

**REPORT
ON
AMBIENT NOISE MONITORING DURING
GANESH FESTIVAL – 2012**



MAHARASHTRA POLLUTION CONTROL BOARD
Kalpataru Point, 3rd Floor, Sion (East), Mumbai-400022
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September, 2012

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महाराष्ट्र प्रदूषण नियंत्रण मंडळ
MAHARASHTRA POLLUTION CONTROL BOARD

FOREWORD

Ganesh Festival is one of the main festivals in Maharashtra. Large numbers of people participate in the immersion procession culminating the 10 days festival. Vocal music and musical instruments during the festival often lead to high levels of noise. In general, ambient levels of noise pollution increase considerably during this period.

This report is based on the extensive noise monitoring study conducted by Maharashtra Pollution Control Board at 89 locations all over Maharashtra for the last 5 days of the festival, i.e. from 25.9.2012 to 29.9.2012 from 18.00 hrs. to 24.00 hrs continuously for 6 hours for each location, comprising residential, commercial and silence zones.

This report contains the methodology and observations made during the study. The noise levels were found to be exceeding the permissible limits in all cities and at almost all locations. However, there is a considerable decrease in the noise levels recorded at Navi Mumbai, Kalyan, Amravathi and Jalgoan compared to previous years.

The data and the trends in variation in noise levels in different Metropolitan cities can help the authorities including police authorities and Municipal bodies to develop strategies and plan for the next year. The report is being placed on MPCB website for wider dissemination of information and for public awareness.

Field monitoring of this study was conducted by M/s.Ashwamedh Engineers and Consultants C S Ltd; Nashik and was supported by all Regional Offices of the Board in the field. The entire study work including planning, coordination and report preparation was done at PAMS division of the Board. The contributions of Shri P.K.Mirashe, Shri S.C.Kollur and Ms.Poonam Poyrekar are appreciated.

(Rajeev Kumar Mital, IAS)
Member Secretary

November, 2012

कल्पतरु पॉइंट, सायन सर्कल, सायन (पूर्व), मुंबई - ४०० ०२२. टेलि. : २४०१ ०७०६ • फॅक्स : २४०२ ३५१६
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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

India is a land of fairs and festivals. As different communities belonging to different religions live here, therefore many festivals are celebrated regularly every year. Among these festivals, some are religious; some are based on seasons while some are of national importance. All the festivals are celebrated with great enthusiasm in a colourful atmosphere. Diwali, Dussehra, Raksha Bandhan, Id-ul-Fitr, Id-ul-Zuha, Christmas, Mahavir Jayanti, Gurunanak Jayanti, Ganesh Chaturhi etc. are the religious festivals of India.

Ganesh is the generous god of wisdom and Ganesh Chaturthi is celebrated to worship Lord Ganesh. It's one of the most colorful public festivals all over India. It was started by Shivaji, the great Maratha ruler, to promote culture and nationalism, the festival was revived by Lokmanya Bal Gangadhar Tilak to spread the message of freedom struggle and to defy the British who had banned public assemblies. The festival gave the Indians a feeling of unity and revived their patriotic spirit and faith. This festival is so popular that the preparations begin months in advance. Idoles of Ganesh are installed and elaborate arrangements are made for lighting and decoration, and celebrations will go on for 7-10 days. The Chaturthi is the last day dedicated to the lord Ganesh, and thousands of processions converge on the beaches to immerse the idols in the sea/waterbody. This immersion is accompanied by drum- beats, devotional songs; as a result, ambient noise levels increases considerably.

In order to assess the ambient noise levels in the environment during Ganesh festival period, Maharashtra Pollution Control Board (MPCB) has taken initiative to carry out the survey at major cities of Maharashtra at selected locations for 5 days period during Ganesh Festival from 25th to 29th September, 2012.

1.1 Noise and its adverse effect

Noise, by definition, is unwanted sound. Noise pollution can be defined as unwanted or offensive sounds that unreasonably intrude into our daily activities (EPA, 1974). Sound, which pleases the ears, is music and that which cause pain and annoyance, is noise. The major adverse effects of noise on human beings and environment are:

- ❖ The physiological features like breathing amplitude, blood pressure, heartbeat rate, pulse rate and blood cholesterol are affected.
- ❖ It causes pain, ringing in the ears, feeling of tiredness, thereby effecting the functioning of human system.
- ❖ The working performance of workers/human will be affected as they will be losing their concentration.
- ❖ Long exposure to high sound levels cause loss of hearing. But has an adverse impact on hearing function.
- ❖ It affects the sleeping there by inducing the people to become restless, loosing concentration and presence of mind during their activities.
- ❖ Animals are also susceptible to noise pollution as well. It damages the nervous system of the animals.

1.2 Units of Sound

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 log₁₀ P/Pr.

1.3. Noise Pollution: Standards

The sound level limits specified by CPCB, represent the general limitation on noise produced by noise sources. Some noises, however, are annoying no matter where or in what kind of environment they exist. High level impulsive noises represent a special category and, consequently, are restricted by an absolute limitation.

The Central Pollution Control Board (CPCB) constituted a National Committee of Experts on Noise Pollution Control. The Committee recommended noise standards for ambient air and for automobiles, domestic appliances and construction equipment, which were later notified under The Environment (Protection) Act, 1986 as given below:

**Table 1.1: Standards of Noise Levels under EPA (1986):
Noise Pollution (Regulation & Control) Rules, 2000**

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 is reckoned from 6 A.M. To 10 P.M.
2. Night time is reckoned in from 10 P.M. and 6 A.M.
3. Silence zone is referred as areas within 100 meters around premises such as hospitals, educational institutions and courts. The Silence zones are to be declared by the Competent Authority.
4. Use of vehicular horns, loudspeakers and bursting of crackers shall be banned in these zones.
5. Mixed categories of areas should be declared as one of the four above mentioned categories by the Competent Authority and the corresponding standards shall apply.
6. State GR / Notification: Implementation Authority for Noise Rules in Maharashtra is enclosed at **Annexure-I**.

2. Objective

- To monitor the ambient noise levels for five days from 18:00 hrs to 24:00 hrs at various locations in major cities of Maharashtra.
- To determine the trends and variations of noise levels at various areas of the city in different land uses.
- To create awareness about noise pollution through availability of scientific noise level data.

3. Methodology of the survey

The noise pollution monitoring was carried out from 25th to 29th September, 2012. Noise level measurement was done from 18:00 hrs up to 24:00 hrs. The noise measurements were made at the fast response mode keeping in view the quickly changing nature of noise levels, using 'A' filter. All the measurements were done using recalibrated Sound Level Meters (Type II).

The monitoring was carried out at a distance from Ganesh Pandals, closer to the residential buildings. The main purpose of this exercise was to determine how the environment is disturbed and what effect it has on a normal human being residing in that area or closer to the area. Total 89 locations were covered under 12 major cities of Maharashtra for the present study. The 12 cities covered are:

Table 3.1: Noise Monitoring Locations in Maharashtra during Ganesh Festival: 2012.

Sr. No.	City	Number of locations
1	Mumbai	25
2	Navi Mumbai	05
3	Thane	09
4	Pune	20
5	Nashik	05
6	Aurangabad	05
7	Nagpur	05
8	Kalyan	03
9	Amravati	03
10	Jalgaon	03
11	Kolhapur	03
12	Satara	03
TOTAL		89

The detailed list of locations is given in Annexure II.

3.1. Noise Level Measurements

In most cases, the sound and noise we hear are not steady. Apart from variation in tones, the magnitude or the sound pressure level of a sound or noise changes with time. The equivalent continuous noise level (L_{eq}) is the sound pressure level of a steady sound that has, over a given period, the same energy as a fluctuating sound in question. It was calculated using following equation:

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

Where, L_i = levels observed at n equally spaced times during interval T.

In the present study, hourly and day wise L_{eq} has been calculated to compare the results obtained from various locations.

4. Results

The study shows that the noise levels at almost all the locations crosses the standards (limits) mentioned in EPA (1986) and overall noise level increased at 5th day of monitoring i.e. at 29th September, because of the last day (11th day) of the festival. On this day, the idols of Lord Ganesha is taken through the streets in a procession accompanied with musical instruments, Dhols, DJs and Bands to be immersed in a river or the sea symbolizing a ritual known as *Ganesh Visarjan*.

All the results are shown in L_{eq} dB(A) values. Table 4.1 shows the average maximum and minimum noise levels on each day from September 25th to 29th at all 89 locations. The following results are interpreted at different locations:

- Among all the 25 locations in Mumbai, Girgoan chowpati location was found to have maximum noise level.
- In Navi Mumbai, Vashi was found to have maximum noise level.
- In Thane, among the 9 locations, higher noise levels were observed at Wagle Estate.
- In Pune, Thergoan was found to be noisier as compared to other locations.
- From results it is interpreted that in Nashik, CBS was found to have maximum noise level.
- In Aurangabad district, City Chowk was observed as to have maximum noise level.
- Golibar Chowk was having maximum noise level in Nagpur.
- Results show that Shivaji Chowk of Kalyan was very noisy and crossing even 100 dBA.

