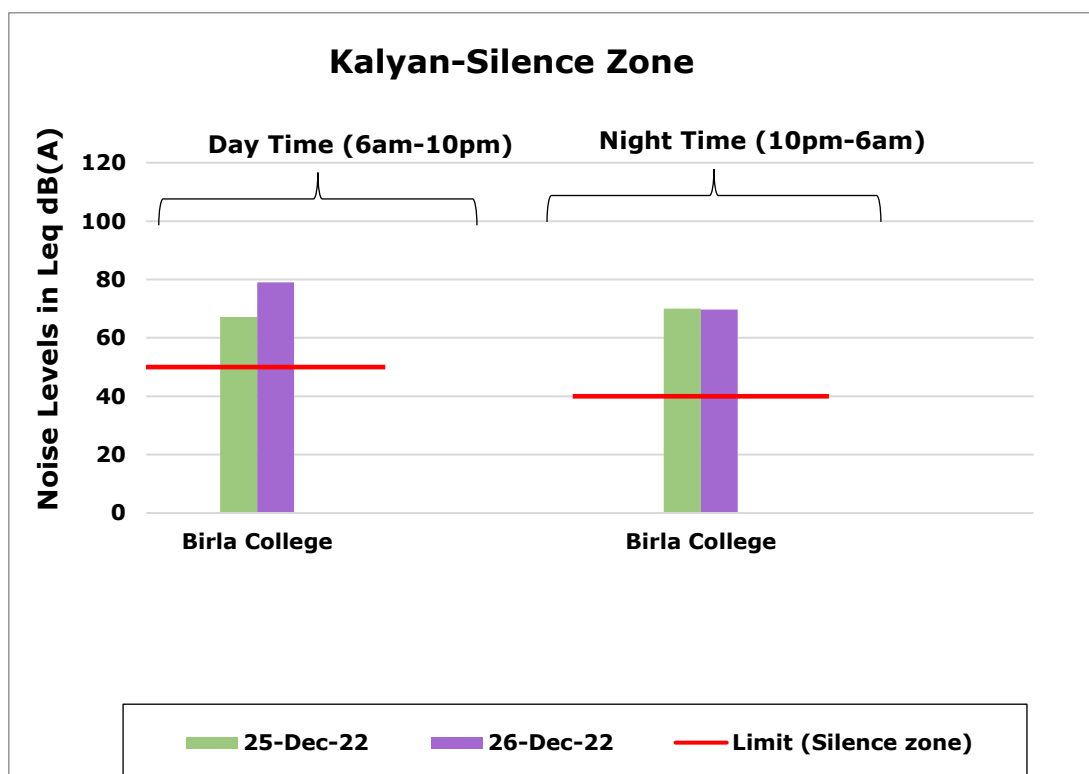
Three locations were monitored in Kalyan region. During day time on 25<sup>th</sup> December, the highest noise level 70.4dB(A) was recorded at Bail Bazar and on 26<sup>th</sup> December, Birla College was the noisiest with 79.0dB(A). During night time, the highest noise level was observed at Katemanivali on both the days of monitoring with 71.4 dB(A) and 73.4 dB(A) respectively.

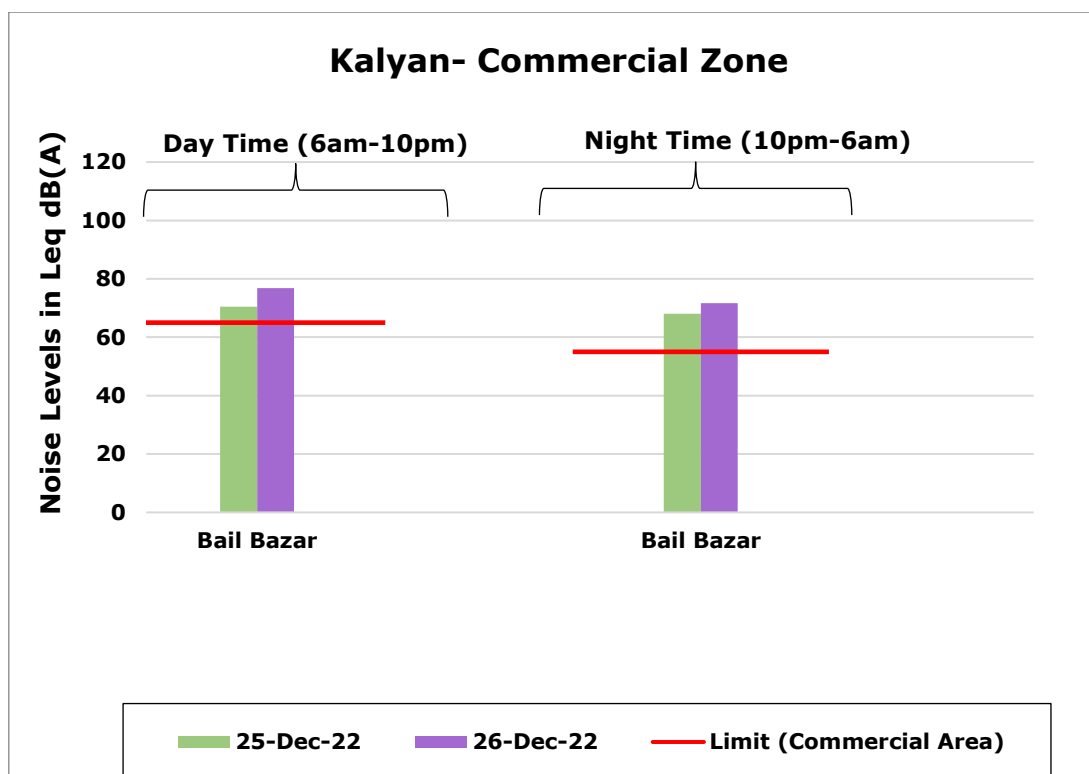
**Table 4.8: Ambient Noise Levels in Kalyan**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	68.6	54.7	75.1	72.1	67.5	61.8	71.4	50.5	84.6	75.4	60.4	53.3
Birla College	67.2	41.3	74.5	70.2	66.2	60.2	70.0	49.0	79.7	76.5	59.8	54.2
Bail Bazar	70.4	51.4	78.9	74.6	68.4	63.2	68.0	44.9	80.0	71.3	55.3	47.2

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	75.9	58.2	87.3	79.5	70.7	65.8	73.4	56.4	86.7	75.5	68.5	60.8
Birla College	79.0	47.3	90.2	82.7	72.0	61.0	69.7	44.5	82.5	74.2	53.3	48.3
Bail Bazar	76.9	59.5	87.7	79.8	71.2	66.4	71.7	50.5	84.6	76.1	62.0	53.3

Chart 4.8: Ambient Noise Levels in Kalyan





#### 4.1.9 Amaravati

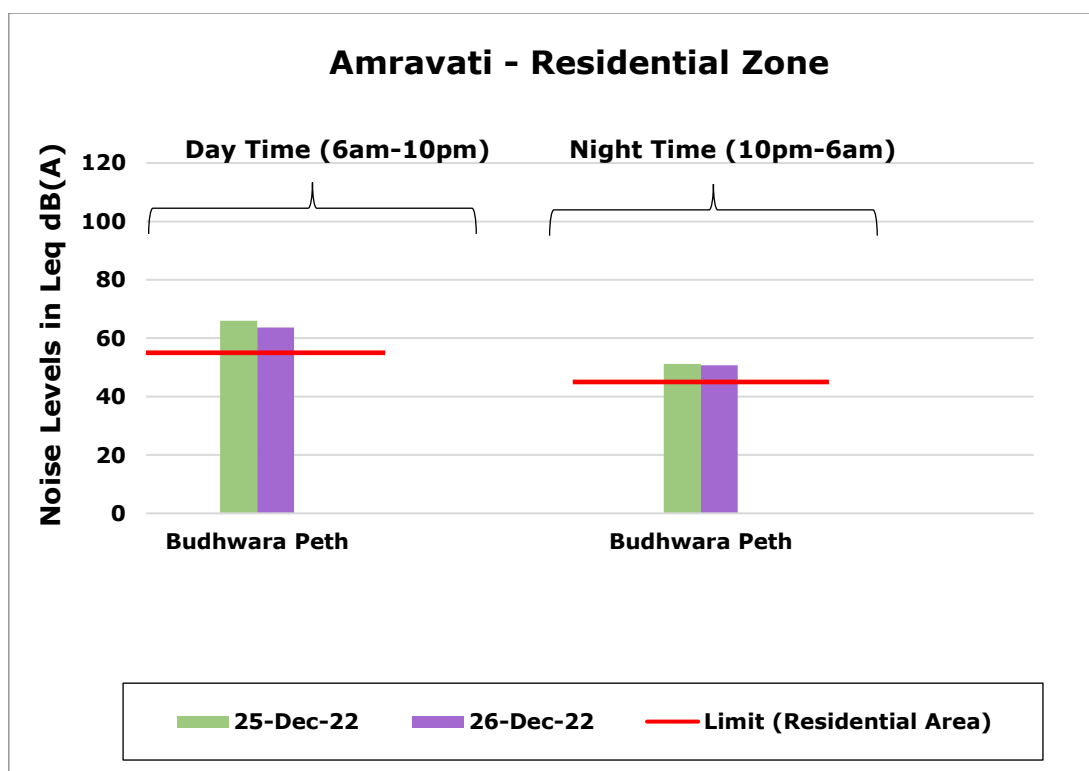
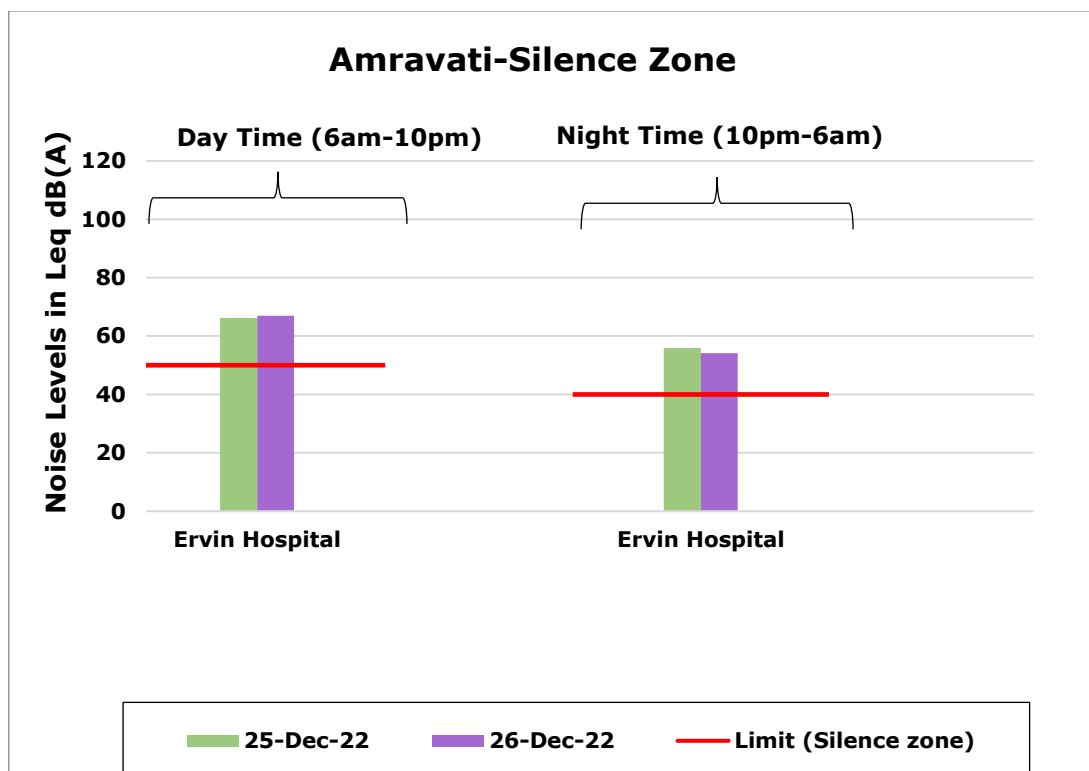
Three locations were monitored for Amravati region. It was observed that Rajkamal Chowk was the noisiest with highest noise levels on both days of monitoring both during night as well as day time.

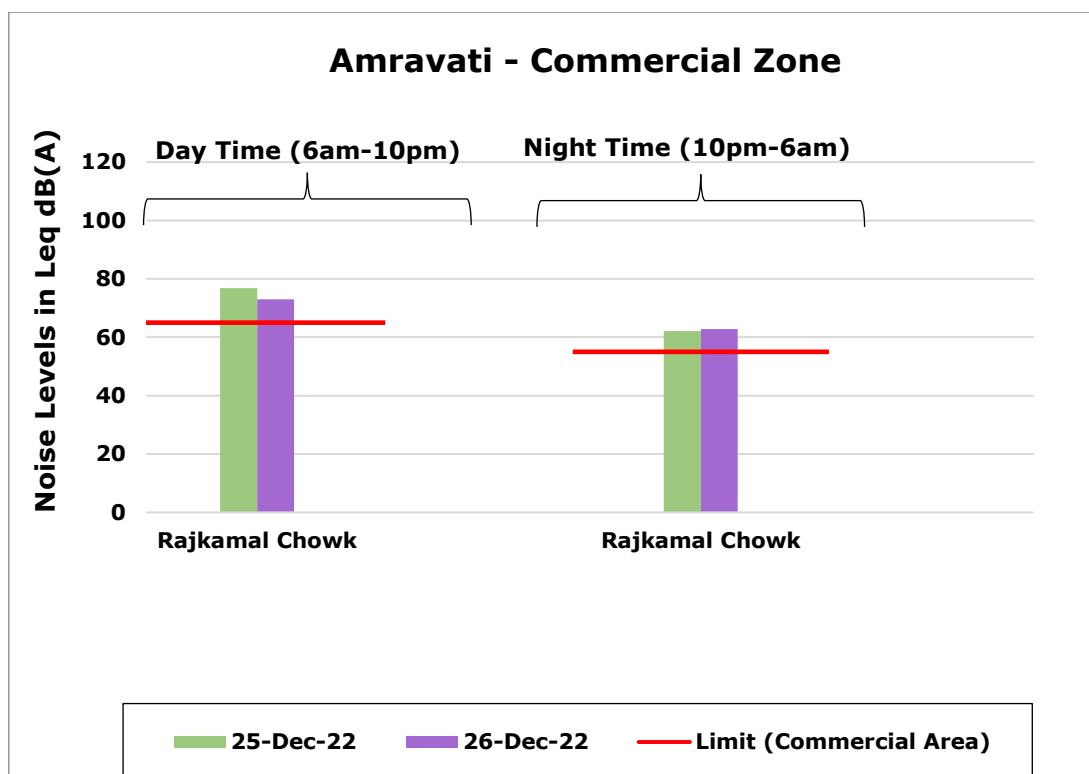
**Table 4.9: Ambient Noise Levels in Amaravati**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	66.2	48.3	73.2	69.2	65.5	60.2	55.9	39.3	62.4	60.1	52.6	42.8
Budhwara	66.0	48.6	74.6	70.2	62.5	54.9	51.1	38.5	63.2	52.3	46.3	38.8
Rajkamal Chowk	76.8	63.9	86.1	81.5	72.4	69.1	62.2	46.0	69.6	66.3	59.7	51.8

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	66.9	50.8	72.5	69.3	66.7	62.3	54.2	39.7	61.7	58.9	49.3	43.6
Budhwara	63.6	50.2	68.9	66.6	63.4	55.3	50.8	38.2	60.0	55.7	45.3	40.6
Rajkamal Chowk	73.0	58.3	82.3	76.1	72.4	64.2	62.8	49.7	71.2	67.4	59.7	52.6