- Among the 3 locations of Amravati, Rajkamal square location was observed to have maximum noise level.
- In Jalgaon district, Shastri tower chowk was found to have maximum noise level all through the five days.
- In Kolhapur district, Khas Baug Maidan was observed to have maximum noise level.
- In Satara, Moti Chowk was found to have maximum noise level.

Table 4.1: Equivalent Continuous (L_{eq})dBA, Minimum (L_{min}) and Maximum (L_{max}) Noise Levels from 25th to 29th Sept., 2012 during Ganesh Festival at different locations in Maharashtra during 18:00 hrs to 24:00 hrs.

Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.		
	L_{Aeq}	L_{max}	L_{min}	L_{Aeq}	L_{max}	L_{min}	L_{Aeq}	L_{max}	L_{min}	L_{Aeq}	L_{max}	L_{min}	L_{Aeq}	L_{max}	L_{min}
MUMBAI															
Andheri	83.0	87.4	78.1	87.1	96.9	72.4	82.5	87.4	71.0	74.2	83.4	63.0	81.2	94.3	69.7
Bandra	74.7	81.0	71.1	75.5	79.4	70.9	77.6	79.7	74.5	79.4	80.3	77.5	82.0	86.0	77.7
Bhandup	76.5	90.1	62.1	74.7	86.0	64.3	73.9	82.7	69.8	86.0	96.6	70.7	88.6	96.6	75.3
Borivali	71.3	81.5	59.8	70.9	78.6	62.2	68.6	72.8	60.6	71.1	78.3	63.9	93.7	109.6	69.4
Byculla	76.9	80.8	69.9	77.3	81.1	69.8	75.2	80.0	69.1	74.7	77.6	69.3	75.8	82.3	63.8
Chembur (E)	82.6	92.5	72.3	82.7	93.1	71.6	80.6	90.7	71.4	78.8	88.2	69.7	86.4	96.6	75.4
Chembur (W)	70.8	72.8	67.5	68.9	74.2	66.4	70.2	71.0	68.6	74.9	77.3	71.5	82.2	83.9	80.6
Chinchpokali (E)	69.5	77.5	59.9	74.2	84.3	62.9	79.6	86.1	71.5	86.5	93.1	78.7	73.2	87.0	67.5
Chinchpokali (W)	71.1	83.2	65.3	76.7	78.0	75.2	78.3	83.2	74.4	68.5	70.8	67.0	78.9	83.3	74.4
Dadar (E)	81.3	89.0	75.0	80.2	87.0	74.7	81.8	86.5	75.0	82.2	85.6	78.5	88.9	93.7	85.9
Dadar (W)	80.3	87.0	74.4	80.8	84.6	71.6	79.2	85.2	72.2	82.3	86.9	73.5	88.9	90.3	87.8
Elphinstone	82.3	96.0	70.0	82.3	93.3	73.0	86.7	96.2	79.0	78.2	92.6	70.1	96.1	107.5	77.9
Ghatkopar	81.9	94.2	72.1	85.3	97.8	72.0	83.2	93.3	70.2	79.7	88.7	72.7	86.0	95.7	75.3
Girgaon Chowpati	91.5	102.5	79.8	75.0	79.7	64.1	72.4	79.5	67.5	75.6	79.7	67.5	91.9	99.4	84.3
Grant Road	76.2	82.0	70.4	74.7	82.0	70.4	77.4	81.5	73.7	77.2	81.4	72.2	83.2	92.5	69.6
Juhu Chowpati	85.0	97.3	79.3	82.1	87.6	74.6	85.6	90.1	78.0	87.3	90.8	81.1	97.6	100.7	91.0
Kandivali (E)	77.2	89.0	63.9	72.1	82.6	60.9	72.3	82.6	63.3	79.9	86.8	70.0	76.6	84.5	65.6
Kandivali (W)	73.7	84.5	61.7	81.0	88.9	68.8	74.9	83.8	64.3	76.0	84.2	67.2	91.7	95.8	86.1
Khar	78.9	90.2	72.7	77.2	89.2	69.4	78.1	81.5	74.3	77.2	89.2	69.4	84.0	96.0	53.3

Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.																																																	
	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}																																															
Mulund	83.2	97.5	66.6	82.9	88.3	76.6	81.7	90.7	66.1	79.9	89.1	65.6	80.4	90.5	67.7																																															
Mumbai Central	92.9	100.1	82.3	82.7	86.3	80.0	83.7	86.8	80.4	83.0	86.6	79.0	93.1	97.1	86.5																																															
Parel	69.7	73.3	62.1	70.0	74.2	63.7	69.4	74.2	57.6	68.3	70.6	60.4	76.1	81.1	67.3																																															
Santacruz (E)	86.9	95.7	72.4	84.4	97.5	67.0	82.2	86.0	72.3	77.0	81.9	71.7	97.3	166.3	76.0																																															
Vikhroli	80.5	86.7	77.6	79.1	85.4	73.6	77.7	82.1	67.4	77.7	85.6	61.1	81.8	102.3	61.1																																															
Wadala	76.9	84.3	69.6	78.1	84.3	72.5	77.3	89.2	69.7	72.4	79.5	67.5	80.1	96.0	53.3																																															
NAVI MUMBAI																																																														
Airoli	75.1	78.4	72.4	73.2	76.5	69.9	75.9	79.4	72.7	75.8	80.1	71.5	77.6	80.2	74.2																																															
CBD	68.5	83.2	57.9	79.5	85.5	71.7	68.5	70.8	67.0	74.3	85.5	68.1	77.5	82.4	74.6																																															
Kopar Khairane	73.9	77.5	72.6	72.6	73.7	70.7	73.7	75.8	71.7	71.6	73.8	65.9	67.4	73.6	55.4																																															
Uran	75.7	84.5	63.6	72.4	80.4	55.6	73.0	80.6	58.5	73.7	87.0	62.0	70.2	73.6	65.9																																															
Vashi	75.6	83.2	67.8	71.4	77.4	67.3	75.6	79.7	67.5	75.2	86.9	62.6	73.5	83.1	62.1																																															
THANE																																																														
Gokhle Road	74.3	81.9	66.9	75.6	81.2	72.4	73.9	80.5	68.1	67.9	70.6	65.5	81.4	86.1	73.1																																															
Jambli Naka	72.4	76.7	67.4	74.6	76.8	72.1	70.8	78.6	60.0	74.3	78.8	68.4	81.5	89.2	67.7																																															
Main Road	77.9	83.0	70.6	74.8	78.0	73.1	75.7	78.6	72.0	71.1	81.5	60.7	80.6	85.4	74.4																																															
Pokhran Road	79.2	83.6	73.0	75.5	79.4	69.4	76.8	80.6	69.8	75.3	76.9	73.5	82.6	88.1	79.1																																															
Wagle Estate	83.0	90.7	75.0	64.9	70.5	58.4	57.1	66.0	49.8	77.7	81.0	71.7	87.5	91.4	79.8																																															
Court Naka	69.8	76.7	65.3	70.9	73.6	68.1	68.7	75.7	57.9	65.0	69.7	57.2	66.1	72.1	58.1																																															
Mental Hospital	60.2	69.7	49.0	54.8	61.2	46.4	50.8	58.6	45.5	71.6	75.3	67.7	68.0	71.8	63.7																																															
Bedekar Hospital	67.0	75.4	63.7	68.8	72.5	66.4	67.3	72.5	64.1	63.1	68.3	55.3	73.7	82.0	67.4																																															
Kalwa-CSM Hospital	69.6	74.6	61.0	73.4	77.1	69.6	68.0	75.6	61.1	71.5	75.8	66.6	63.3	70.0	57.3																																															
PUNE																																																														
<table border="1"> <thead> <tr> <th rowspan="2">Location</th> <th colspan="3">25th Sept.</th> <th colspan="3">26th Sept.</th> <th colspan="3">27th Sept.</th> <th colspan="3">28th Sept.</th> <th colspan="3">29th Sept.</th> </tr> <tr> <th>L_{Aeq}</th> <th>L_{max}</th> <th>L_{min}</th> <th>L_{Aeq}</th> <th>L_{max}</th> <th>L_{min}</th> <th>L_{Aeq}</th> <th>L_{max}</th> <th>L_{min}</th> <th>L_{Aeq}</th> <th>L_{max}</th> <th>L_{min}</th> <th>L_{Aeq}</th> <th>L_{max}</th> <th>L_{min}</th> </tr> </thead> <tbody> <tr> <td colspan="16">PUNE</td> </tr> </tbody> </table>																Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.			L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	PUNE															
Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.																																																	
	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}																																															
PUNE																																																														

Shivaji Nagar	82.1	90.3	67.2	77.4	85.4	65.0	81.7	90.5	70.5	81.1	88.1	73.0	76.9	82.1	70.2
Karve Road	80.7	86.5	71.4	83.5	91.4	76.5	80.7	92.9	68.2	84.3	90.1	78.6	92.5	100.6	74.4
Swar Gate	78.5	81.5	73.9	77.4	82.9	74.3	86.2	93.0	77.7	79.5	82.6	76.7	92.3	96.5	89.2
Satara Road	77.1	77.7	75.3	75.6	78.1	72.8	75.9	77.4	74.5	82.4	87.0	77.6	93.0	97.4	87.8
Shaniwar Peth	77.9	80.7	73.3	78.3	80.6	75.5	76.8	78.5	74.3	78.5	80.7	76.9	87.4	90.5	83.0
Yerawada	82.5	85.9	76.1	79.5	83.1	75.1	78.6	82.9	68.5	77.5	84.1	69.3	86.2	93.9	73.2
Laxmi Road	66.9	83.1	26.5	91.2	94.9	87.3	88.3	94.0	82.1	78.6	88.7	68.5	97.0	100.1	94.1
Kothrud	84.7	88.3	79.7	81.2	86.4	74.1	83.5	92.4	76.0	80.4	86.5	74.1	91.2	98.2	75.8
Mahatma Phule Mandai	80.1	88.4	73.2	82.3	87.4	76.2	85.7	93.7	76.8	80.1	86.2	72.9	96.9	98.2	95.7
Sarus Baug	74.1	80.2	63.2	79.6	81.9	78.0	78.0	86.9	62.5	77.1	79.8	75.0	97.2	99.9	95.4
Hadapsar	84.5	85.9	82.5	85.1	90.4	76.6	84.7	89.2	79.9	84.8	92.0	76.3	89.1	94.1	75.1
Deccan	81.0	86.7	72.6	79.4	82.7	73.6	78.5	84.5	70.5	80.4	87.8	69.5	85.9	88.8	82.7
Dagdu Sheth Mandir	73.4	81.8	58.5	56.9	61.9	51.9	81.6	87.8	77.0	70.1	73.2	61.1	78.2	92.5	64.5
Alka Chowk	83.8	87.4	77.4	80.9	83.4	77.2	82.3	86.6	74.6	79.3	85.9	72.4	102.5	105.3	95.1
Babu Genu Chowk	83.1	85.3	80.2	82.9	85.3	79.6	84.4	93.1	76.8	83.8	89.5	71.5	81.8	85.0	80.1
Khadaki	77.0	86.9	68.5	77.2	84.7	71.8	81.8	95.4	74.1	80.6	82.8	78.5	94.3	100.8	83.2
M G Road	82.4	92.8	65.3	80.7	95.5	64.7	74.4	83.6	58.6	73.5	82.3	57.9	96.7	105.2	85.8
Chapekar Chowk	78.2	89.9	71.7	79.3	86.0	72.1	82.7	94.7	77.6	81.5	83.3	80.1	96.3	100.4	89.5
Pimprigoan	98.2	100.3	95.3	76.9	81.0	72.3	72.1	78.6	61.1	71.0	77.3	59.8	71.6	74.5	64.4
Thergaon	82.2	93.9	64.2	82.9	97.3	60.6	73.5	86.2	60.7	73.6	81.3	63.8	97.3	105.8	86.8

Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.		
	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}
NASHIK															
Nashik Road	77.7	84.3	73.0	79.0	85.1	70.2	88.9	101.1	72.9	82.8	106.6	73.2	83.9	95.0	67.7
Panchvati	81.1	84.8	74.3	80.7	91.4	71.0	78.2	87.0	72.6	85.5	88.9	80.0	87.0	94.1	79.4
CIDCO	85.8	97.1	76.1	79.6	89.3	68.8	80.9	89.1	73.4	81.8	88.3	73.9	93.7	112.1	81.5
CBS	86.1	96.5	72.6	78.4	85.5	59.9	85.0	98.4	70.5	81.9	84.5	75.6	78.6	86.0	71.2
Dahi Pool	80.2	88.7	73.9	79.2	87.1	67.9	79.5	87.9	74.1	82.3	86.2	77.9	75.4	81.2	67.3
AURANGABAD															
Gulmandi	73.4	76.3	69.3	78.1	84.8	68.3	79.9	85.4	71.6	81.5	87.1	74.4	90.2	93.3	82.0
City Chowk	70.0	71.6	68.3	72.0	74.9	70.2	73.2	77.1	70.5	76.2	80.5	72.7	93.6	97.1	82.6

Kranti Chowk	72.7	74.5	71.0	76.7	82.0	71.4	77.8	83.5	72.3	82.3	87.4	78.3	82.1	88.3	77.9
CIDCO Residential	56.3	66.9	50.2	63.2	72.6	55.7	65.1	74.3	54.4	68.2	77.2	57.5	64.9	70.3	56.2
Usmanpura	67.0	69.9	62.5	72.9	77.1	68.3	70.0	73.6	65.9	73.2	78.8	66.5	74.6	83.2	67.1
NAGPUR															
Ramdaspath/*Naik Talao	88.0	95.0	79.0	73.3	77.5	67.7	73.0	77.4	64.1	72.8	77.9	65.2	84.8	89.6	74.4
Cotton Market/*Sonegaon Lake	71.8	74.3	68.9	73.3	76.6	68.2	71.3	74.3	66.1	71.3	75.4	66.0	69.9	76.2	63.2
Golibar Chowk/*Gandhi Sagar	72.0	74.6	67.8	74.0	79.1	64.4	72.3	77.2	64.8	71.2	77.5	61.1	99.9	104.4	96.4
Reshimbag/*Futala Lake	74.5	79.6	65.3	82.1	85.1	78.8	76.0	80.5	69.1	75.4	81.9	62.9	72.4	74.0	69.8
Gandhiputala/*Sakardara Lake	82.6	85.2	79.7	71.7	75.6	66.4	82.8	85.7	80.4	86.1	90.2	78.1	75.6	78.6	73.7

Location	25 th Sept.			26 th Sept.			27 th Sept.			28 th Sept.			29 th Sept.		
	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}	L _{Aeq}	L _{max}	L _{min}
KALYAN															
Bajar Peth Police Station	78.2	83.3	71.2	70.6	81.0	53.0	78.6	83.8	70.1	75.3	79.1	73.4	75.2	79.4	73.2
Shivaji Chowk	74.5	88.1	67.4	75.3	78.9	71.5	75.5	78.4	72.4	75.9	77.4	73.0	93.4	106.9	78.3
Ulhasnagar Station	68.8	75.8	63.2	66.6	79.3	53.0	70.7	75.5	61.7	68.2	71.6	63.6	69.9	71.3	65.9
AMARAVATI															
Bhudhwara	69.7	75.8	63.1	72.7	77.8	66.0	72.4	82.1	61.9	76.8	80.9	68.8	74.5	78.3	67.9
Rajkamal Square	72.2	77.9	65.5	74.9	78.9	67.4	75.0	79.2	68.1	74.3	79.5	68.5	73.2	zz77.9	67.6
Irvin Hospital Square	62.7	66.7	57.8	64.6	67.8	58.6	64.0	67.4	61.0	64.4	67.4	57.7	64.9	69.4	62.6
JALGAON															
Subhash Chowk	79.8	89.7	70.5	77.9	90.4	65.2	76.3	95.6	61.3	81.0	90.4	68.7	82.9	90.2	75.8
Shashtri Tower Chowk	78.9	89.1	70.1	79.4	91.2	65.0	76.9	87.4	62.7	85.4	92.2	72.0	84.2	95.6	72.2
Shanipeth Police Station	70.3	76.8	62.2	73.2	80.2	65.7	78.2	99.3	63.3	71.7	78.3	68.2	75.6	80.2	67.8
KOLHAPUR															
Rajaram Puri	80.7	84.1	77.6	81.5	83.5	79.8	84.9	87.3	82.9	86.2	88.4	82.9	73.9	81.8	65.7
Mahalaxmi Mandir	67.8	77.2	57.5	57.0	69.2	45.3	61.3	72.2	49.9	60.1	73.8	43.7	77.1	85.2	60.9
Khas Baug Maidan	79.5	84.6	71.3	79.7	82.5	70.6	84.1	87.7	80.4	85.6	88.1	82.6	95.3	98.3	91.1
SATARA															
Powai Naka	82.1	91.0	74.0	77.9	82.3	69.3	83.0	91.1	77.5	80.1	91.0	67.0	93.3	99.1	83.2
Moti Chowk	83.3	92.1	72.1	79.0	91.0	67.5	77.5	81.3	73.3	79.6	83.0	76.0	92.7	99.9	83.1
Rajwada	83.9	94.4	75.3	79.7	91.0	66.5	81.9	95.3	72.5	85.6	94.0	79.9	90.2	95.8	82.2

Mumbai: Five days noise monitoring study shows that among all the 25 locations, the maximum noise level (107.5 dBA) was observed at Elphinstone on 29th September, 2012 and minimum noise level (53.3 dBA) was observed at both Khar and Wadala on the same day.