Chart 4.9: Ambient Noise Levels in Amaravati





#### 4.1.10 Jalgaon

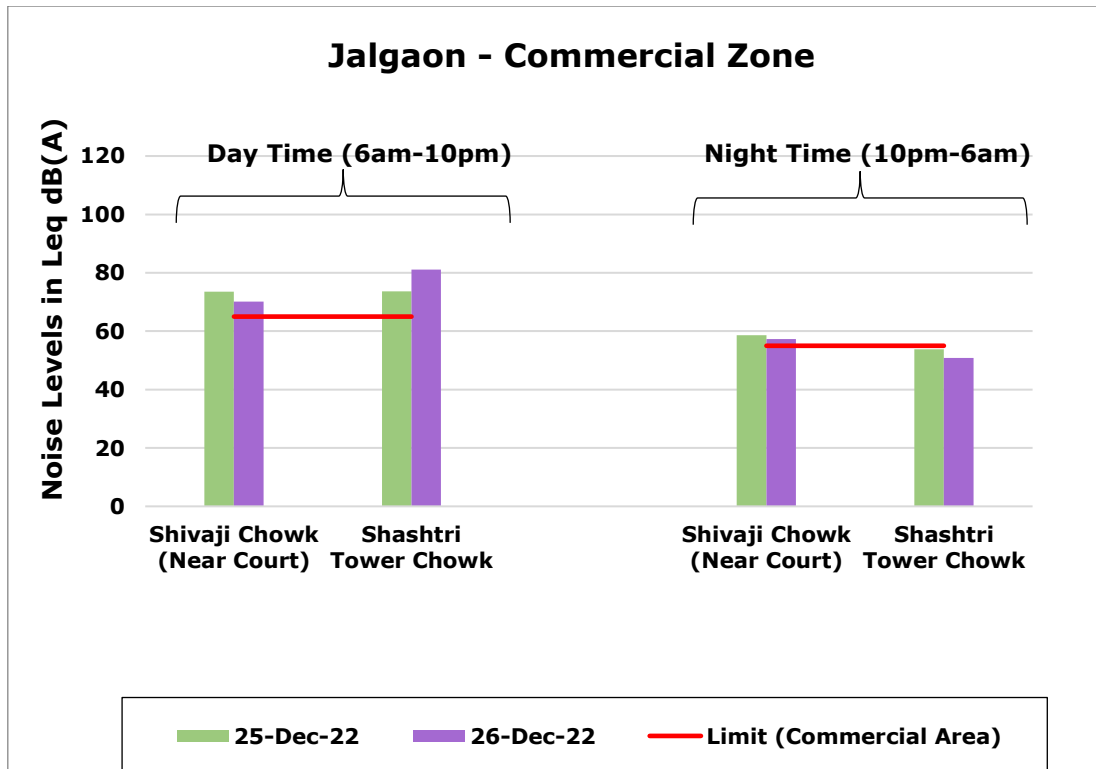
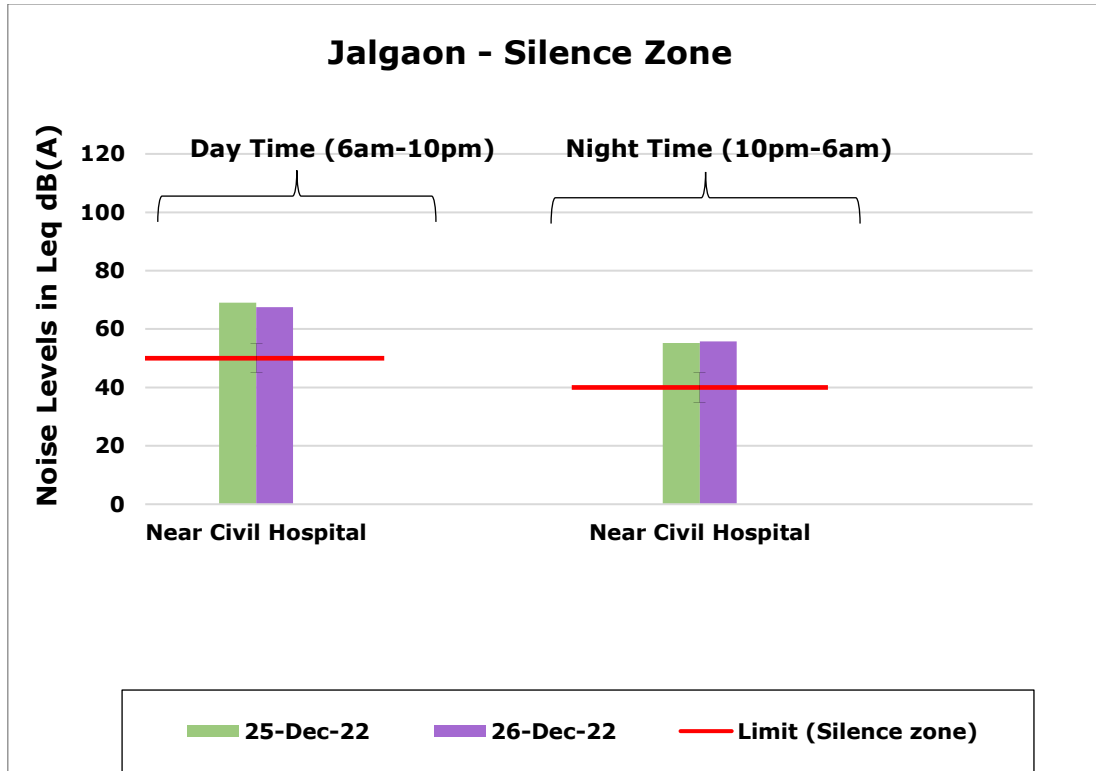
In Jalgaon region also, three locations were monitored. On both the days of monitoring, the highest noise level was observed at Shashtri Tower Chowk during day time. However, during night time, Shivaji Chowk with 58.7dB(A) on 25<sup>th</sup> December and 57.3dB(A) on 26<sup>th</sup> December 2022, was observed with the highest noise level.

**Table 4.10: Ambient Noise Levels in Jalgaon**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	69.1	56.6	77.2	76.9	69.9	59.8	55.3	50.3	67.3	66.3	54.5	46.7
Shivaji Chowk	73.5	59.1	83.5	84.6	76.1	60.3	58.7	46.6	73.2	73.2	58.0	46.5
Shashtri Tower Chowk	73.7	60.2	81.0	81.3	73.9	62.5	53.8	43.8	74.1	68.5	61.3	42.9

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	67.6	59.3	79.4	79.8	67.3	59.5	55.7	49.3	65.1	65.8	56.2	47.1
Shivaji Chowk	70.2	48.8	79.3	80.2	72.8	53.6	57.3	43.6	77.6	74.9	52.5	43.1
Shashtri Tower Chowk	81.1	63.1	91.5	91.3	81.9	67.8	50.8	41.7	72.1	65.5	48.8	40.9

Chart 4.10: Ambient Noise Levels in Jalgaon



#### 4.1.11 Kolhapur

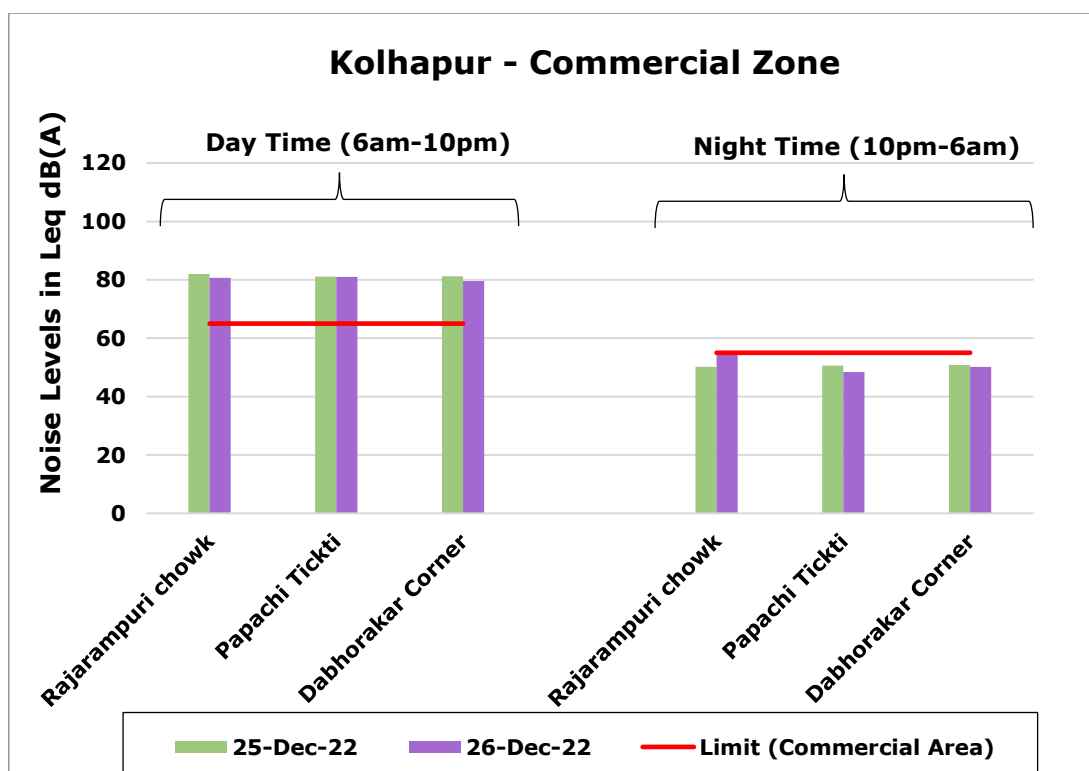
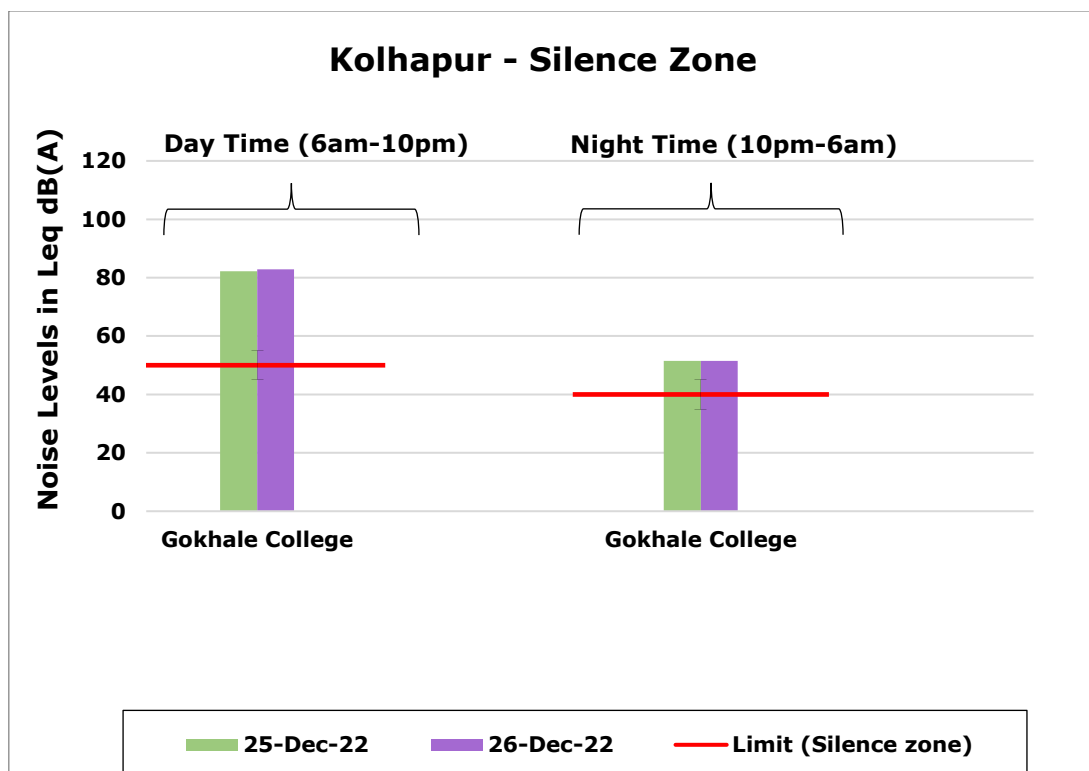
In Kolhapur region, four locations were monitored. On both the days of monitoring during daytime, the highest noise level was recorded at Gokhale College with 82.2 dB(A) and 82.9 dB(A). During night time on 25<sup>th</sup> December, Gokhale College was observed with the highest noise level i.e. 51.5dB(A) and on 26<sup>th</sup> December, Rajarampuri Chowk was recorded with the highest noise i.e. 54.2 dB(A).

**Table 4.11: Ambient Noise Levels in Kolhapur**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 - 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	81.9	50.2	92.6	87.0	70.4	54.0	50.1	40.6	58.4	54.2	46.9	42.6
Papachi Tickti	81.0	50.4	92.8	86.2	69.6	54.6	50.6	40.2	62.1	52.6	47.4	41.8
Gokhale College	82.2	50.4	94.6	86.8	73.1	58.4	51.5	40.8	61.4	55.3	46.8	42.6
Dabhorakar Corner	81.3	50.6	91.7	86.2	74.3	56.2	50.8	40.6	56.6	54.6	49.6	42.9

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022 - 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	80.6	50.2	95.2	83.7	72.8	58.9	54.2	40.2	67.3	57.6	49.6	42.2
Papachi Tickti	81.0	49.0	94.2	85.2	67.2	51.3	48.4	40.2	57.2	52.4	45.5	41.2
Gokhale College	82.9	50.1	96.6	84.3	70.0	53.0	51.5	40.1	61.4	55.2	48.2	42.2
Dabhorakar Corner	79.5	48.0	94.6	81.7	68.8	55.3	50.2	40.0	55.8	54.3	48.7	42.8

Chart 4.11: Ambient Noise Levels in Kolhapur



#### 4.1.12 Sangli

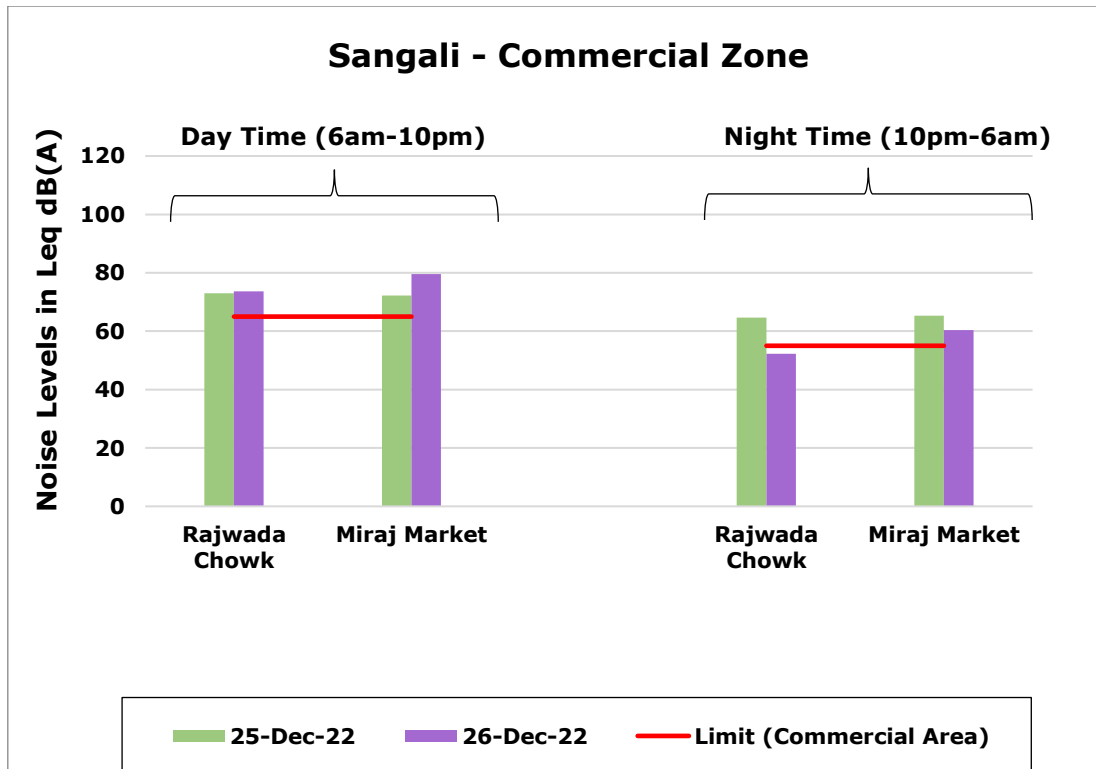
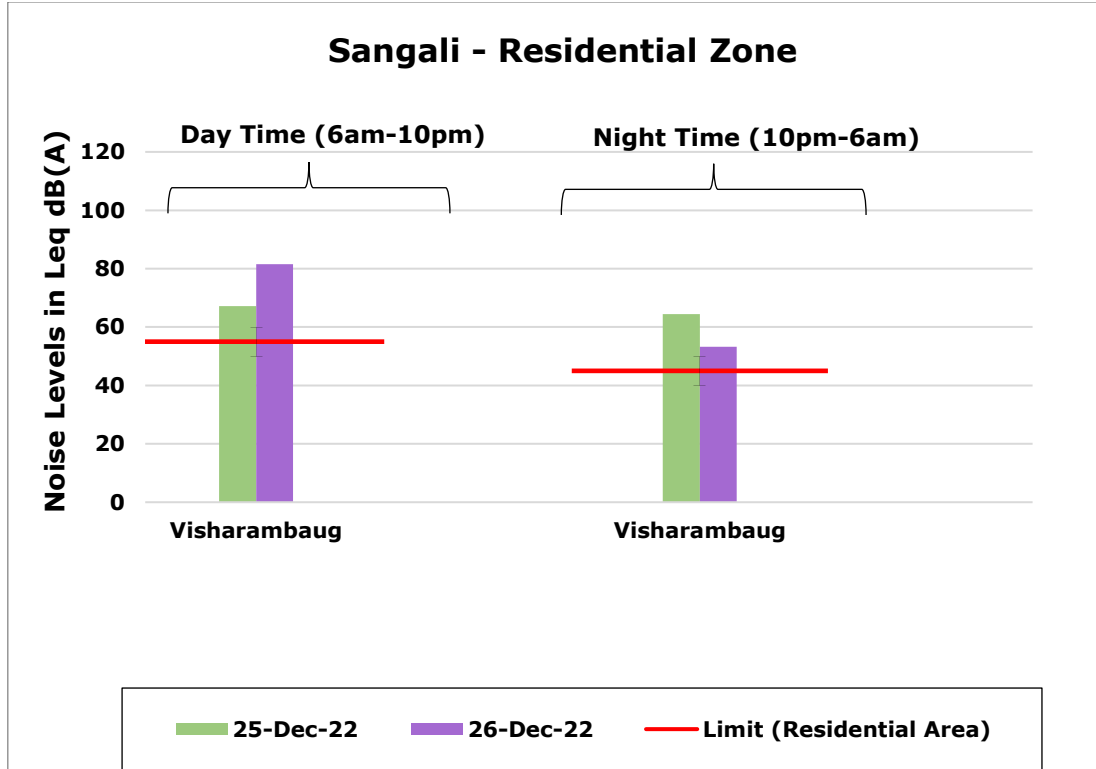
Out of the three locations monitored in Sangli region, on 25<sup>th</sup> December, Rajwada Chowk with 72.9 dB(A) was observed with the highest noise level during day time and on 26<sup>th</sup> December, the highest noise level was observed at Vishrambaug i.e. 81.5dB(A). However, during night time of both days, Miraj market was the noisiest among all three locations of monitoring.