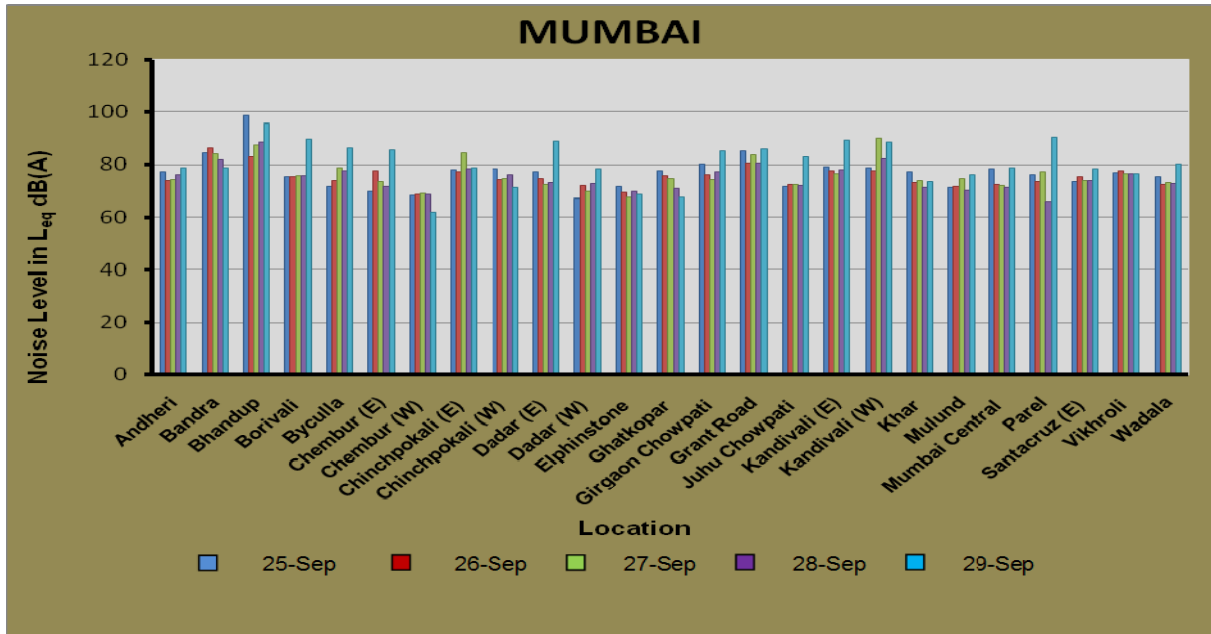


Chart 4.1: Noise levels from 25th-29th Sept., 2012 in Mumbai during 18:00 hrs to 24:00 hrs.

Navi Mumbai: In Navi Mumbai, the maximum noise level (87.0 dBA) was observed at Uran – Ganpati Chowk on 28th September, 2012 and minimum noise level (55.4 dBA) was observed at Kopar Khairane on 29th September, 2012.

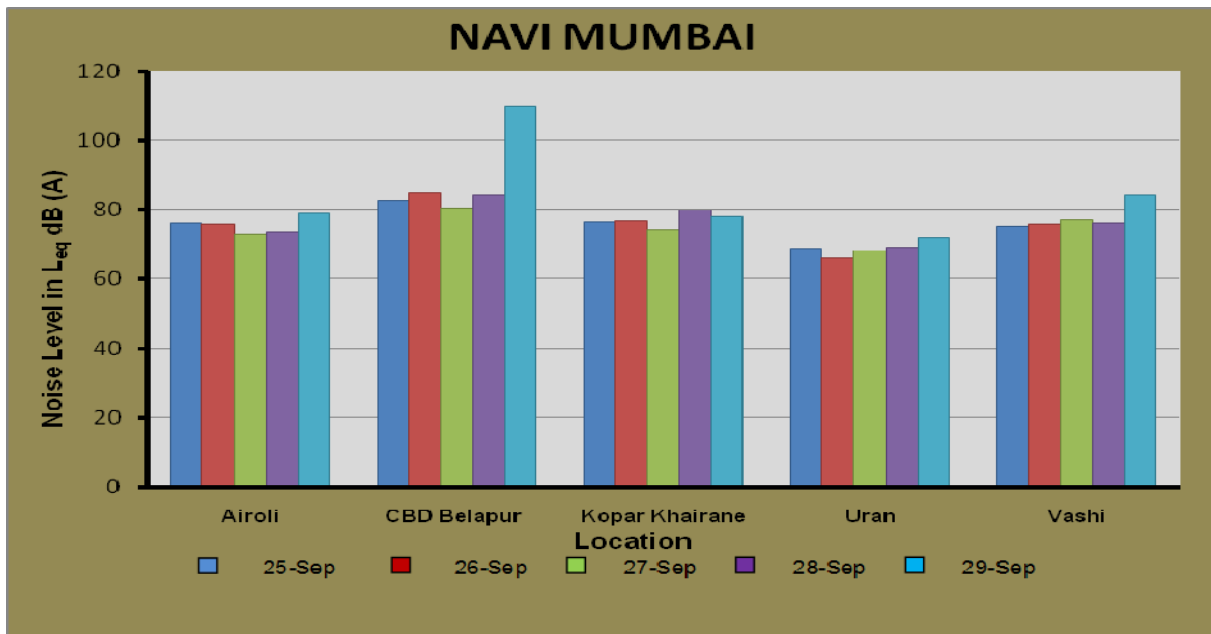


Chart 4.2: Noise levels from 25th-29th Sept., 2012 in Navi Mumbai during 18:00 hrs to 24:00 hrs.

Thane: Five days noise monitoring study shows that the maximum noise level (91.4 dBA) was at Wagle Estate location on the last day of monitoring and minimum noise level (46.4 dBA) was at Mental Hospital on 26th September, 2012.

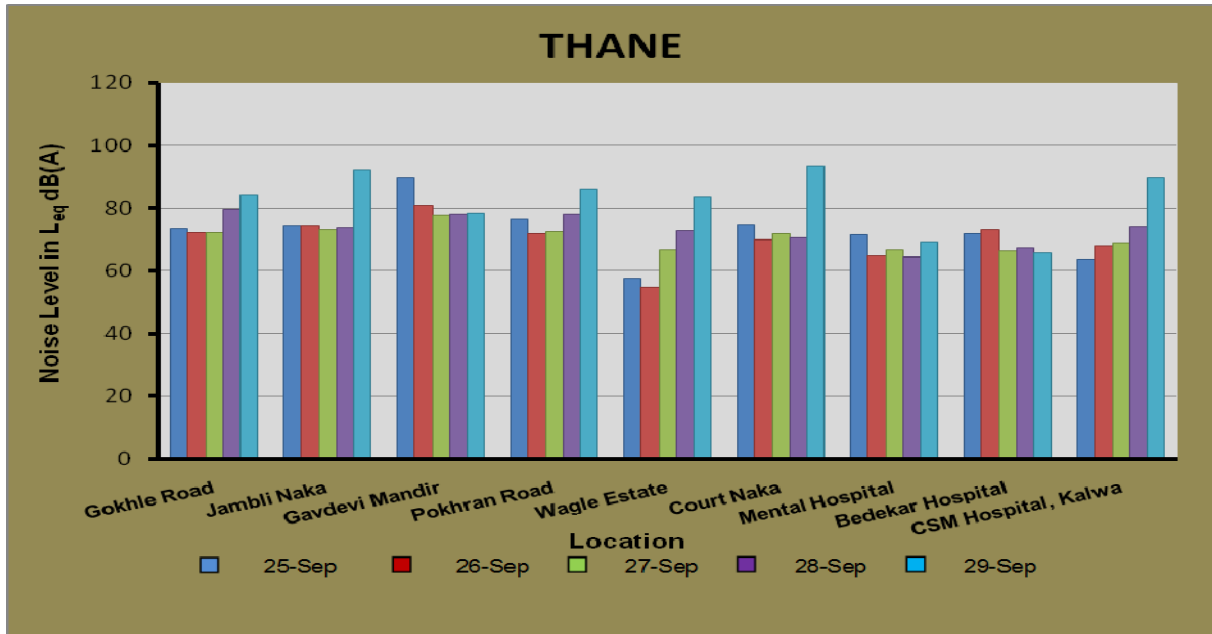


Chart 4.3: Noise levels from 25th-29th Sept., 2012 in Thane during 18:00 hrs to 24:00 hrs.

Pune: In Pune, the maximum noise level (105.3 dBA) was observed at Alka Chowk on 29th September, 2012 and minimum noise level (51.9 dBA) was observed at Dagdu Sheth Mandir on 26th September, 2012.