**Table 4.12: Ambient Noise Levels in Sangli**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	72.9	48.5	84.3	76.3	64.9	52.4	64.7	41.2	75.3	70.2	52.8	43.6
Vishrambaug	67.2	42.6	79.5	71.5	62.6	49.6	64.4	40.9	72.2	70.2	55.3	44.1
Miraj Market	72.2	42.5	84.6	75.5	64.9	52.9	65.3	42.2	72.5	70.3	59.8	45.6

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	73.6	42.3	86.4	77.8	60.9	49.6	52.2	40.2	60.3	56.9	49.5	43.4
Vishrambaug	81.5	50.2	95.6	84.5	71.9	57.0	53.2	40.1	67.6	54.6	48.1	42.9
Miraj Market	79.5	52.3	94.3	83.0	71.3	59.6	60.3	40.8	72.3	64.4	49.5	42.9

Chart 4.12: Ambient Noise Levels in Sangli



#### 4.1.13 Mira-Bhayander

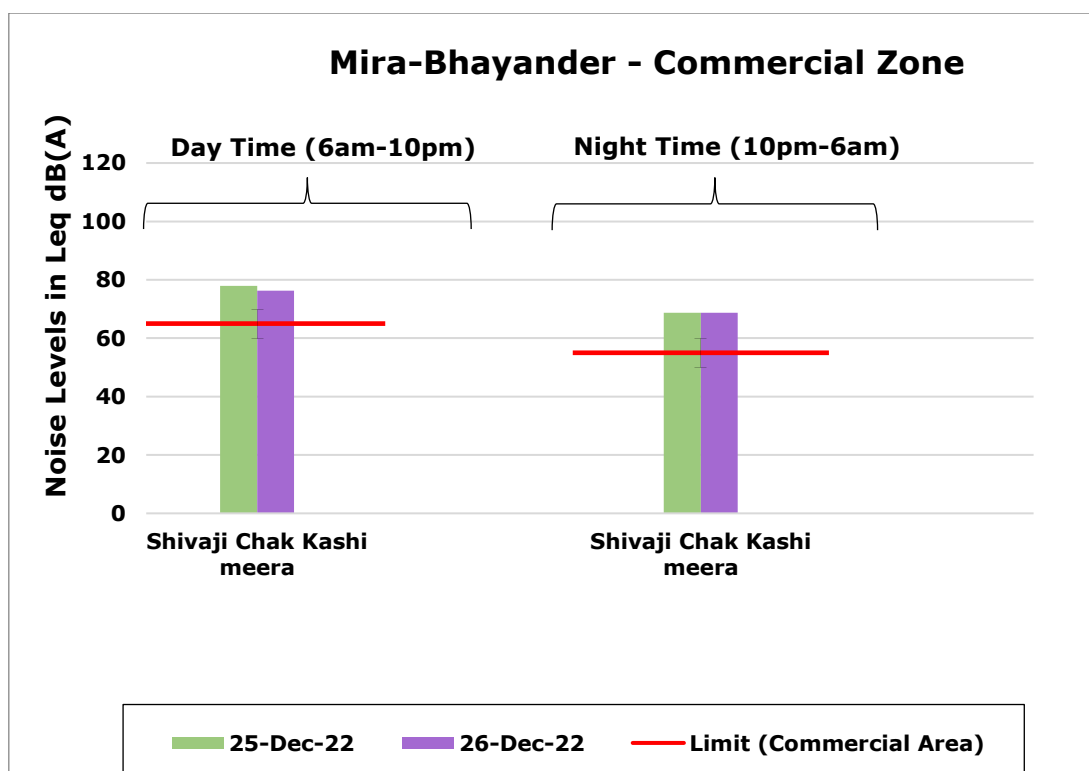
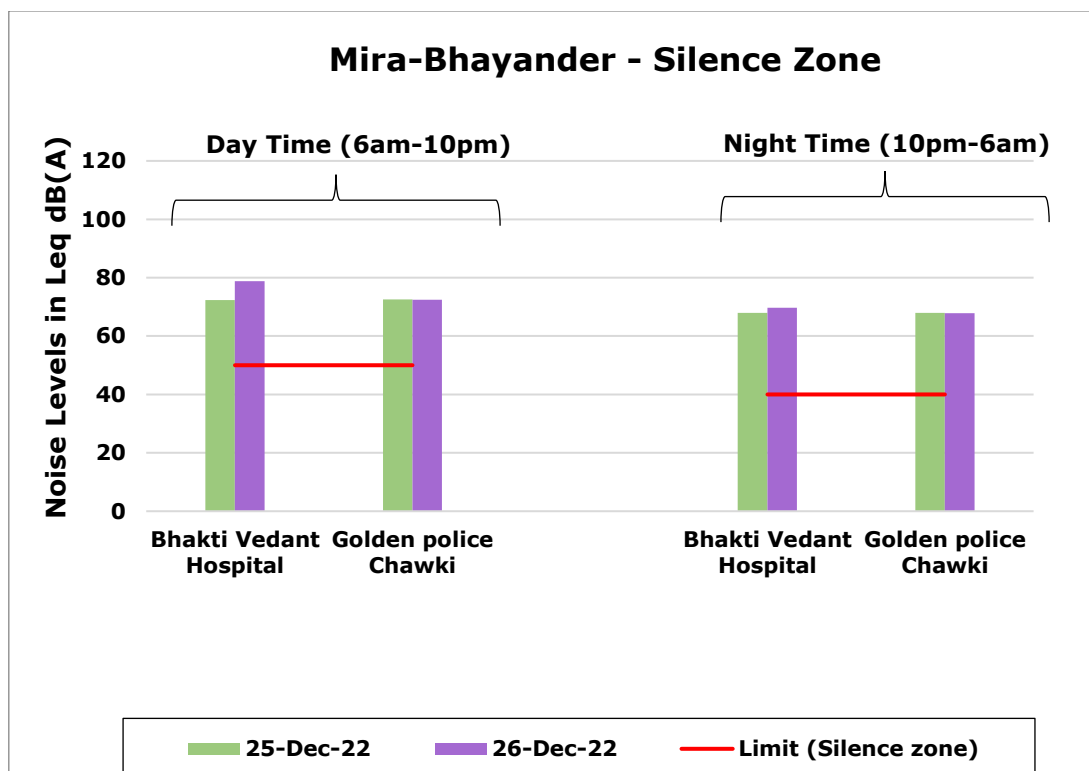
In Mira-Bhayander also three locations were monitored. On 25<sup>th</sup> and 26<sup>th</sup> December the highest noise level during day time was observed at Shivaji Chowk Kashi meera with 77.9 dB(A) and at Bhakti Vedant Hospital with 78.8 dB(A). During night, the highest noise level 68.7 dB(A) on 25<sup>th</sup> December was observed at Shivaji Chowk Kashi meera and on 26<sup>th</sup> December, Bhakti Vedant Hospital was the noisiest with 69.7 dB(A).

**Table 4.13: Ambient Noise Levels in Mira-Bhayander**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022– 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	72.4	50.2	78.6	75.7	70.4	61.2	67.9	51.3	79.0	69.5	63.8	56.3
Golden police Chowki	72.5	50.4	79.3	75.8	70.7	61.1	68.0	50.1	76.4	72.3	63.2	51.2
Shivaji Chowk Kashi meera	77.9	53.2	98.7	74.8	70.4	64.2	68.7	50.2	74.8	73.3	66.2	54.3

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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	78.8	47.3	88.6	83.9	72.7	60.9	69.7	44.5	82.5	74.2	53.3	48.3
Golden police Chowki	72.5	50.4	79.3	75.8	70.7	61.1	67.8	50.1	76.4	72.3	63.2	52.1
Shivaji Chowk Kashi meera	76.3	53.2	96.4	74.7	70.3	64.3	68.8	50.2	74.8	73.3	66.3	54.3

Chart 4.13: Ambient Noise Levels in Mira-Bhayander



#### 4.1.14 Vasai-Virar

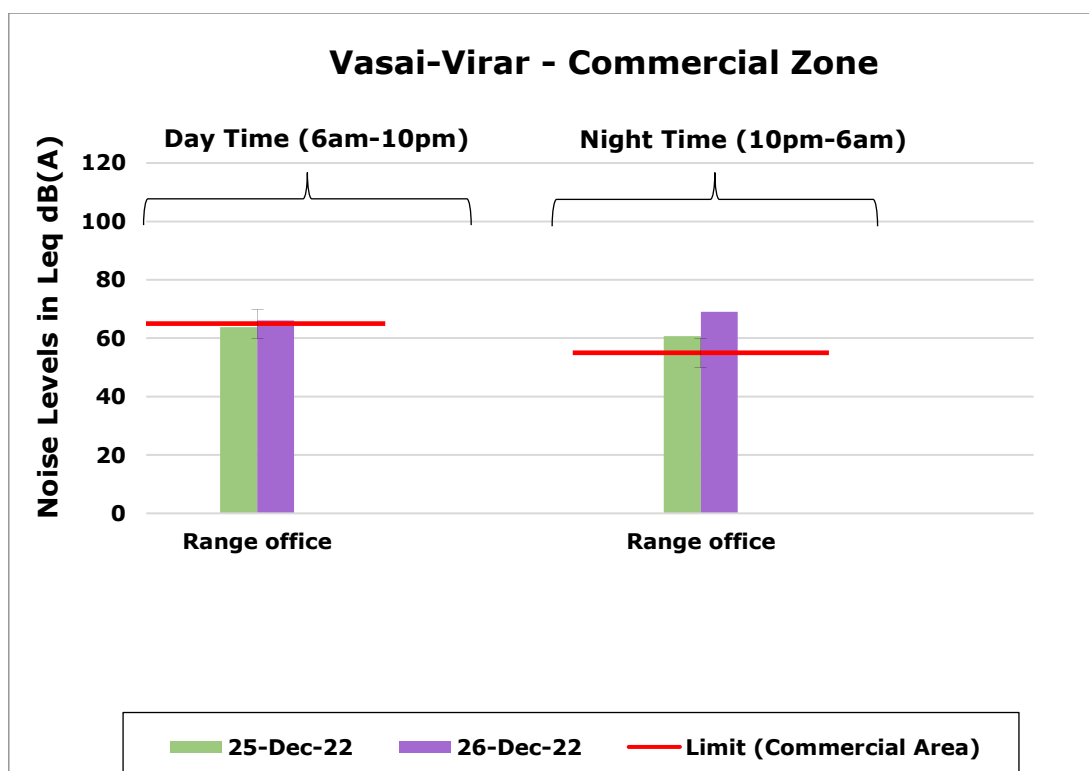
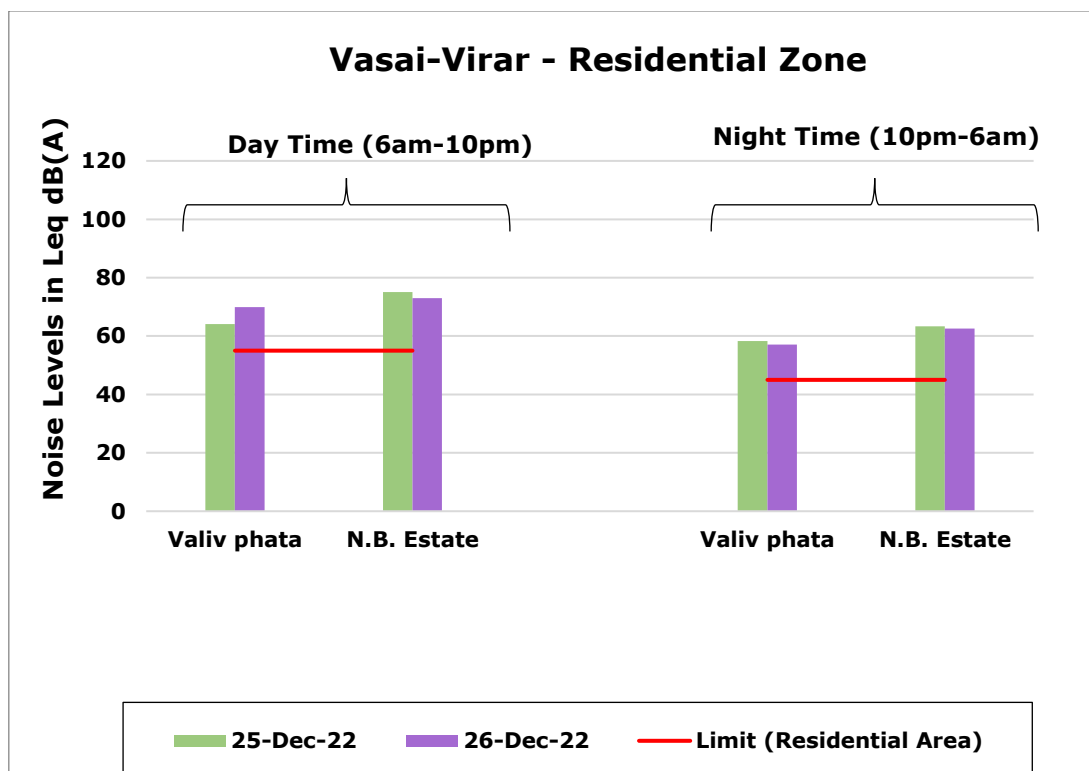
At Vasai-Virar also three locations were monitored for checking the noise level. During the day time the highest noise level on 25<sup>th</sup> and 26<sup>th</sup> December, was observed at N.B. Estate, Virar West with 75.0 dB(A) and 72.9 dB(A). During the night time, the highest noise level was observed at N.B. Estate, Virar West with 63.4 dB(A) on 25<sup>th</sup> December and on 26<sup>th</sup> December, the highest noise level was recorded at Range office with 69.0 dB(A).