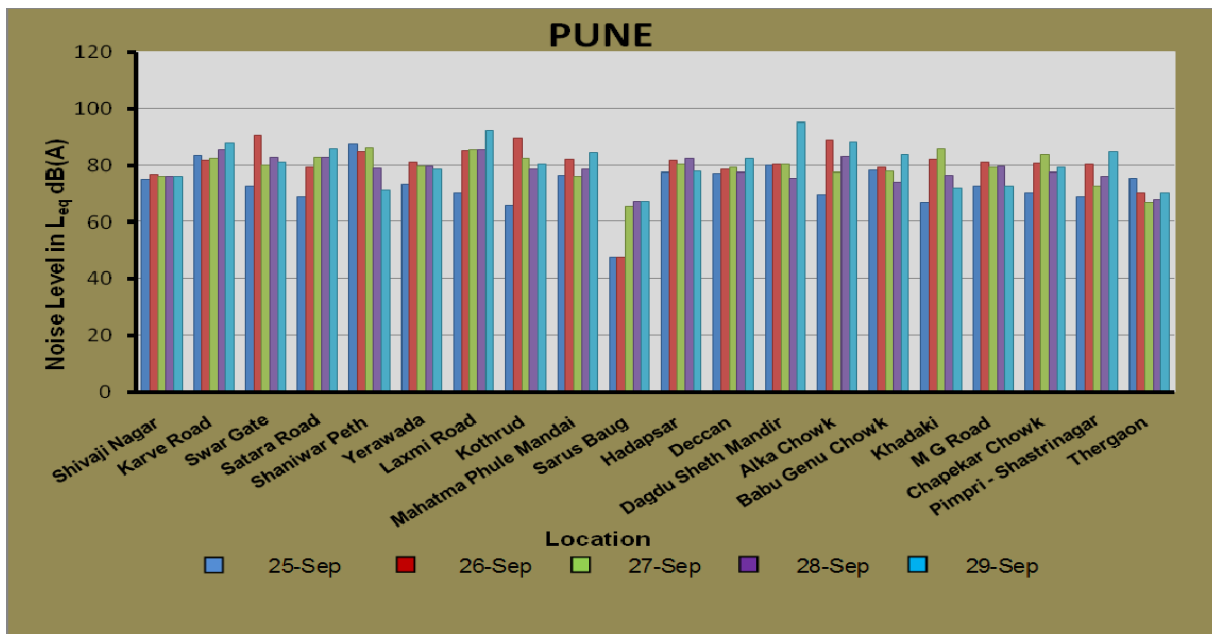


Chart 4.4: Noise levels from 25th-29th Sept., 2012 in Pune during 18:00 hrs to 24:00 hrs.

Nashik: In Nashik, the maximum noise level (112.1 dBA) was observed at CBS on 29th September, 2012 and minimum noise level (59.9 dBA) was observed at CIDCO on 26th September, 2012.

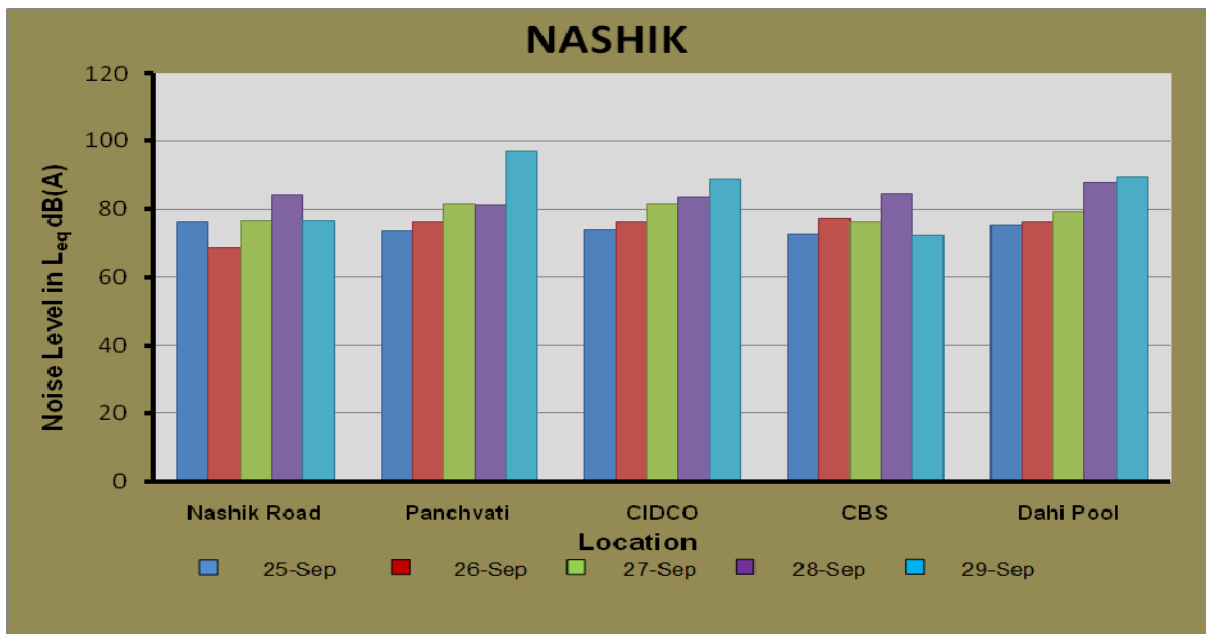


Chart 4.5: Noise levels from 25th-29th Sept., 2012 in Nashik during 18:00 hrs to 24:00 hrs.

Aurangabad: In Aurangabad, the maximum noise level (97.1 dBA) was observed at City Chowk on 29th September, 2012 and minimum noise level (50.2 dBA) was observed at CIDCO Residential on 25th September, 2012.

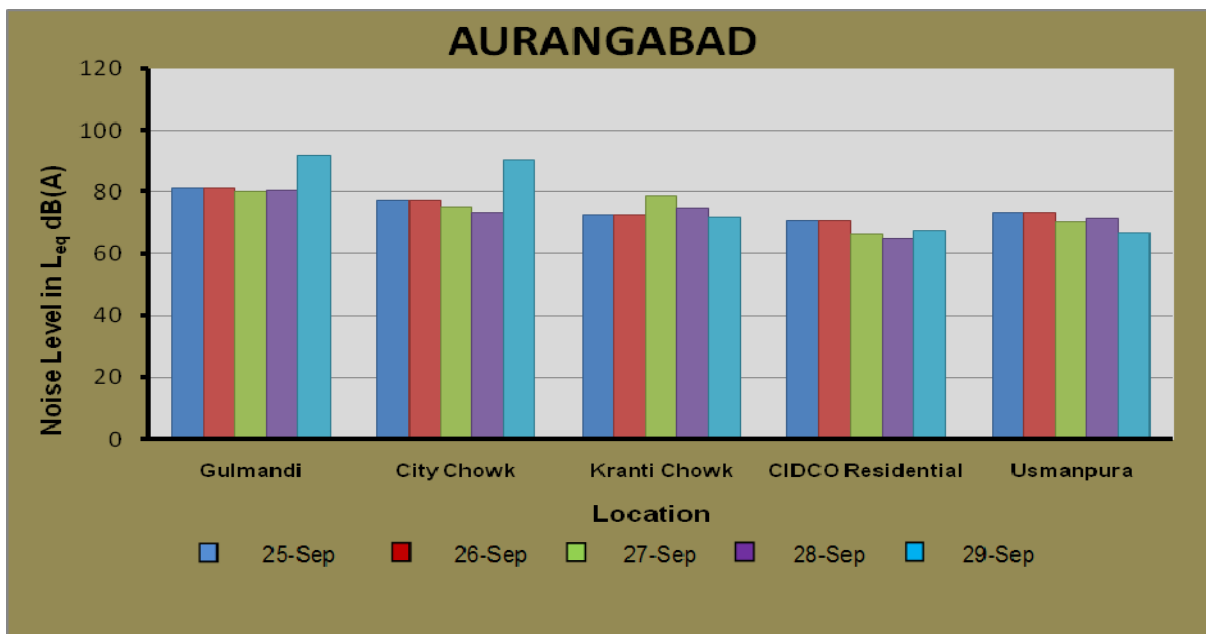


Chart 4.6: Noise levels from 25th-29th Sept., 2012 in Aurangabad during 18:00 hrs to 24:00 hrs.

Nagpur: In Nagpur, the maximum noise level (104.4 dBA) was observed at Gandhi Sagar on 29th September, 2012 and minimum noise level (61.1 dBA) was observed at Golibar Chauk on 28th September, 2012.