**Table 4.14: Ambient Noise Levels in Vasai-Virar**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022– 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	63.8	52.2	70.8	67.4	62.1	57.5	60.7	50.2	66.9	64.6	58.4	53.1
Valiv phata, Vasai East	64.1	50.0	72.2	67.4	62.4	53.4	58.2	50.0	67.4	62.3	55.3	51.2
N.B. Estate, Virar West	75.0	60.0	79.9	78.9	72.4	65.2	63.4	55.6	69.0	66.4	61.4	57.5

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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	66.1	53.1	75.9	69.8	64.1	58.1	69.0	50.0	87.6	61.5	57.7	51.5
Valiv phata, Vasai East	69.9	53.7	80.1	74.8	65.2	59.3	57.1	50.6	65.1	58.6	55.7	51.8
N.B. Estate, Virar West	72.9	52.7	81.1	76.5	70.9	61.7	62.6	51.9	69.4	66.5	60.7	55.3

Chart 4.14: Ambient Noise Levels in Vasai-Virar



#### 4.1.15 Ulhasnagar

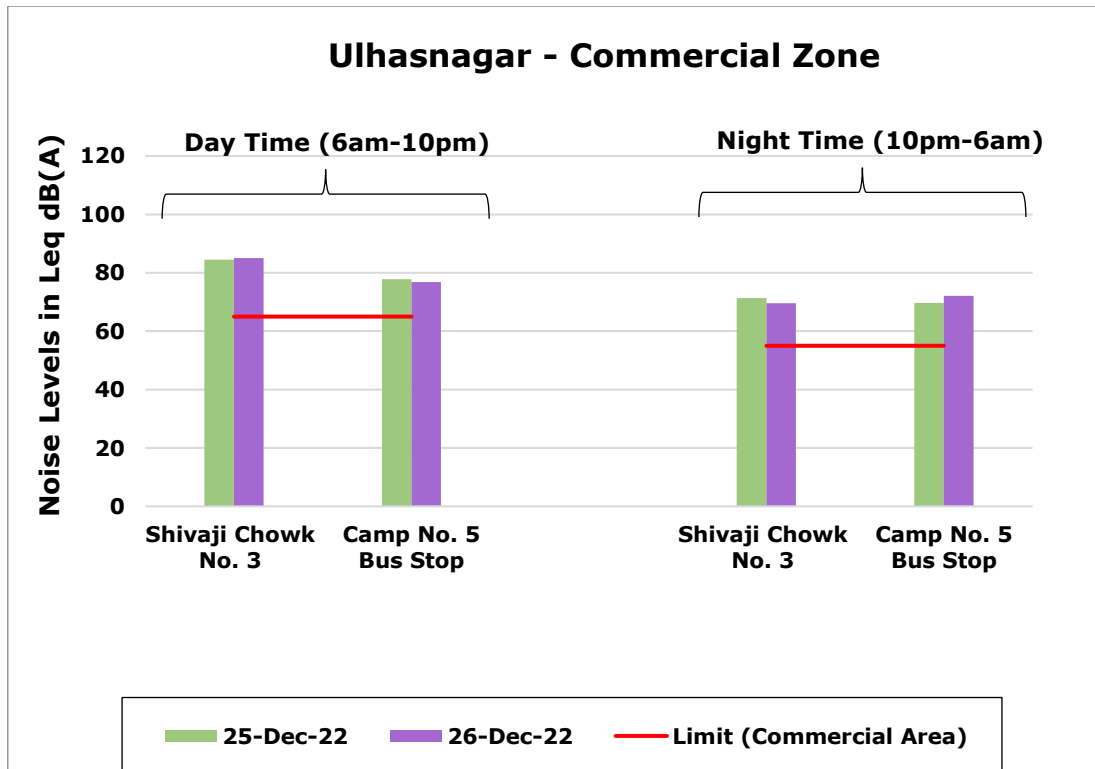
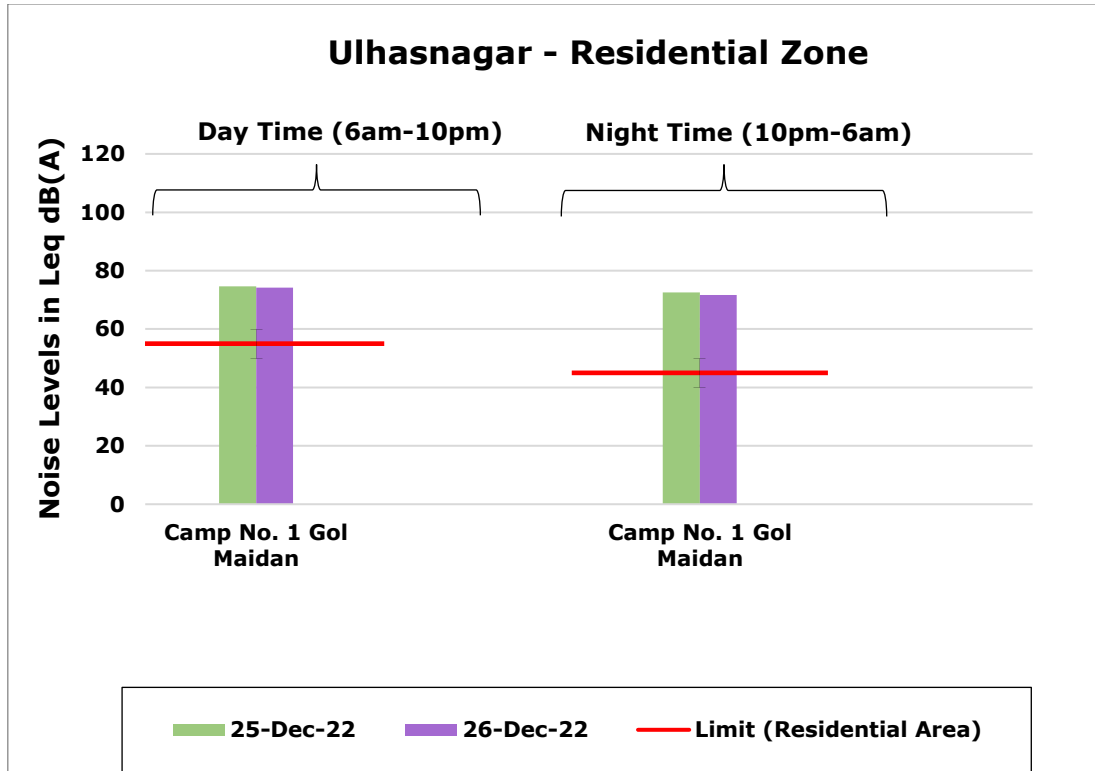
At Ulhasnagar three locations were monitored for noise levels. On 25<sup>th</sup> and 26<sup>th</sup> December, during day time, the highest noise level was observed at Shivaji Chowk No.3 with 84.5 dB(A) and 85.0dB (A) respectively. However during night time, the highest noise level of 72.6dB (A) was observed at Camp no.1 Bus Stop on 25<sup>th</sup> December. While on 26<sup>th</sup> December, the highest noise level of 72.1dB (A) was observed at Camp no.5 Gol Maidan.

**Table 4.15: Ambient Noise Levels in Ulhasnagar**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	84.5	42.3	95.6	89.3	75.2	67.5	71.3	49.6	83.6	75.6	61.7	55.6
Camp No. 5 Bus Stop	77.8	47.3	88.6	82.4	70.8	61.0	69.7	44.5	82.5	74.2	53.3	48.3
Camp No. 1 Gol Maidan	74.6	58.8	79.7	78.4	74.0	62.1	72.6	55.1	87.5	75.8	64.5	61.5

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	85.0	46.5	95.2	90.2	79.4	65.7	69.6	38.2	81.2	71.9	59.9	46.9
Camp No. 5 Bus Stop	76.8	48.2	91.1	79.0	70.9	60.2	72.1	47.6	83.7	77.5	57.7	50.2
Camp No. 1 Gol Maidan	74.2	57.8	79.8	77.3	73.9	62.3	71.6	55.3	87.5	73.7	64.8	61.4

Chart 4.15: Ambient Noise Levels in Ulhasnagar



#### 4.1.16 Bhiwandi-Nizampur

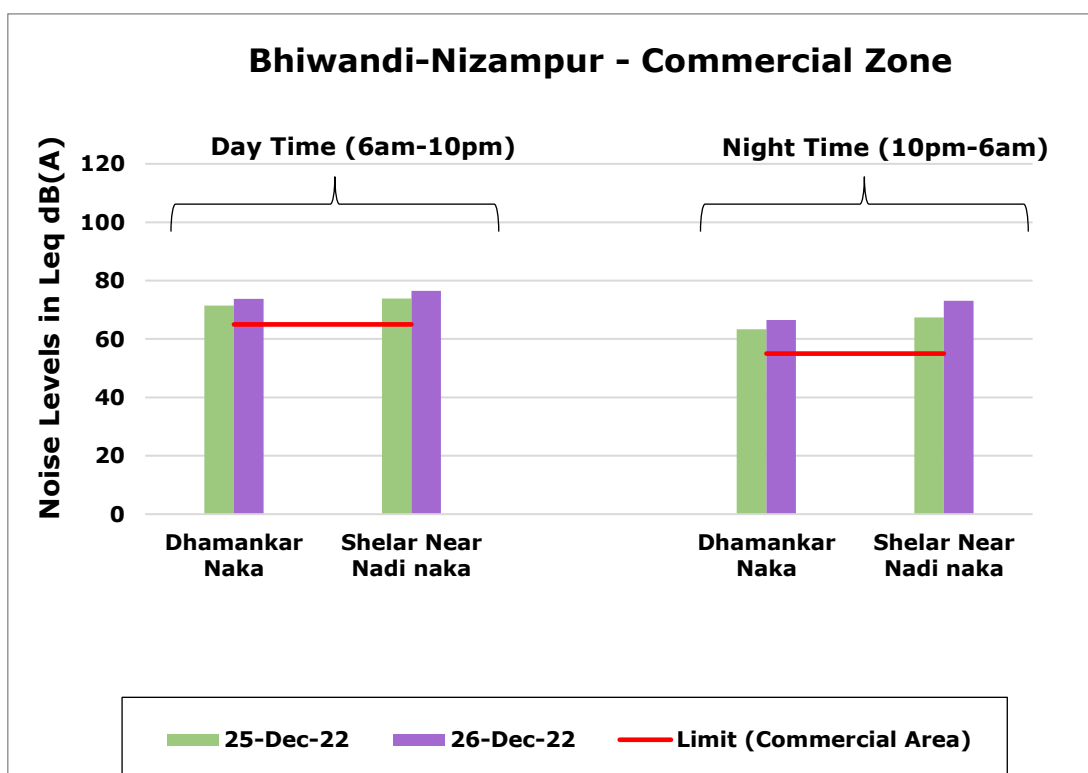
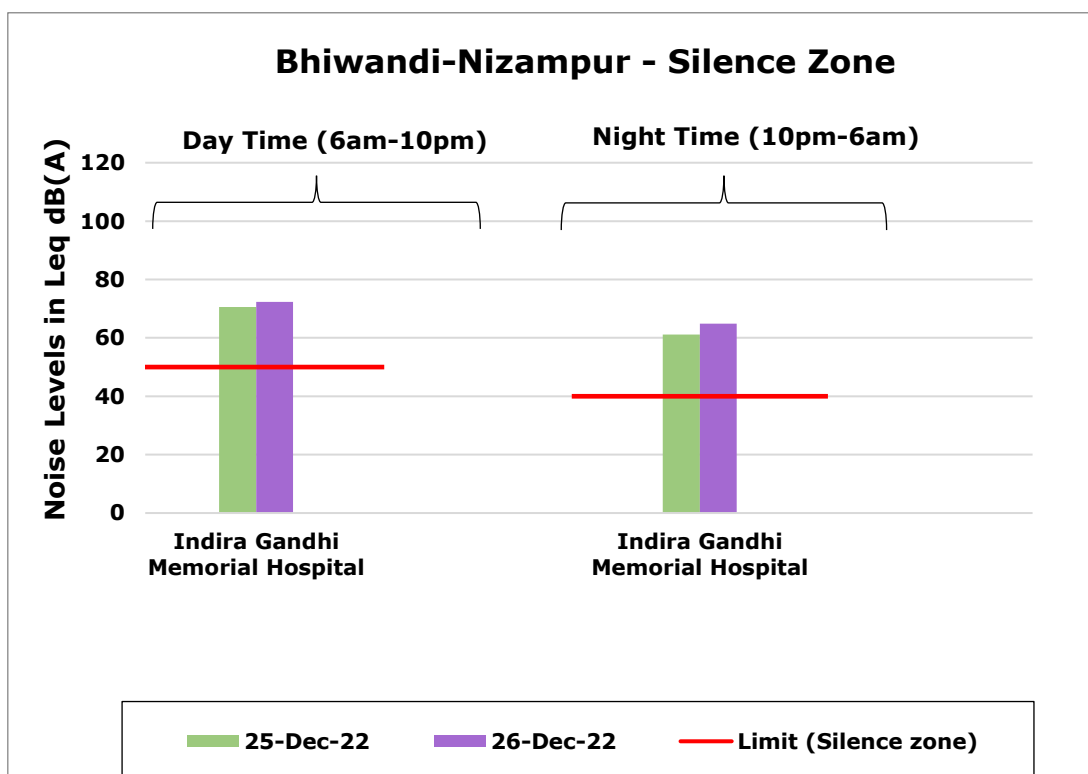
In Bhiwandi-Nizampur also 3 locations were monitored. On 25<sup>th</sup> and 26<sup>th</sup> December, during day as well as night time on both days, the highest noise level was observed at Shelar Near Nadinaka.

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

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022– 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	71.4	50.4	79.4	76.1	68.3	60.1	63.4	50.1	74.3	66.7	60.3	51.8
Indira Gandhi Memorial Hospital	70.6	45.2	79.5	74.5	68.5	58.1	61.2	45.5	69.4	65.2	57.7	50.8
Shelar Near Nadi naka	73.8	48.7	80.5	78.2	71.3	62.3	67.3	44.1	79.6	70.0	61.1	48.3

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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	73.8	47.7	83.0	78.2	70.2	62.8	66.5	45.2	77.2	70.1	62.7	54.2
Indira Gandhi Memorial Hospital	72.3	47.3	79.7	76.5	69.4	59.4	64.8	44.5	78.4	68.7	58.7	51.0
Shelar Near Nadi naka	76.5	48.7	85.5	79.7	74.6	64.3	73.1	44.1	88.8	75.3	63.0	50.3