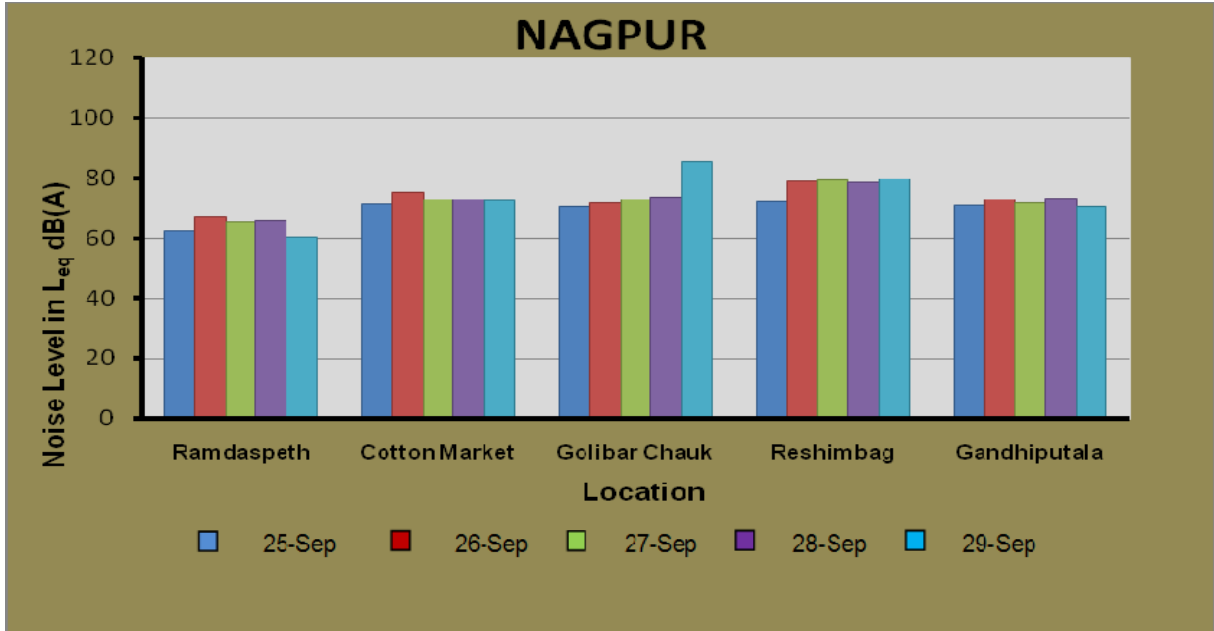


Chart 4.7: Noise levels from 25th-29th Sept., 2012 in Nagpur during 18:00 hrs to 24:00 hrs.

Kalyan: In Kalyan, the maximum noise level (106.9 dBA) was observed at Shivaji Chowk on 29th September, 2012 and minimum noise level (53.0 dBA) was observed both at Bajar Peth Police station and Ulhasnagar station on 26th September, 2012.

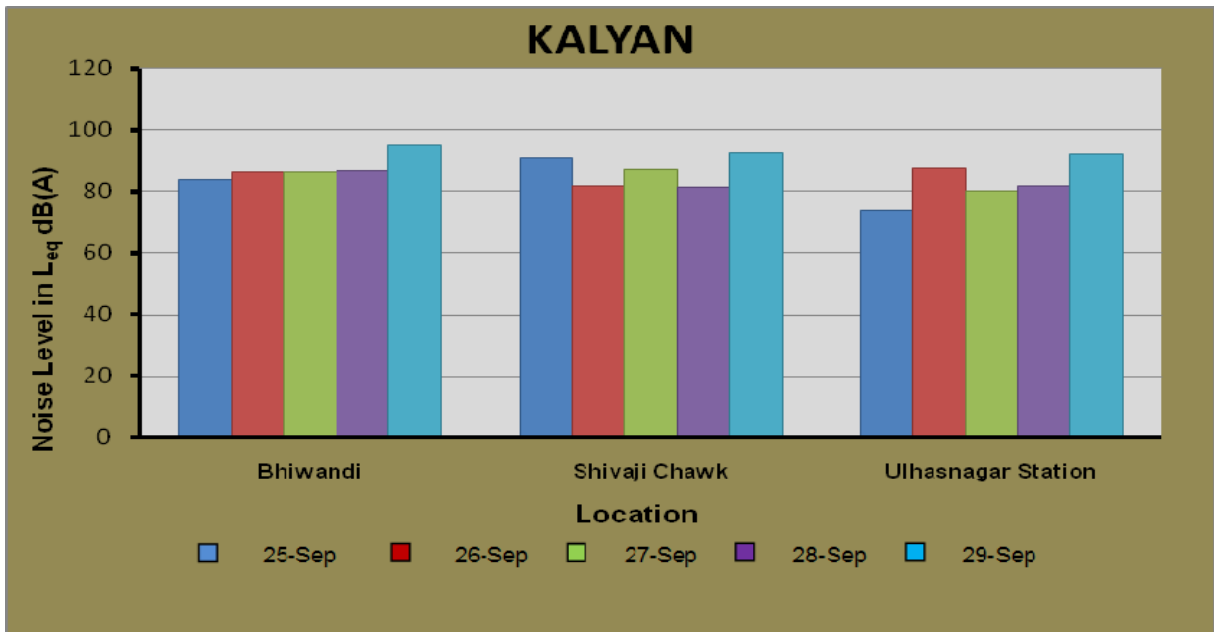


Chart 4.8: Noise levels from 25th-29th Sept., 2012 in Kalyan during 18:00 hrs to 24:00 hrs.

Amravati: In Amravati, the maximum noise level (82.1 dBA) was observed at Bhudhwara on 27th September, 2012 and minimum noise level (57.7 dBA) was observed at Irvin Hospital Square on 28th September, 2012.

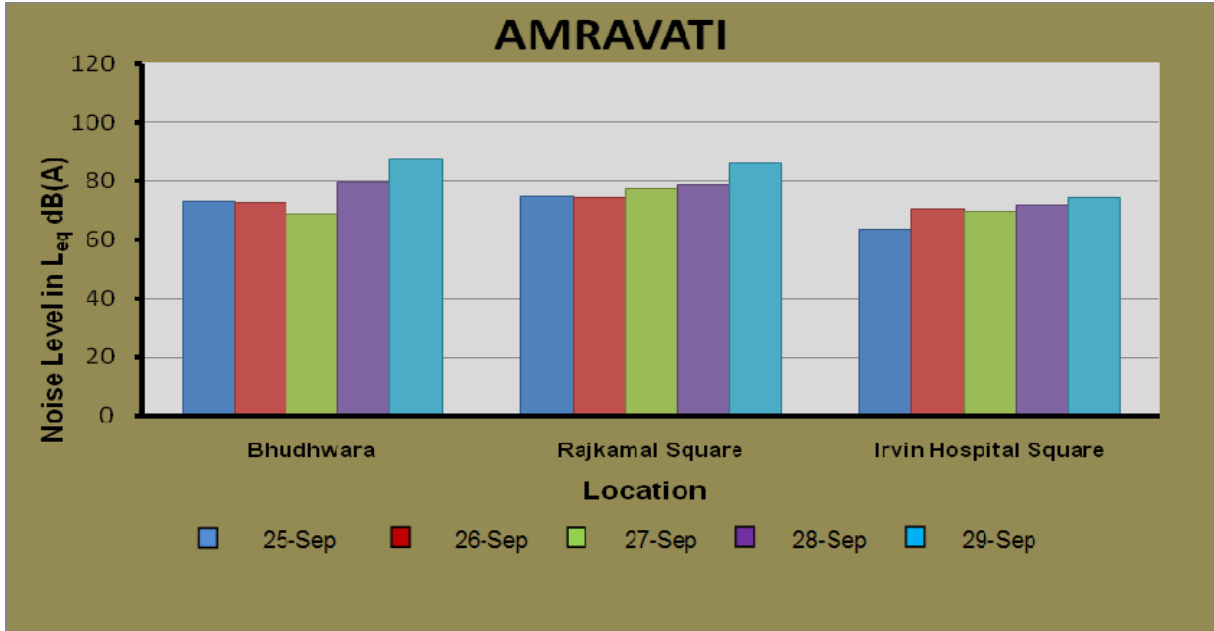


Chart 4.9: Noise levels from 25th-29th Sept., 2012 in Amravati during 18:00 hrs to 24:00 hrs.

Jalgaon: In Jalgaon, the maximum noise level (99.3 dBA) was observed at Shanipeth Police station on 27th September, 2012 and minimum noise level (61.3 dBA) was observed at Subhash Chowk on 27th September, 2012.