Chart 4.16: Ambient Noise Levels in Bhiwandi-Nizampur



#### 4.1.17 Chandrapur

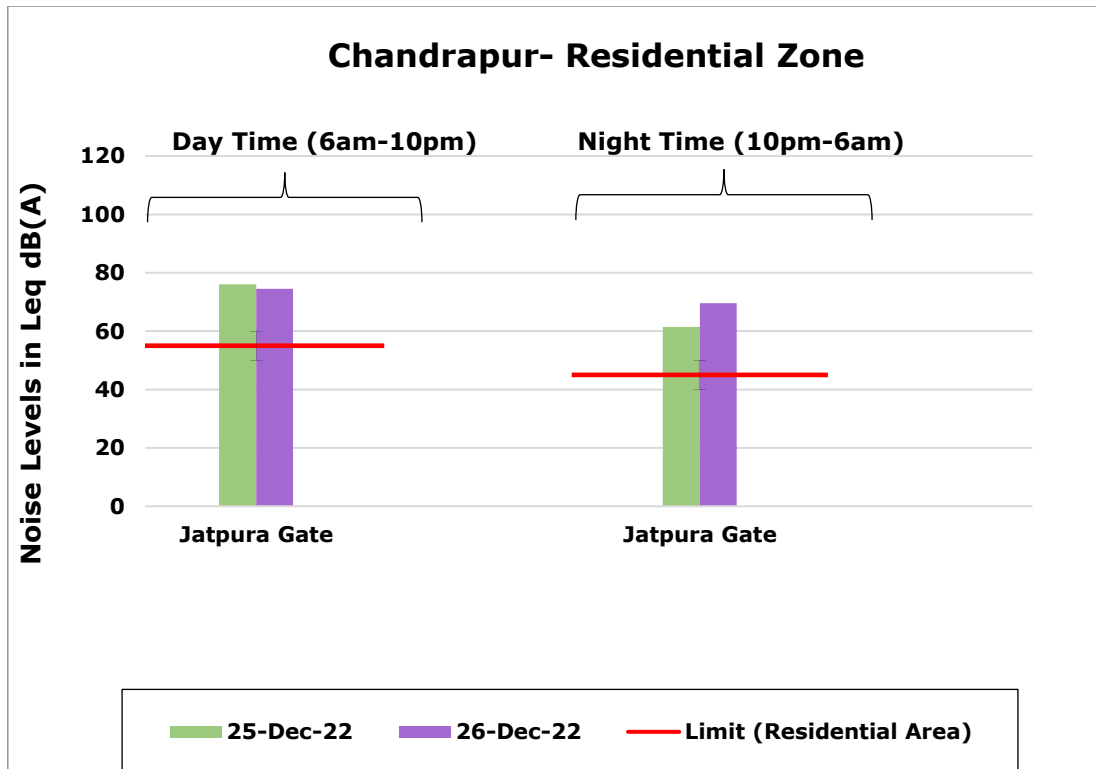
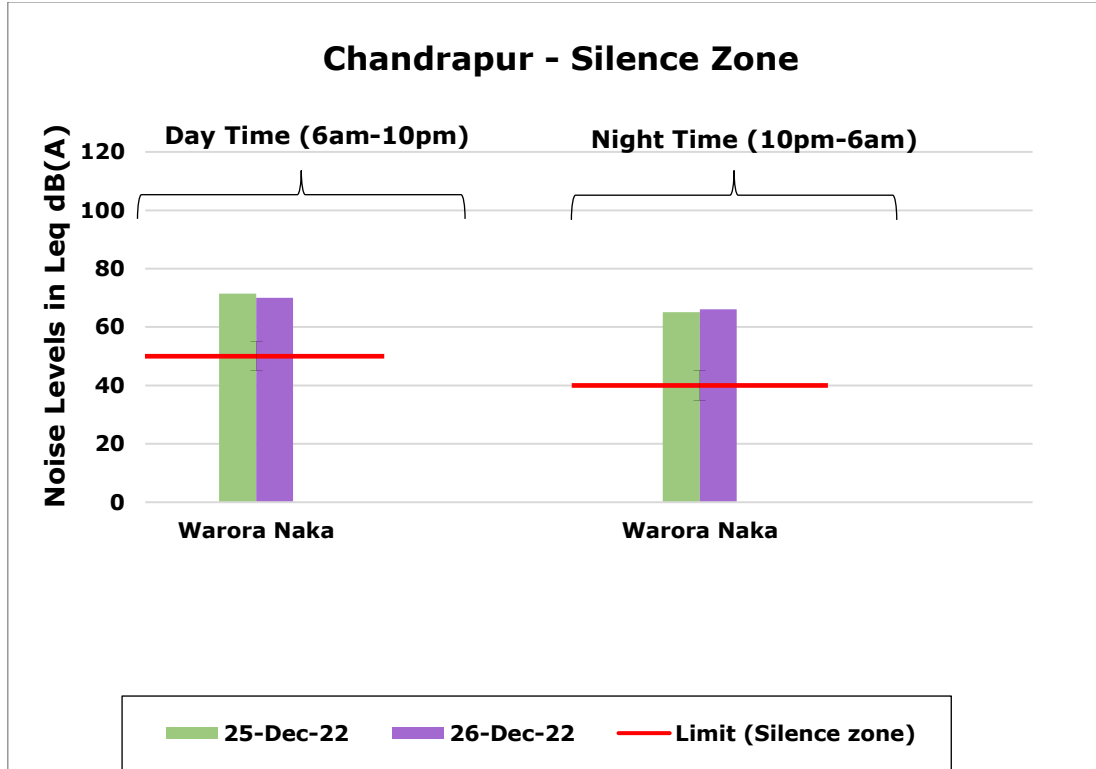
In Chandrapur region also three locations were monitored. During both 25<sup>th</sup> and 26<sup>th</sup> December, the highest noise level at day time was observed at Jatpura Gate. However, during night on 25<sup>th</sup> December, the highest noise level was observed at Warora Naka with 65.1 dB(A) and on 26<sup>th</sup> December, highest noise level was observed at Jatpura Gate with 69.6 dB(A).

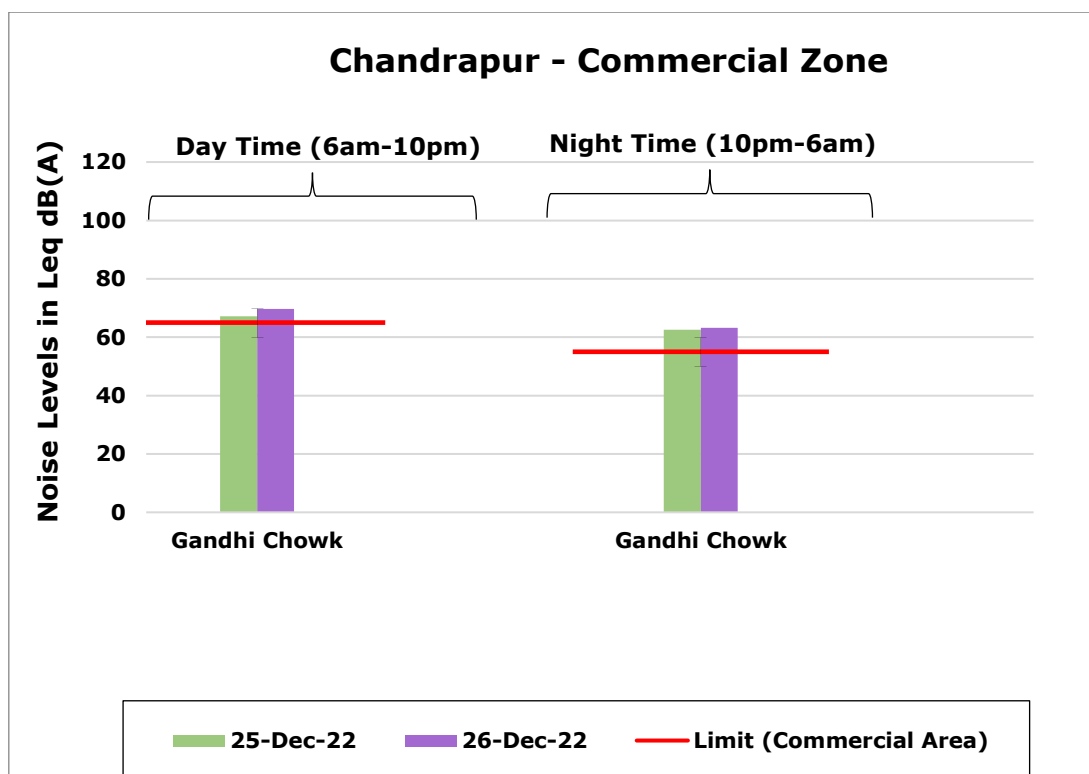
**Table 4.17: Ambient Noise Levels in Chandrapur**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	67.1	54.6	74.9	70.3	64.6	59.7	62.6	51.8	72.8	66.2	59.3	53.9
Jatpura Gate	76.0	52.8	88.5	79.7	70.0	59.2	61.4	48.4	70.7	64.2	58.3	49.9
Warora Naka	71.4	53.1	82.6	75.2	68.6	61.4	65.1	50.3	74.7	68.2	61.4	52.8

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	69.7	59.9	77.1	73.2	68.0	62.2	63.2	54.6	71.0	66.8	60.7	56.7
Jatpura Gate	74.5	54.5	89.3	76.6	70.2	61.6	69.6	48.3	84.2	67.0	59.0	49.9
Warora Naka	70.0	48.3	80.7	73.6	66.9	57.9	66.0	51.0	75.4	69.2	61.6	54.7

Chart 4.17: Ambient Noise Levels in Chandrapur





#### 4.1.18 Nanded-Waghala

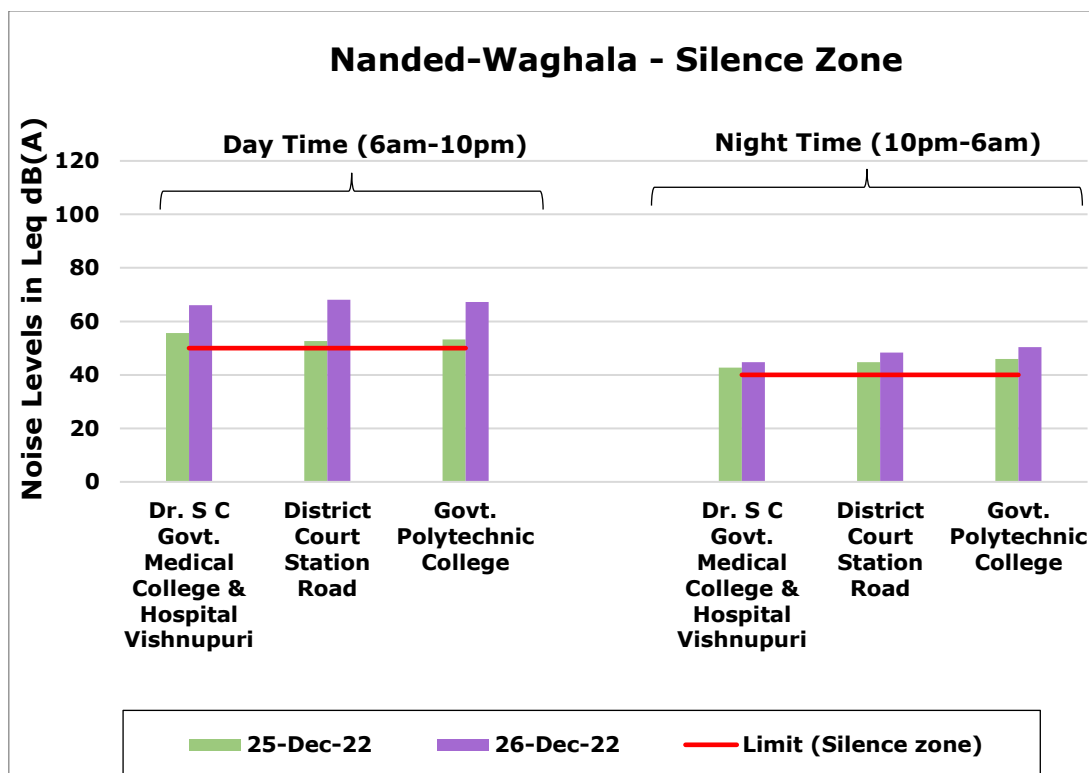
At Nanded-Waghala also 3 location were monitored. On 25<sup>th</sup> December, the highest noise level during day time was observed at Dr. Shankarao Chavan Govt. Medical College & Hospital Vishnupuri 55.7 dB(A) and during night time, Govt. Polytechnic College was the noisiest with 46.0 dB(A) respectively. On 26<sup>th</sup> December, the highest noise level during day time was observed at District Court Station Road with 68.1 dB(A) and during night time, the highest noise level was 50.4 dB(A) at Govt. Polytechnic College.

**Table 4.18: Ambient Noise Levels in Nanded-Waghala**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022– 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	55.7	38.0	64.0	59.0	54.0	42.0	42.7	37.0	49.0	45.0	42.0	39.0
District Court Station Road	52.6	37.0	62.0	55.0	51.0	42.0	44.7	40.0	49.0	48.0	43.5	41.0
Govt. Polytechnic College	53.3	37.0	62.0	57.1	51.0	41.0	46.0	41.0	53.0	49.2	44.0	41.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022– 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	66.1	41.0	72.0	70.0	65.0	49.0	44.7	38.0	51.0	48.0	42.0	39.0
District Court Station Road	68.1	42.0	74.0	71.0	68.0	53.9	48.3	40.0	55.0	51.0	48.0	41.0
Govt. Polytechnic College	67.2	41.0	73.0	71.0	67.0	48.9	50.4	40.0	58.0	54.0	48.0	41.0

Chart 4.18: Ambient Noise Levels in Nanded-Waghala



#### 4.1.19 Ahmednagar

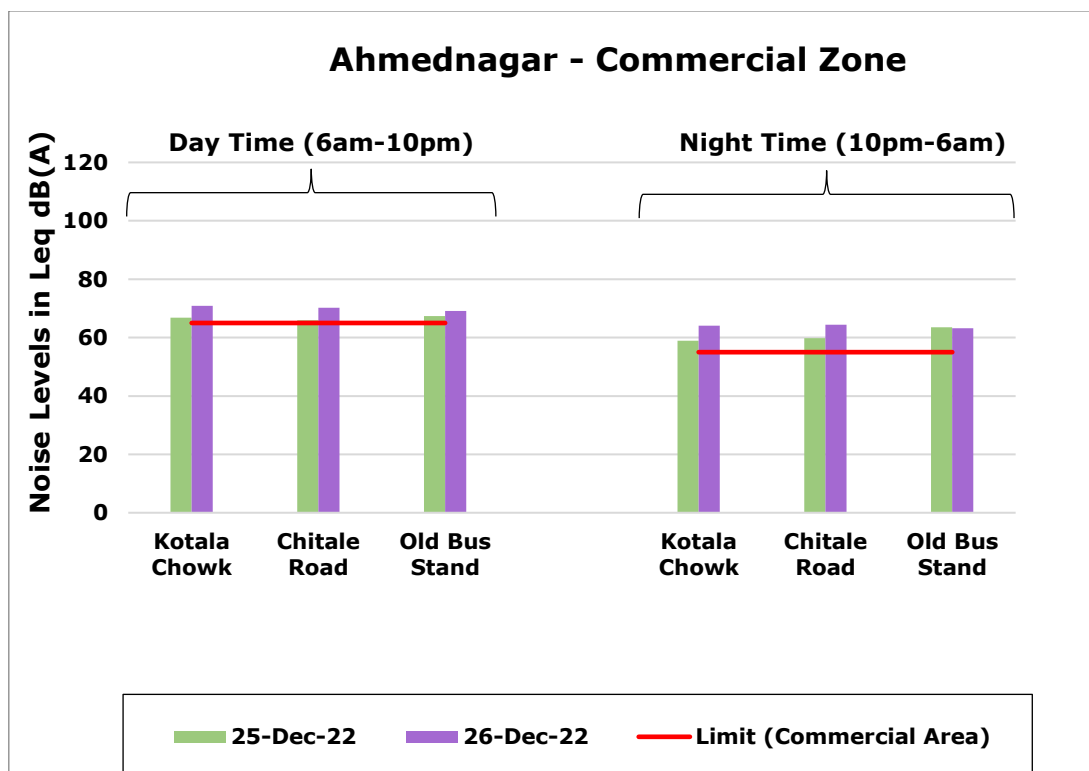
At Ahmednagar also 3 location were monitored. On 25<sup>th</sup> December, during the day as well as night time the highest noise level was observed at old bus stand. However, on 26<sup>th</sup> December, the highest noise level was recorded at Kotala chowk 70.9dB(A) during day time and at Chitale road 64.4dB(A) during night time.

**Table 4.19: Ambient Noise Levels in Ahmednagar**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	65.0	62.0	58.9	52.0	65.0	63.0	57.0	54.0
Chitale Road	65.9	56.0	72.0	68.0	65.0	62.9	59.8	52.0	66.0	63.1	58.0	54.0
Old Bus Stand	67.4	56.0	73.0	70.0	67.0	62.0	63.5	57.0	68.0	66.0	63.0	60.9

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	70.9	61.0	76.0	73.0	71.0	64.9	64.0	59.0	68.0	67.0	63.0	60.9
Chitale Road	70.2	61.0	76.0	73.0	70.0	67.0	64.4	61.0	68.0	67.0	64.0	62.0
Old Bus Stand	69.1	58.0	74.0	72.0	68.0	65.0	63.2	57.0	68.0	66.0	63.0	58.0

Chart 4.19: Ambient Noise Levels in Ahmednagar



#### 4.1.20 Dhule

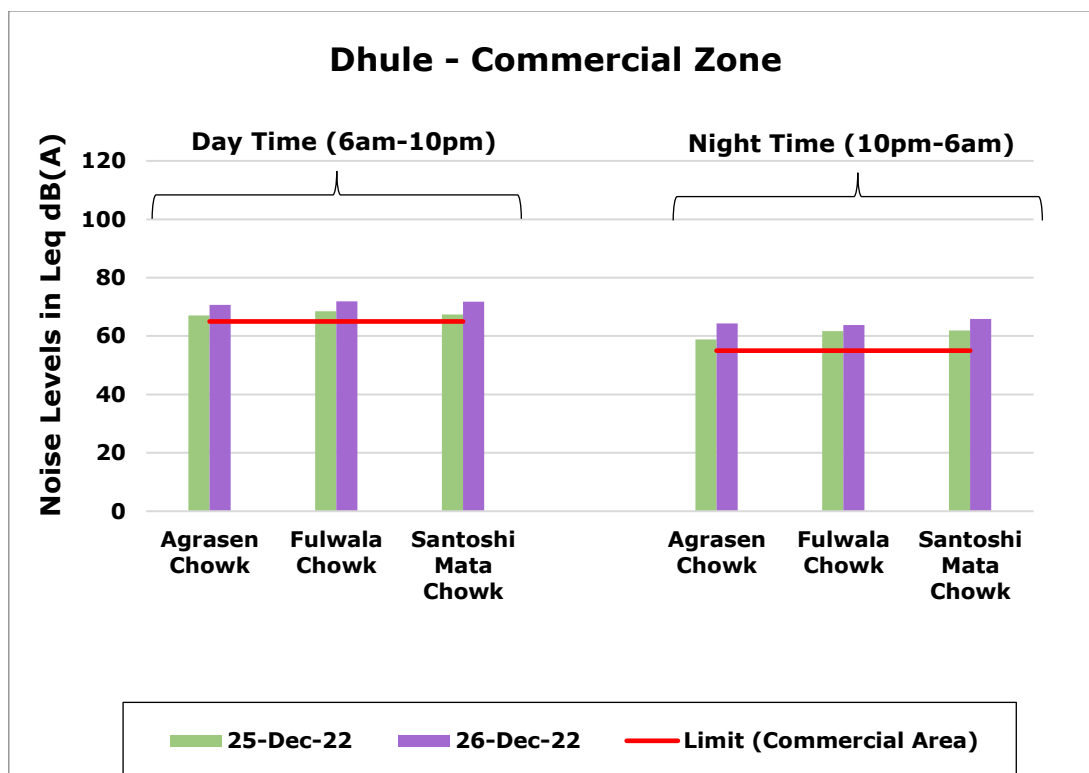
At Dhule also three locations were monitored. On 25<sup>th</sup> and 26<sup>th</sup> December, the highest noise level during day time was observed at Fulwala chowk 68.5 dB(A) and at Santoshi Mata chowk as well as Fulwala chowk with 71.8 dB(A) respectively. However, during night time the highest noise level was observed at Santoshi Mata Chowk on both the days with 61.9dB(A) and 65.8 dB(A) respectively.

**Table 4.20: Ambient Noise Levels in Dhule**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- DHULE												
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>
Agrasen Chowk	67.1	56.0	72.0	70.0	67.0	59.9	58.9	53.0	64.0	62.0	58.0	55.0
Fulwala Chowk	68.5	55.0	75.0	72.0	67.0	60.0	61.6	55.0	67.0	65.0	60.0	56.0
Santoshi Mata Chowk	67.4	57.0	74.0	71.0	66.0	60.0	61.9	54.0	68.0	65.0	61.0	56.9

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- DHULE												
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>
Agrasen Chowk	70.6	59.0	75.0	73.0	70.0	64.0	64.3	60.0	69.0	67.0	63.0	61.0
Fulwala Chowk	71.8	60.0	78.0	75.0	71.0	64.0	63.7	57.0	68.0	67.0	62.0	59.0
Santoshi Mata Chowk	71.8	61.0	78.0	74.0	71.0	65.0	65.8	60.0	71.0	68.1	65.0	62.0

Chart 4.20: Ambient Noise Levels in Dhule



#### 4.1.21 Malegaon

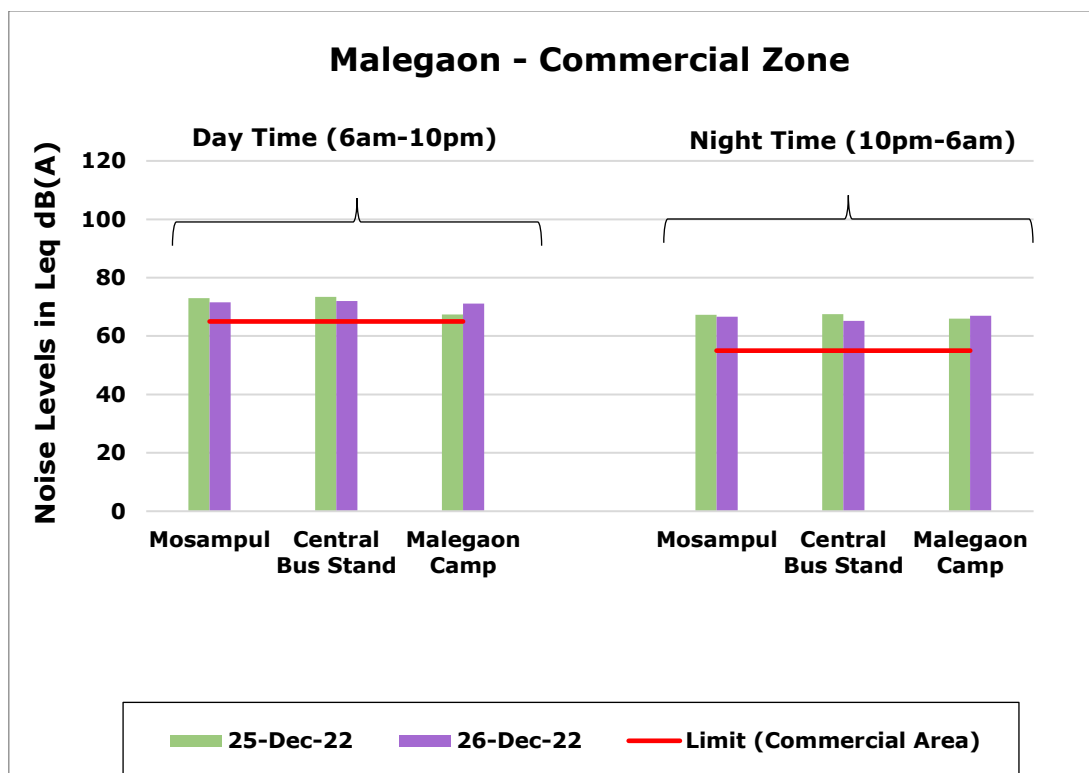
In Malegaon also, noise levels were monitored at three locations. Results show that on 25<sup>th</sup> and 26<sup>th</sup> December, the highest noise level during day time was observed at Central bus stand with 73.4 dB(A) and 72.0 dB(A) respectively. However, the noise level was highest at Central bus stand 67.5 dB(A) on 25<sup>th</sup> December and at Malegaon Camp with 67.0 dB(A) on 26<sup>th</sup> December during the night time.

**Table 4.21: Ambient Noise Levels in Malegaon**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	57.0	79.0	76.0	70.0	62.0	67.2	62.0	72.0	70.0	67.0	63.0
Central Bus Stand	73.4	63.0	78.0	76.0	73.0	66.0	67.5	60.0	72.0	70.0	67.0	64.0
Malegaon Camp	67.4	54.0	75.0	71.0	66.0	58.0	66.0	61.0	70.0	69.0	65.0	62.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	71.5	63.0	76.0	74.0	71.0	68.0	66.6	61.0	70.0	69.0	66.0	63.0
Central Bus Stand	72.0	64.0	76.0	74.0	72.0	68.0	65.2	60.0	69.0	67.0	65.0	62.0
Malegaon Camp	71.1	60.0	78.0	74.0	70.0	64.0	67.0	61.0	73.0	70.0	66.0	62.9

Chart 4.21: Ambient Noise Levels in Malegaon



#### 4.1.22 Pimpri-Chinchwad

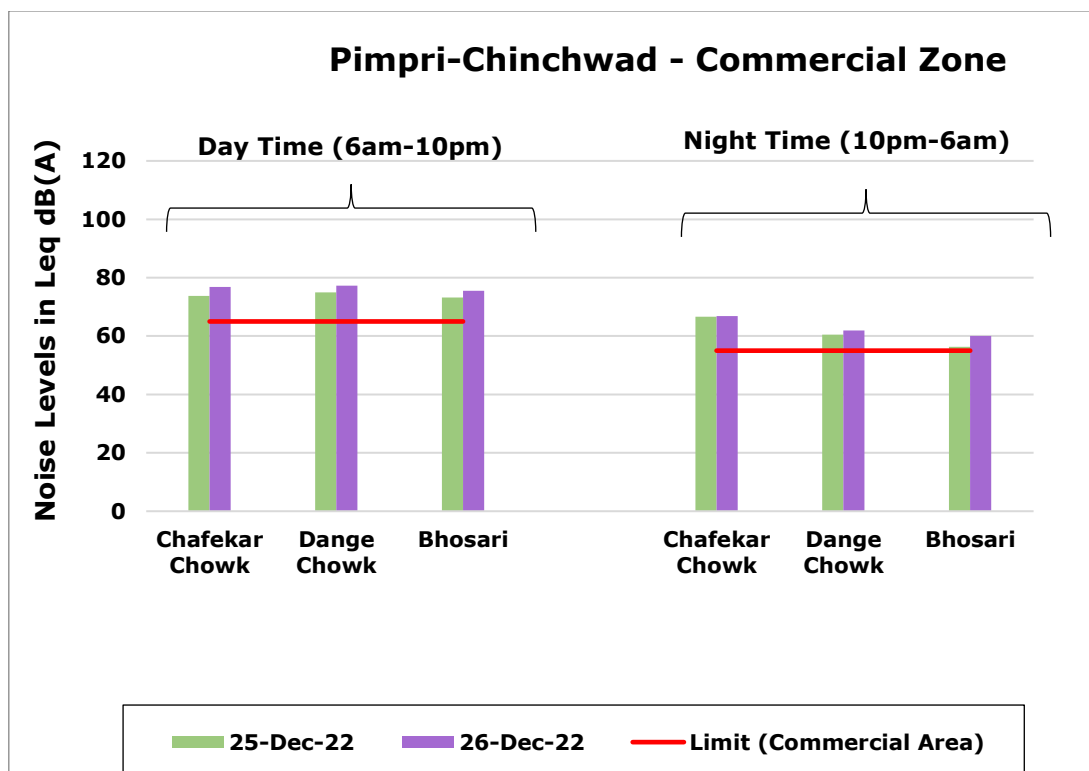
In Pimpri-Chinchwad also three locations were monitored. On 25<sup>th</sup> and 26<sup>th</sup> December, during the day time the highest noise level was observed at Dange Chowk. The highest noise level during night time was observed at Chafekar Chowk with 66.6 dB(A) and 66.8dB(A) respectively.

**Table 4.22: Ambient Noise Levels in Pimpri-Chinchwad**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 - 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	73.8	53.3	80.2	75.8	73.8	65.9	66.6	41.2	74.5	70.8	61.8	45.1
Dange Chowk	74.9	60.2	82.5	77.5	73.2	69.8	60.5	42.2	70.8	64.5	51.2	46.3
Bhosari	73.2	55.6	81.2	76.3	71.2	63.3	56.3	40.8	65.5	61.3	49.9	42.3

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022 - 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	76.8	59.7	84.5	80.4	74.5	69.9	66.8	40.3	74.8	70.8	64.3	43.3
Dange Chowk	77.3	61.2	84.5	80.3	75.6	70.5	61.9	41.2	75.2	63.5	52.8	45.4
Bhosari	75.5	59.5	83.3	79.8	72.8	65.7	60.1	40.3	70.8	64.6	50.4	41.2

Chart 4.22: Ambient Noise Levels in Pimpri-Chinchwad



### 4.1.23 Parbhani

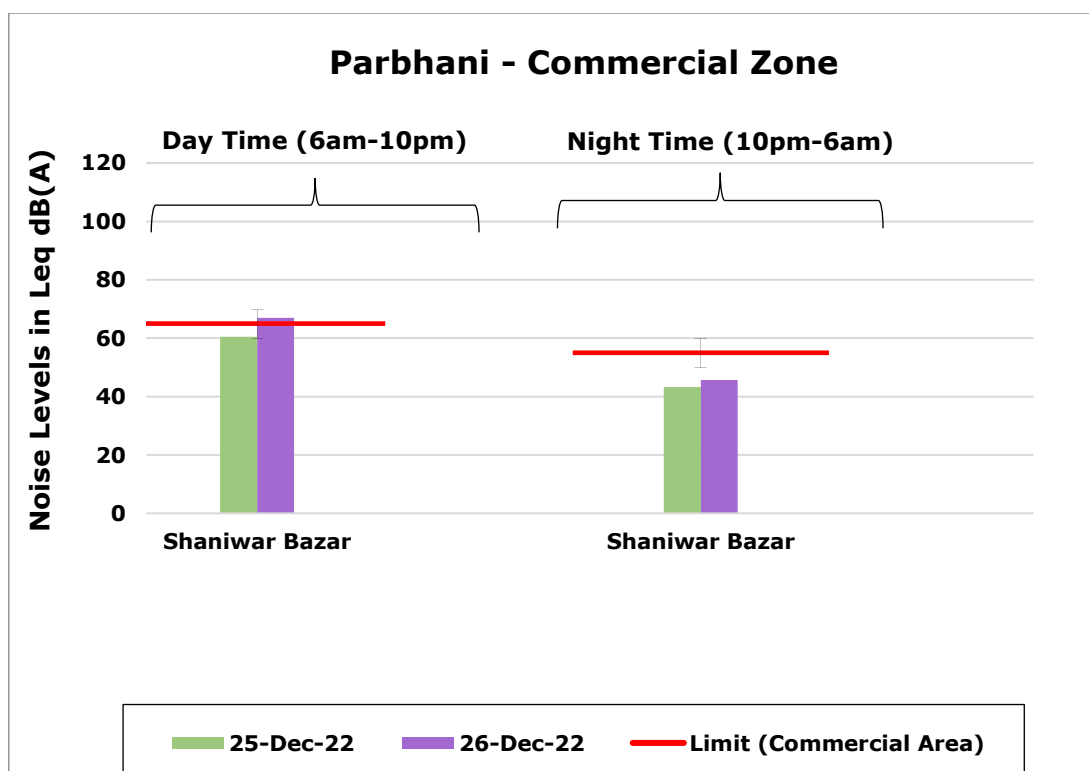
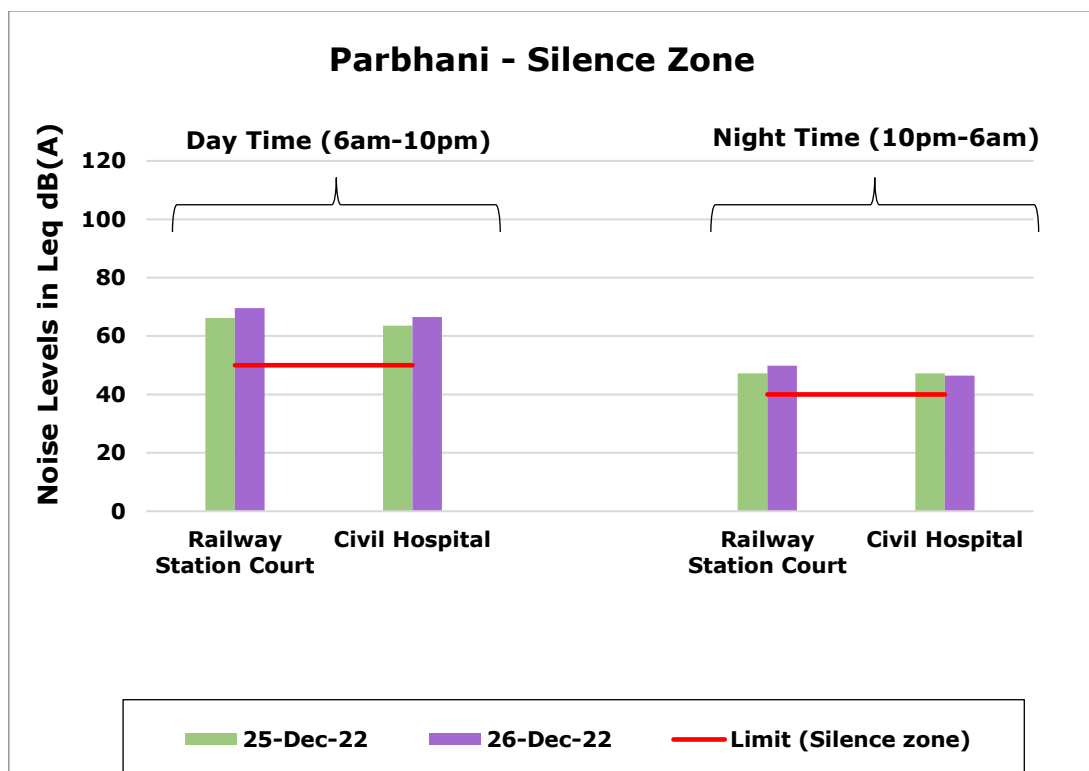
In Parbhani also, three locations were monitored for noise levels for two days i.e. on 25<sup>th</sup> December and 26<sup>th</sup> December 2022. Results demonstrates that the highest noise level on both the days during day time, Railway Station Court was the noisiest with 66.2dB(A) and 69.6dB(A) respectively. During the night time on both days, Railway Station Court as well as Civil hospital was observed with the highest noise levels among all three monitored locations.