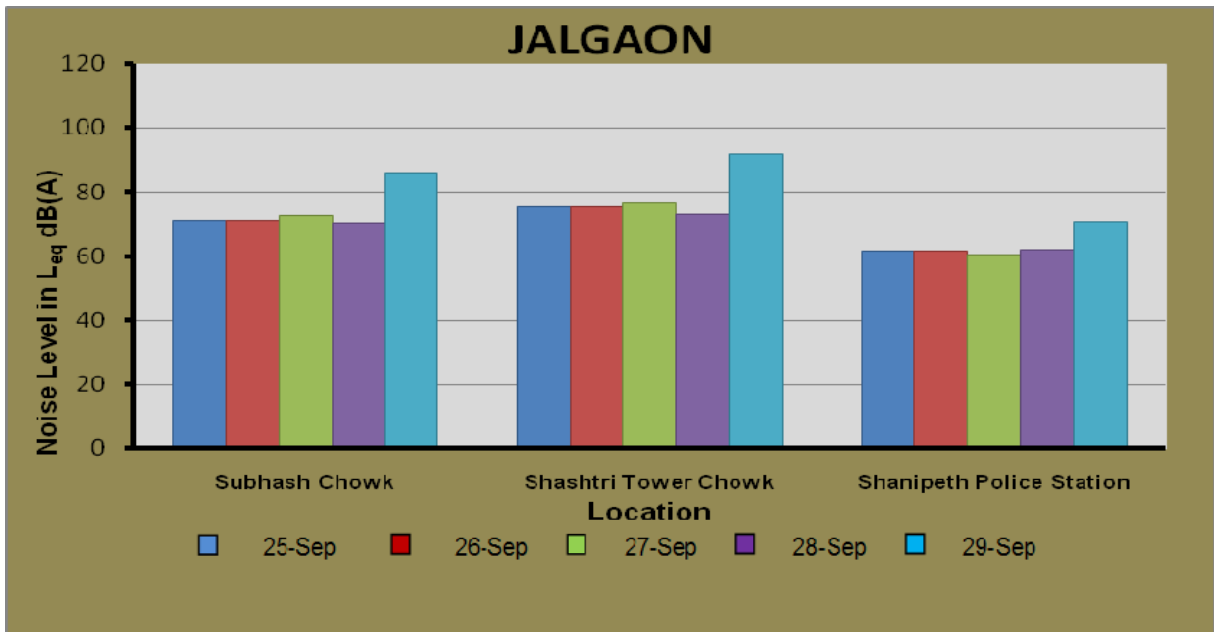


Chart 4.10: Noise levels from 25th-29th Sept., 2012 in Jalgaon during 18:00 hrs to 24:00 hrs.

Kolhapur: In Kolhapur, the maximum noise level (98.3 dBA) was observed at Khas Baug Maidan on 29th September, 2012 and minimum noise level (43.7 dBA) was observed at Mahalaxmi Mandir on 28th September, 2012.

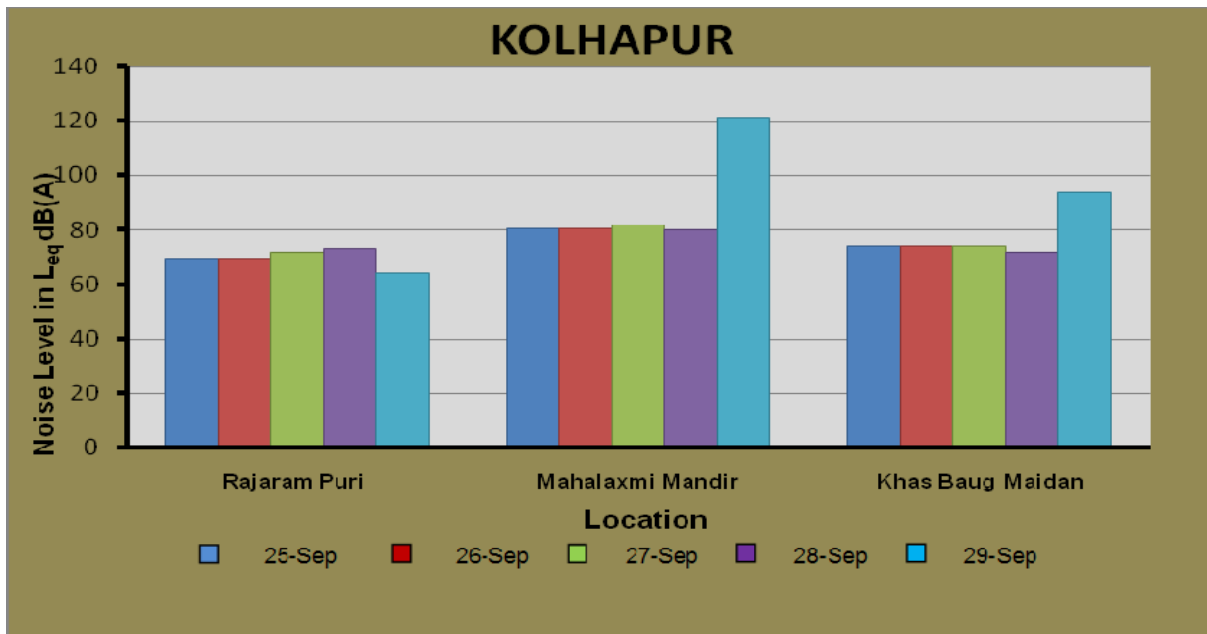


Chart 4.11: Noise levels from 25th-29th Sept., 2012 in Kolhapur during 18:00 hrs to 24:00 hrs.

Satara: In Satara, the maximum noise level (99.9 dBA) was observed at Moti Chowk on 29th September, 2012 and minimum noise level (66.5 dBA) was observed at Rajwada on 26th September, 2012.

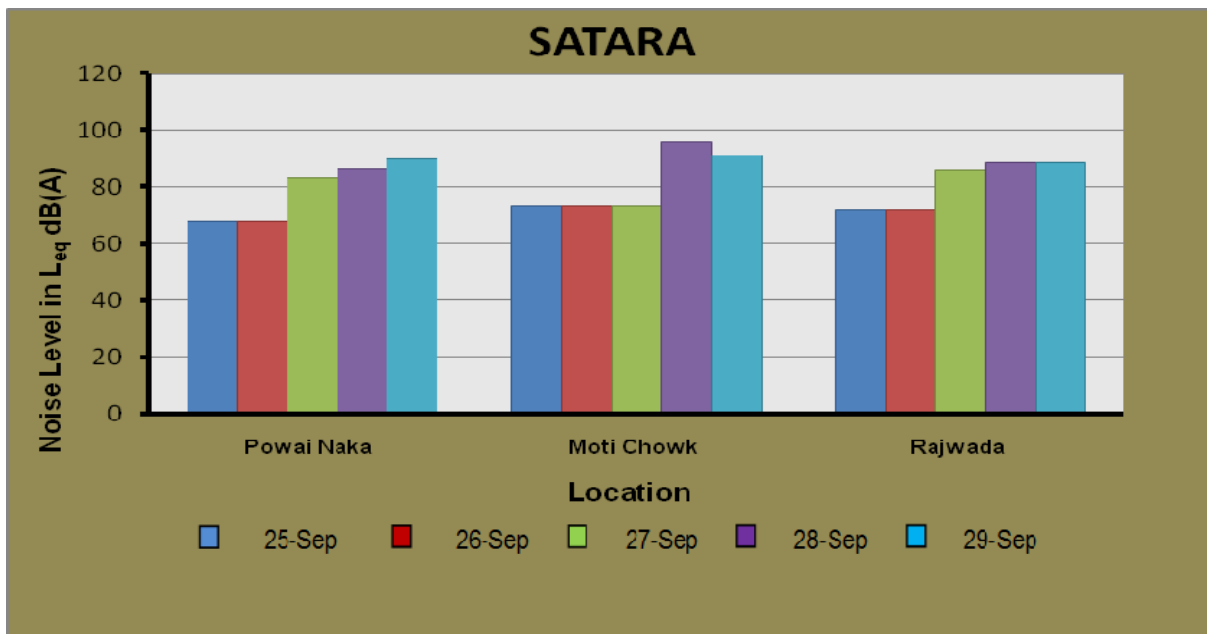


Chart 4.12: Noise levels from 25th-29th Sept., 2012 in Satara during 18:00 hrs to 24:00 hrs.