**Table 4.23: Ambient Noise Levels in Parbhani**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	60.5	37.0	68.0	64.0	59.0	41.0	43.3	40.0	48.0	45.1	42.0	41.0
Railway Station Court	66.2	41.0	72.0	70.0	65.0	51.0	47.2	41.0	53.0	50.1	46.0	42.0
Civil Hospital	63.6	48.0	71.0	68.0	62.0	51.0	47.2	40.0	54.0	51.0	45.0	42.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	66.9	41.0	72.0	70.0	65.5	51.0	45.7	38.0	54.0	50.0	42.0	39.0
Railway Station Court	69.6	46.0	75.0	72.0	69.0	58.0	49.9	40.0	60.0	53.1	47.5	41.0
Civil Hospital	66.5	41.0	72.0	70.0	65.0	52.0	46.5	38.0	55.0	51.0	42.5	40.0

Chart 4.23: Ambient Noise Levels in Parbhani



#### 4.1.24 Latur

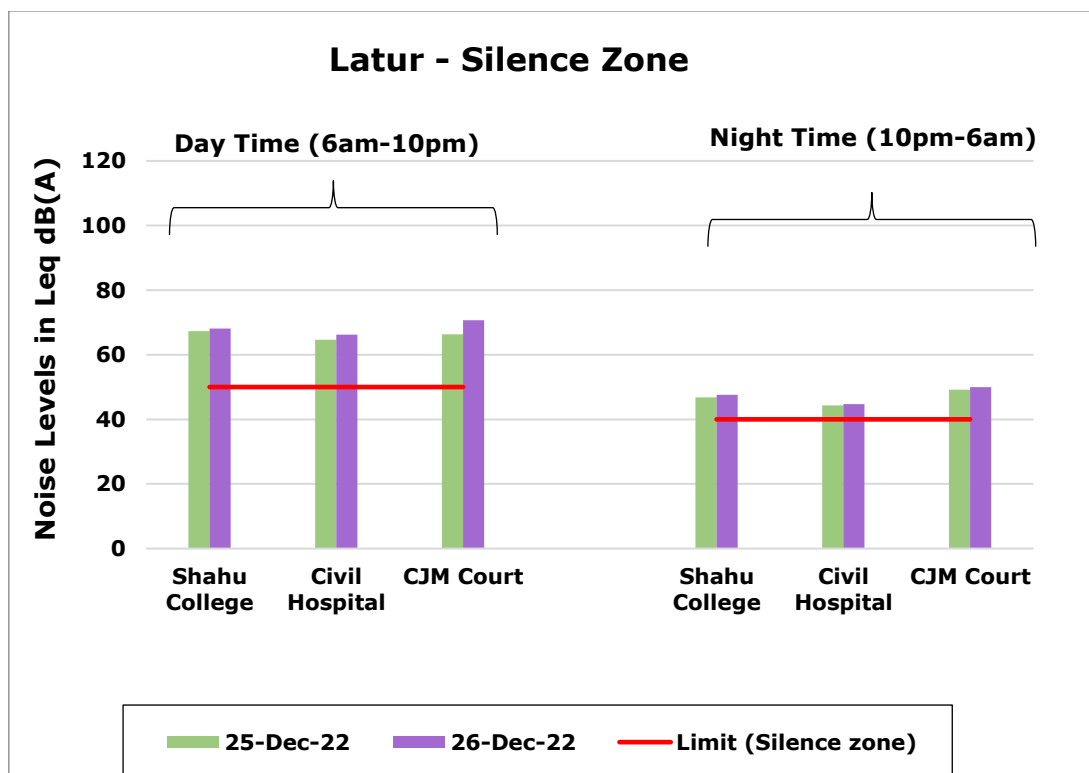
At Latur also, 3 locations were monitored. On 25<sup>th</sup> December the highest noise level during day time and night time was observed at Shahu College 67.3dB(A) and CJM Court 49.2dB(A) respectively. On 26<sup>th</sup> December, the highest noise level both during day time and night time was observed near CJM Court.

**Table 4.24: Ambient Noise Levels in Latur**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	67.3	39.0	75.0	71.0	65.0	44.8	46.8	38.0	55.0	51.0	43.0	40.0
Civil Hospital	64.6	41.0	71.0	68.1	63.0	49.9	44.3	40.0	51.0	47.0	43.0	41.0
CJM Court	66.3	40.0	72.0	70.0	65.0	45.9	49.2	40.0	57.0	52.0	48.0	42.0

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	68.1	41.0	75.0	71.1	68.0	51.0	47.6	39.0	54.0	51.0	46.0	40.0
Civil Hospital	66.2	41.0	71.0	69.0	67.0	50.9	44.7	37.0	51.0	48.1	42.0	38.0
CJM Court	70.7	43.0	76.0	74.0	70.0	57.9	50.0	40.0	57.0	53.0	49.0	42.0

Chart 4.24: Ambient Noise Levels in Latur



#### 4.1.25 Akola

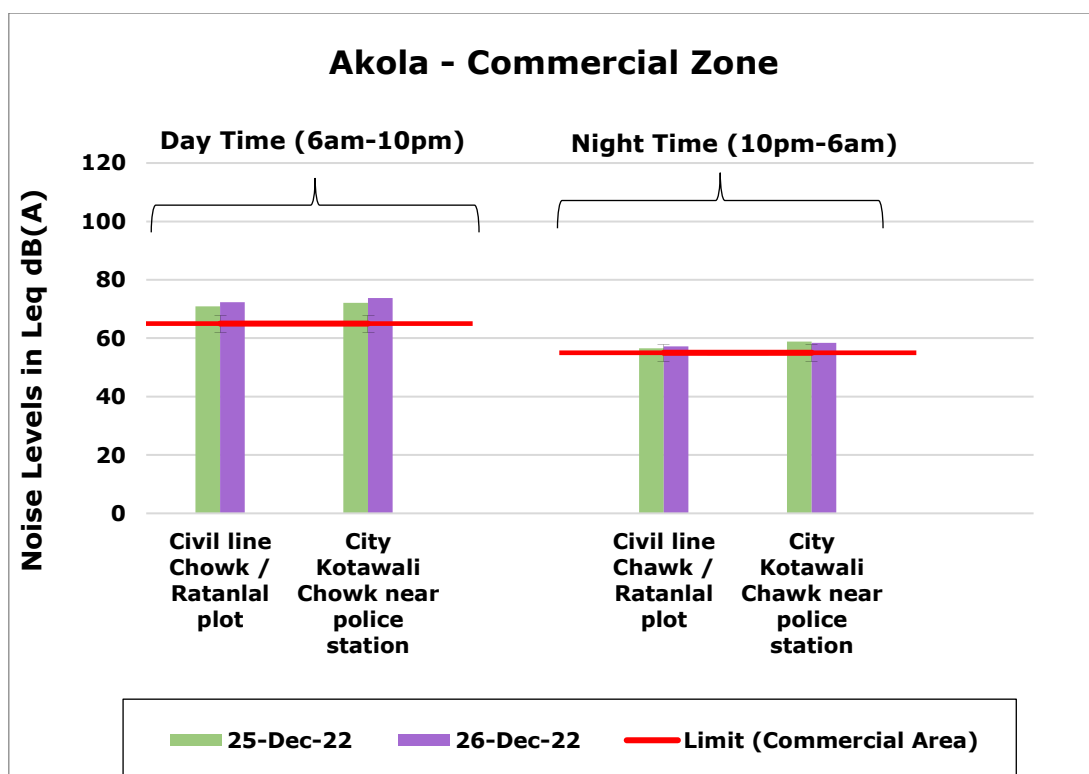
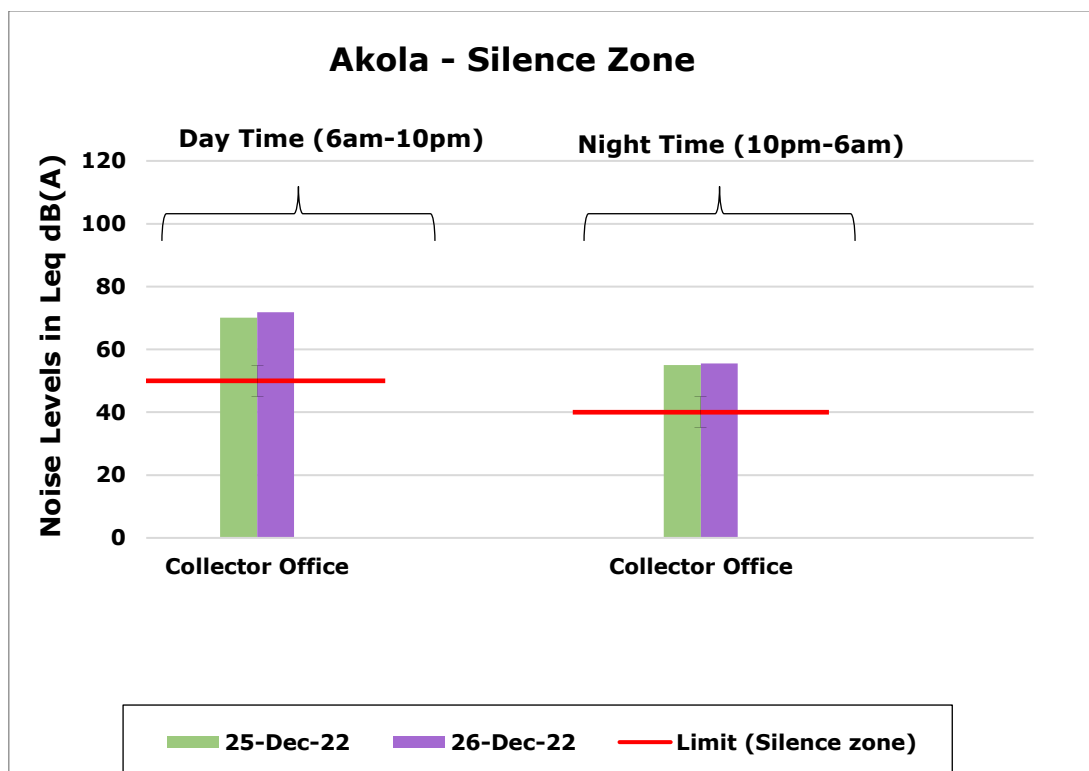
In Akola also three location was monitored. Results show that City Kotwali Chowk was the noisiest on both 25<sup>th</sup> and 26<sup>th</sup> December, during day as well as night.

**Table 4.25: Ambient Noise Levels in Akola**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	70.1	57.6	77.9	80.5	68.9	61.7	55.0	49.6	62.8	65.6	55.6	42.3
Civil line Chowk	70.9	60.1	74.6	83.1	69.0	62.5	56.5	50.1	68.0	70.0	56.2	43.4
City Kotawali Chowk	72.1	61.5	76.6	82.7	70.5	64.0	58.8	50.5	68.6	71.5	58.8	44.6

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	71.8	55.8	79.2	84.6	70.6	62.3	55.5	46.1	69.9	72.2	55.4	41.2
Civil line Chowk	72.3	59.1	78.5	84.1	71.1	63.2	57.2	49.5	72.4	72.4	56.3	42.4
City Kotawali Chowk	73.7	61.3	79.2	86.1	71.4	64.2	58.4	50.3	74.0	74.6	57.6	42.4

Chart 4.25: Ambient Noise Levels in Akola



#### 4.1.26 Solapur

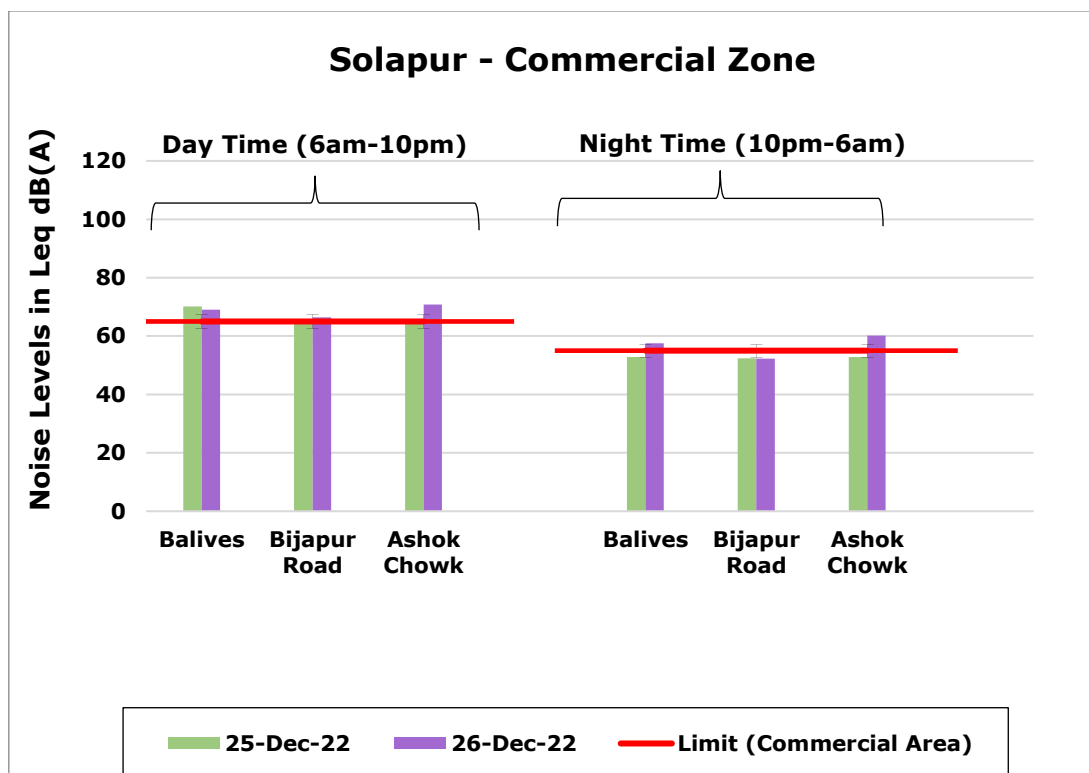
In Solapur, three location was monitored for noise levels. On 25<sup>th</sup> December during day time, the highest noise level was observed at Balives with 70.1 dB(A) and during night time at Ashok Chowk with 52.9 dB(A) respectively. However, on 26<sup>th</sup> December, during day as well night time, Ashok Chowk is recorded with the highest noise levels with 70.8dB(A) and 60.2dB(A) respectively.

**Table 4.26: Ambient Noise Levels in Solapur**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022- 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	70.1	47.2	78.2	74.3	68.2	52.6	52.8	43.8	60.8	56.3	50.4	47.3
Bijapur Road	65.4	45.3	75.0	70.0	58.0	50.0	52.4	41.2	60.0	56.4	49.8	46.2
Ashok Chowk	64.8	44.6	73.0	69.2	60.4	50.0	52.9	43.8	60.0	56.6	49.9	45.5

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022- 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	69.0	46.2	77.7	73.5	66.3	54.7	57.5	42.8	67.2	62.3	52.8	45.6
Bijapur Road	66.4	42.3	77.0	70.6	63.2	50.2	52.3	42.3	59.8	56.5	49.9	44.1
Ashok Chowk	70.8	46.5	85.9	73.9	62.4	51.4	60.2	44.2	70.4	64.8	54.1	45.3

Chart 4.26: Ambient Noise Levels in Solapur



#### 4.1.27 Panvel

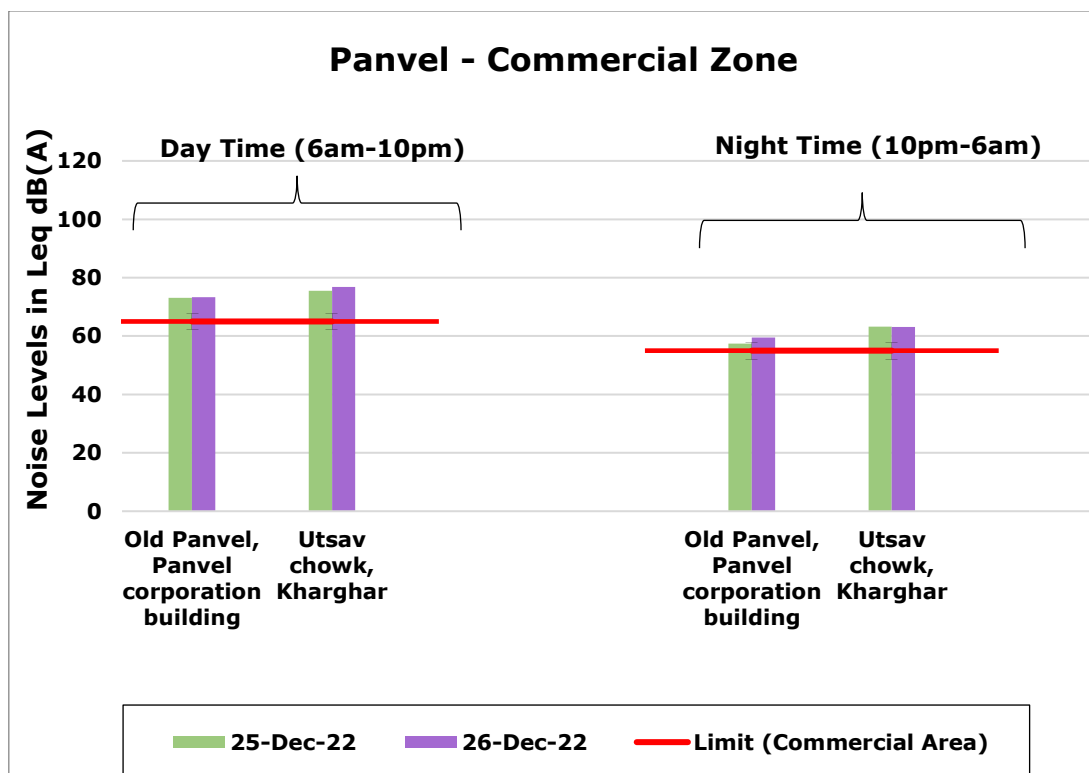
Three locations were monitored for noise levels from Panvel Municipal Corporation. On 25<sup>th</sup> December, during day time, the highest noise level was observed at Khanda Colony with 77.4dB(A) and during night time at Utsav chowk, Kharghar with 63.2 dB(A). However, on 26<sup>th</sup> December, the noise level at Utsav chowk, Kharghar was highest 76.9 dB(A) during day time and it was observed highest 66.5 dB(A) at Khanda Colony during night time.

**Table 4.27: Ambient Noise Levels in Panvel**

Ambient Noise Monitoring on 25 <sup>th</sup> December 2022 - 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> <sub>x</sub>	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>
Old Panvel, Panvel corporation building	73.1	54.6	81.8	77.3	69.7	62.4	57.5	50.4	63.5	61.0	55.8	52.4
Khanda colony	77.4	56.2	86.9	81.5	72.5	64.9	60.5	52.5	66.2	64.2	58.9	55.5
Utsav chowk, Kharghar	75.5	55.5	83.9	79.6	72.4	62.5	63.2	51.9	72.1	66.7	59.5	53.5

Ambient Noise Monitoring on 26 <sup>th</sup> December 2022 - 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	73.4	56.4	86.4	76.4	70.5	62.4	59.4	53.3	65.6	62.8	57.9	54.9
Khanda colony	73.6	61.3	82.3	78.3	70.5	67.3	66.5	51.5	73.1	70.7	63.5	57.4
Utsav chowk, Kharghar	76.9	58.8	86.4	80.7	73.3	64.8	63.1	51.1	72.4	66.7	59.6	55.5

Chart 4.27: Ambient Noise Levels in Panvel



## 5 OBSERVATIONS

In **MUMBAI**, the noise levels at all the locations were recorded slightly beyond the prescribed standards during day time and night time. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 66.5 dB(A) and 81.0 dB(A) during day time & 55.9 dB(A) and 76.4 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 66.3 dB(A) and 81.3 dB(A) during day time & 57.9 dB(A) and 76.9 dB(A) during night time. During both monitoring days, the place recorded with the lowest average noise level was Borivali National Park. The difference in noise levels on both days of monitoring were surprisingly insignificant.

In **NAVI MUMBAI**, the difference between the average noise levels during day time and night time was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 60.8 dB(A) and maximum average noise level was 73.7 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 63.2 dB(A) and maximum average noise level was 76.8 dB(A).

In **THANE**, after evaluation of noise data, it was observed that the average noise levels in some of the locations during day & night time were significantly higher than the standard limit, however the difference in average noise levels on both days of monitoring was insignificant. The minimum average noise level on 25<sup>th</sup> December was 64.0 dB(A) and maximum average noise level was 84.3 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 64.0 dB(A) and maximum average noise level was 77.7 dB(A).

In **PUNE**, the average noise levels at all the locations were exceeding the standards. The noisiest place was Pune University having average noise value of 76.2 dB(A) on 25<sup>th</sup> December (non-working day) and 77.1 dB(A) on 26<sup>th</sup> December (working day) during day time. This could be due to the fact that the University's main entrance is located on a major thoroughfare with continuous traffic, resulted in higher noise levels. However, Nucleus was the least noisy place during both days of monitoring having average noise level of 62.4 dB(A) during day time and night time.

In **NASHIK**, the results show an insignificant difference in the average noise levels on both days of monitoring, instead of the fact, the two days of monitoring were working and non-working days. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 58.3 dB(A) and 75.2 dB(A) during day time & 50.8 dB(A) and 65.7 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 56.3 dB(A) and 74.1 dB(A) during day time & 44.9 dB(A) and 66.0 dB(A) during night time. However, Borivali National Park was the place recorded with the lowest average noise level during both days of monitoring.

In **AURANGABAD**, the average noise levels were insignificantly higher than the prescribed standard limits. It is also observed that the average noise levels increased significantly on

working day when compared with the average noise levels of non-working days both during day time as well night time. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 51.1 dB(A) and 61.9 dB(A) during day time & 41.5 dB(A) and 46.5 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 58.1 dB(A) and 68.1 dB(A) during day time & 45.4 dB(A) and 50.4 dB(A) during night time. Also, the noisiest place, Nirala Bazaar with the average value of 61.9 dB(A) during day time and 46.4dB(A) during night time of 25<sup>th</sup> December.

In **NAGPUR**, the average noise levels at most of the locations were observed beyond the prescribed standards. A very little difference is recorded between the average noise levels of both days of monitoring shows during day time and night time. The minimum average noise level on 25<sup>th</sup> December was 58 dB(A) and maximum average noise level was 71.5 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 51.9 dB(A) and maximum average noise level was 73.3 dB(A). The noisiest place was Sitabardi Police Station, which may be because of huge public gathering and vehicular movement near the place.

In **KALYAN**, the difference between the average noise levels during day time and night time was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 67.2 dB(A) and maximum average noise level was 71.4 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 69.7 dB(A) and maximum average noise level was 79.0 dB(A).

In **AMRAVATI**, the minimum average noise level on 25<sup>th</sup> December was 51.1 dB(A) and maximum average noise level was 76.8 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 50.8 dB(A) and maximum average noise level was 73.0 dB(A). Rajkamal Chowk with highest noise levels was the noisiest place during day time and night time of both days.

In **JALGAON**, a significant difference in noise levels of working and non-working days was recorded. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 69.1 dB(A) and 73.7 dB(A) during day time & 53.8 dB(A) and 58.7 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 67.6 dB(A) and 81.1 dB(A) during day time & 50.8 dB(A) and 57.3 dB(A) during night time.

In **KOLHAPUR**, a significant difference in average noise levels of day time and night time was observed during both days of monitoring and a very little difference is observed between the maximum and minimum average noise levels of day time and night time. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 81.0 dB(A) and 82.0 dB(A) during day time & 50.1 dB(A) and 51.5 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 79.5 dB(A) and 82.9 dB(A) during day time & 48.4 dB(A) and 54.2 dB(A) during night time. It is obvious from the results that during day time, the average noise levels were found to exceed the standard limits at all the studied locations.

In **SANGLI**, a significant difference in noise levels of working and non-working days was recorded. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 67.2 dB(A) and 72.9 dB(A) during day time & 64.4 dB(A) and 65.3 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 73.6 dB(A) and 81.5 dB(A) during day time & 52.2 dB(A) and 60.3 dB(A) during night time.

In **MIRA BHAYANDER**, the difference in average noise levels on both days of monitoring was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 67.9 dB(A) and maximum average noise level was 77.9 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 67.8 dB(A) and maximum average noise level was 78.8 dB(A).

In **VASAI – VIRAR** also, the difference in average noise levels on both days of monitoring was found to be insignificant and surprisingly, the noise levels was observed on higher side on non-working day as compared to the working day. The minimum average noise level on 25<sup>th</sup> December was 58.2 dB(A) and maximum average noise level was 75.0 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 57.1 dB(A) and maximum average noise level was 72.9 dB(A).

In **ULHASNAGAR**, after evaluation of noise data, it was observed that the average noise levels during day & night time were insignificantly higher than the standard limit. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 74.6 dB(A) and 84.5 dB(A) during day time & 69.7 dB(A) and 72.6 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 74.2 dB(A) and 85.0 dB(A) during day time & 69.6 dB(A) and 72.1 dB(A) during night time.

In **BHIWANDI-NIZAMPUR**, it was observed that the average noise levels during day & night time were significantly higher than the standard limit. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 70.6 dB(A) and 73.8 dB(A) during day time & 61.2 dB(A) and 67.3 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 72.3 dB(A) and 76.5 dB(A) during day time & 64.8 dB(A) and 73.1 dB(A) during night time.

In **CHANDRAPUR**, the difference in average noise levels on both days of monitoring was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 61.4 dB(A) and maximum average noise level was 76.0 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 63.2 dB(A) and maximum average noise level was 74.5 dB(A).

In **NANDED-WAGHALA**, all the locations for noise monitoring falls under silent category. The noise levels recorded were found to exceed than the prescribed standard limit for silent category. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 52.6 dB(A) and 55.7 dB(A) during day time & 42.7 dB(A) and 46.0 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 66.1 dB(A) and 68.1 dB(A) during day time & 44.7 dB(A) and 50.4 dB(A) during night time.

In **AHMEDNAGAR**, the average noise levels during day & night time were found to be significantly higher than the standard limit. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 65.9 dB(A) and 67.4 dB(A) during day time & 58.9 dB(A) and 63.5 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 69.1 dB(A) and 70.9 dB(A) during day time & 63.2 dB(A) and 64.4 dB(A) during night time

In **DHULE**, the difference in average noise levels on both days of monitoring was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 58.9 dB(A) and maximum average noise level was 68.5 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 63.7 dB(A) and maximum average noise level was 71.8 dB(A).

In **MALEGAON**, the difference in average noise levels on both days of monitoring was found to be insignificant. The minimum average noise level on 25<sup>th</sup> December was 66.0 dB(A) and maximum average noise level was 73.4 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 65.2 dB(A) and maximum average noise level was 72.0 dB(A).

In **PIMPRI-CHINCHWAD**, the average noise levels during day & night time were significantly higher than the standard limit. The minimum average noise level on 25<sup>th</sup> December was 56.3 dB(A) and the maximum average noise level was 74.9 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 60.1 dB(A) and the maximum average noise level was 77.3 dB(A).

In **PARBHANI**, the noise levels were found within the prescribed standard limits. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 60.5 dB(A) and 66.2 dB(A) during day time & 43.3 dB(A) and 47.2 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 66.5 dB(A) and 69.6 dB(A) during day time & 45.7 dB(A) and 49.9 dB(A) during night time.

In **LATUR** also, the noise levels were found within the prescribed standard limits. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 64.6 dB(A) and 67.3 dB(A) during day time & 44.3 dB(A) and 49.2 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 66.2 dB(A) and 70.7 dB(A) during day time & 44.7 dB(A) and 50.0 dB(A) during night time.

In **AKOLA**, a significant difference in average noise levels of day time and night time was observed. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 70.1 dB(A) and 72.1 dB(A) during day time & 55.0 dB(A) and 58.8 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 71.8 dB(A) and 73.7 dB(A) during day time & 55.5 dB(A) and 58.4 dB(A) during night time.

In **SOLAPUR**, the average noise levels during day time were significantly higher than the standard limit. The minimum average noise level on 25<sup>th</sup> December was 52.4 dB(A) and the

maximum average noise level was 70.1 dB(A). However, on 26<sup>th</sup> December, the minimum average noise level was 52.3 dB(A) and maximum average noise level was 70.8 dB(A).

In **PANVEL**, the average noise levels during the day & night time were found to be significantly higher than the standard limit. On 25<sup>th</sup> December (non-working day), the average noise levels ranged between 73.1 dB(A) and 77.4 dB(A) during day time & 57.5 dB(A) and 63.2 dB(A) during night time. On 26<sup>th</sup> December (working day), the average noise level ranged between 73.4 dB(A) and 76.9 dB(A) during day time & 59.4 dB(A) and 66.5 dB(A) during night time.

## 6 CONCLUSION

The Maharashtra Pollution Control Board (MPCB) conducted a noise monitoring study in Maharashtra's major cities this year as it does every year to assess the intensity of noise. For this, 104 places were monitored continuously for 24 hours, Day time (06:00 am to 10:00 pm) and Night time (10:00 pm to 06:00 am) in 27 Municipal Corporations of Maharashtra. The monitoring was done over the course of two days, including one non-working day (Sunday, December 25) and one working day (Monday, December 26).

During the study, it was found that the average noise levels at some of the locations during the day time and at night were significantly higher than the Permissible Limit for those zones (Industrial, Commercial, Residential or Silence). The main causes of noise pollution in cities are large public gatherings, honking, and increased car use.

The results showed that Shivaji Chowk in Ulhasnagar's commercial area was the noisiest during the day, with 84.5 dB(A) on December 25 (a non-working day) and 85.0 dB(A) on December 26. (working day). But at night, Mumbadevi Temple in Mumbai (Silent zone) was determined to be noisiest on December 25 (a non-working day), with 76.4 dB(A), while Shivaji Park in Dadar, was noisiest on December 26 (a working day), with 76.9 dB(A).

However, cities like Goregaon (E) and Charkop of Mumbai, Nirala Bazar of Aurangabad, Shahstri Tower Chowk in Jalgaon, Rajarampuri Chowk, Papchi Tickti and Dabhorakar corner of Kolhapur, Shaniwar Bazar in Parbhani, Range Office of Vasai-Virar and Gaon Devi Mandir Naupda of Thane were recorded with the noise levels significantly below the Permissible standard limits both during working day as well as non-working day during the study.

In recent years, Government of Maharashtra, MPCB and the state Traffic Police has implemented various methods and schemes to mitigate the noise pollution and its detrimental effects on the health of the inhabitants of the state. Awareness campaigns to widespread the harmful effects of noise pollutions and its mitigation measures are conducted throughout the state with education institutions, club coordination committees, non-profit organisations, etc. Acoustic barriers are installed on the major flyovers near the residential areas. A variety of trees and shrubs are planted along roadside, hospitals, educational institute etc. to attenuate urban sound levels. The Transport Department and Traffic police has enforced strict vigilance against reckless vehicle, use of pressure horns as well as against cars operating without mufflers or silencers.

Besides this, at an individual level, residents can also take few steps to reduce noise pollution by planting more and more trees, regular maintenance of vehicles and machines, use of more public transport to reduce the number of vehicles on the road which ultimately will reduce traffic jams and hence the noise pollution (due to unnecessary honking) as well as air pollution also etc.

## 7 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  $\mu$ Pa. Thus, the sound pressure level in dB =  $20 \log_{10} P/P_r$ .

## 8 GLIMPSE OF THE EVENT

25 <sup>th</sup> December 2022	
	
Nashik – Udyog Bhavan, Satpur	Nagpur - Mahal
	
Jalgaon – Civil Hospital	Mumbai – Hindu Colony
	
Kolhapur - Gokhale College	Panvel – Utsav Chowk

26<sup>th</sup> December 2022



Pimpri Chinchwad – Chafekar Chowk



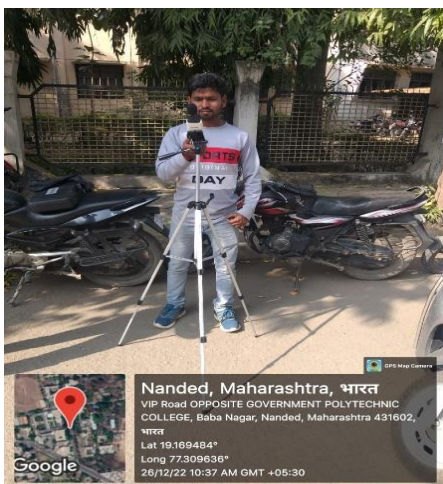
Nashik – Dwarka Circle



Navi Mumbai - Father Agnel Educational Trust, Vashi



Thane – Gokhale Road



Nanded Waghala – Govt. Polytechnic College



Chandrapur – Jatpura Gate

# Annexures

## 9 ANNEXURES

### 9.1 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/ Bangaunga
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

## 9.2 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) $L_{eq}$	
		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)  $L_{eq}$  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)  $L_{eq}$ , denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

$L_{eq}$ : 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 जाहिर 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 सध.स्थितीत 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 संबंधीत

रौटा/इच-०१००[४००-४-२००९]-१

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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.

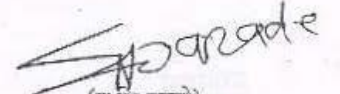
A.

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

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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

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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

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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>jurisdiction.</p> <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>

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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.

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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.

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- \* 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.

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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

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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

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