However the detailed results of all the locations are shown below. These gives the hourly equivalent continuous noise levels at each location:

Table 4.2 (a): Hourly Noise levels at various locations in Mumbai on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Andheri	81.9	80.7	86.2	84.0	87.4	78.1
Bandra	72.9	81.0	73.8	77.3	72.1	71.1
Bhandup	76.5	77.0	74.6	79.0	90.1	62.1
Borivali	75.2	66.6	65.6	81.5	79.1	59.8
Byculla	80.8	80.0	79.9	79.6	70.9	69.9
Chembur (E)	72.3	81.4	92.5	90.6	81.2	77.9
Chembur (W)	67.5	70.3	71.6	72.8	70.7	71.8
Chinchpokali (E)	67.4	70.4	77.5	72.6	68.9	59.9
Chinchpokali (W)	69.4	71.9	83.2	67.6	69.3	65.3
Dadar (E)	82.5	84.6	81.8	89.0	75.0	75.2
Dadar (W)	83.8	81.9	77.3	87.0	77.6	74.4
Elphinstone	81.7	82.8	79.8	96.0	83.4	70.0
Ghatkopar	72.1	73.6	83.6	94.2	92.4	75.3
Girgaon Chowpati	95.3	102.5	98.1	89.7	83.5	79.8
Grant Road	71.7	76.2	80.9	82.0	76.3	70.4
Juhu Chowpati	83.4	97.3	87.4	82.7	80.1	79.3
Kandivali (E)	74.7	85.1	89.0	80.0	70.7	63.9
Kandivali (W)	65.6	79.9	77.5	84.5	72.8	61.7
Khar	75.4	72.7	76.1	84.9	90.2	73.8
Mulund	87.8	97.5	88.4	76.8	81.8	66.6
Mumbai Central	90.9	99.6	100.1	97.6	86.9	82.3
Parel	70.9	72.4	73.3	71.0	68.6	62.1
Santacruz (E)	88.3	92.5	91.5	95.7	81.2	72.4
Vikhroli	77.6	79.4	86.7	80.2	80.1	78.8
Wadala	69.6	77.4	84.3	76.9	81.7	71.6

Table 4.2 (b): Hourly Noise levels at various locations in Mumbai on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Andheri	87.6	93.1	91.5	96.9	81.1	72.4
Bandra	75.2	79.4	79.1	76.2	72.4	70.9
Bhandup	74.4	75.6	76.5	86.0	71.7	64.3
Borivali	76.3	68.2	65.3	75.0	78.6	62.2
Byculla	81.1	78.6	79.2	79.8	75.6	69.8
Chembur (E)	72.6	84.1	93.1	91.9	83.3	71.6
Chembur (W)	67.9	67.9	67.9	74.2	69.0	66.4
Chinchpokali (E)	73.6	79.8	77.4	84.3	67.3	62.9
Chinchpokali (W)	77.8	78.0	77.9	76.0	75.2	75.6
Dadar (E)	82.8	81.6	77.7	87.0	77.6	74.7
Dadar (W)	82.3	81.3	83.8	84.6	81.5	71.6
Elphinstone	79.4	82.3	80.8	93.3	85.2	73.0
Ghatkopar	74.5	85.0	97.8	90.5	92.0	72.0
Girgaon Chowpati	76.9	77.6	79.7	78.7	73.2	64.1
Grant Road	73.2	72.3	73.8	82.0	76.3	70.4
Juhu Chowpati	83.7	87.6	86.3	80.7	79.6	74.6

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Kandivali (E)	65.7	74.3	73.8	82.6	75.2	60.9
Kandivali (W)	78.2	82.8	88.8	88.9	78.3	68.8
Khar	76.9	78.9	89.2	75.6	73.5	69.4
Mulund	82.0	80.0	88.3	84.4	86.0	76.6
Mumbai Central	82.1	80.6	84.9	86.3	82.1	80.0
Parel	69.2	73.1	69.9	70.1	74.2	63.7
Santacruz (E)	87.4	97.5	88.4	85.1	80.9	67.0
Vikhroli	73.6	79.8	78.8	83.0	85.4	73.8
Wadala	76.7	77.0	84.3	76.4	81.7	72.5

Table 4.2 (c): Hourly Noise levels at various locations in Mumbai on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Andheri	83.3	84.8	86.9	87.4	81.8	71.0
Bandra	75.8	76.5	79.7	79.5	79.7	74.5
Bhandup	71.7	73.2	73.5	82.7	72.7	69.8
Borivali	69.6	72.8	68.1	67.9	72.6	60.6
Byculla	80.0	77.3	75.6	74.8	74.4	69.1
Chembur (E)	71.4	82.0	90.7	89.4	75.9	74.5
Chembur (W)	68.6	70.8	70.0	70.4	70.3	71.0
Chinchpokali (E)	81.7	86.1	84.3	78.8	75.2	71.5
Chinchpokali (W)	79.1	83.2	77.8	78.0	77.2	74.4
Dadar (E)	83.8	83.7	82.6	86.5	79.1	75.0
Dadar (W)	74.5	80.7	82.4	85.2	80.0	72.2
Elphinstone	79.0	79.1	88.5	95.5	96.2	81.7
Ghatkopar	75.3	83.6	93.3	89.5	87.1	70.2
Girgaon Chowpati	69.6	73.2	75.4	79.5	69.6	67.5
Grant Road	77.2	81.5	79.0	77.1	75.9	73.7
Juhu Chowpati	90.1	89.1	88.8	85.8	81.8	78.0
Kandivali (E)	70.9	70.9	73.9	82.6	72.0	63.3
Kandivali (W)	83.8	79.7	66.2	83.4	72.1	64.3
Khar	74.3	81.5	78.3	81.1	78.3	74.7
Mulund	79.1	84.4	90.7	87.8	82.3	66.1
Mumbai Central	84.0	83.4	84.1	86.8	83.4	80.4
Parel	71.5	73.7	74.2	73.5	65.7	57.6
Santacruz (E)	82.6	84.7	85.9	86.0	82.0	72.3
Vikhroli	75.4	82.1	82.1	81.0	78.0	67.4
Wadala	76.9	78.9	89.2	75.6	73.5	69.7

Table 4.2 (d): Hourly Noise levels at various locations in Mumbai on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Andheri	73.1	75.7	83.4	76.7	73.2	63.0
Bandra	79.1	80.2	79.6	80.3	79.8	77.5
Bhandup	92.7	96.6	79.4	86.0	90.5	70.7
Borivali	63.9	71.1	72.0	78.3	77.4	64.1
Byculla	77.6	76.4	77.6	75.9	71.4	69.3
Chembur (E)	70.4	73.6	85.6	88.2	85.3	69.7
Chembur (W)	74.3	74.1	76.4	77.3	75.8	71.5
Chinchpokali (E)	89.8	93.1	92.5	84.2	81.0	78.7
Chinchpokali (W)	67.0	68.1	70.8	67.2	67.3	70.5
Dadar (E)	85.6	82.7	83.8	83.5	79.2	78.5
Dadar (W)	86.6	81.9	85.0	86.9	79.6	73.5
Elphinstone	73.8	85.8	92.6	75.1	70.1	71.6
Ghatkopar	74.4	72.7	80.9	88.7	87.2	74.6
Girgaon Chowpati	76.9	77.6	79.7	78.7	73.2	67.5
Grant Road	80.3	78.2	76.7	81.4	74.3	72.2
Juhu Chowpati	88.3	90.5	90.8	87.7	85.3	81.1
Kandivali (E)	82.1	86.8	79.1	84.8	76.7	70.0
Kandivali (W)	81.8	84.2	76.0	74.6	72.2	67.2
Khar	76.9	78.9	89.2	75.6	73.5	69.4
Mulund	78.4	87.2	89.1	84.4	75.0	65.6
Mumbai Central	82.2	83.9	83.6	86.6	82.6	79.0
Parel	69.3	69.4	69.8	70.2	70.6	60.4
Santacruz (E)	76.6	73.8	80.1	81.9	77.7	71.7
Vikhroli	76.4	85.6	85.0	84.1	73.7	61.1
Wadala	69.6	73.2	75.4	79.5	69.6	67.5

Table 4.2 (e): Hourly Noise levels at various locations in Mumbai on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Andheri	72.6	80.9	86.8	94.3	82.9	69.7
Bandra	81.1	80.9	86.0	83.6	82.7	77.7
Bhandup	94.9	96.6	85.2	94.5	85.1	75.3
Borivali	80.5	106.2	109.6	108.1	88.5	69.4
Byculla	79.9	81.9	82.3	80.0	67.2	63.8
Chembur (E)	75.4	89.8	96.6	91.0	87.3	78.4
Chembur (W)	81.2	83.9	81.6	82.7	83.4	80.6
Chinchpokali (E)	67.5	70.3	77.7	87.0	67.6	69.3
Chinchpokali (W)	80.9	83.3	78.2	77.0	79.7	74.4
Dadar (E)	88.8	91.5	85.9	93.7	87.2	86.3
Dadar (W)	89.0	87.9	87.8	90.3	89.0	89.3
Elphinstone	93.6	106.3	107.5	103.7	87.7	77.9
Ghatkopar	79.1	95.7	94.4	89.4	81.9	75.3
Girgaon Chowpati	96.0	94.7	92.2	99.4	84.6	84.3
Grant Road	89.3	92.5	87.3	87.4	73.1	69.6
Juhu Chowpati	99.9	99.7	100.7	99.8	94.8	91.0

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Kandivali (E)	65.6	79.9	77.5	84.5	78.7	73.2
Kandivali (W)	92.6	95.8	95.7	88.6	91.2	86.1
Khar	96.0	94.7	92.2	90.1	77.9	53.3
Mulund	78.0	77.8	90.5	89.2	79.3	67.7
Mumbai Central	90.1	94.9	97.1	95.1	95.0	86.5
Parel	80.2	81.1	78.3	74.6	74.9	67.3
Santacruz (E)	76.8	82.6	166.3	92.8	89.2	76.0
Vikhroli	102.3	100.5	85.5	74.7	67.0	61.1
Wadala	96.0	94.7	92.2	75.1	69.4	53.3

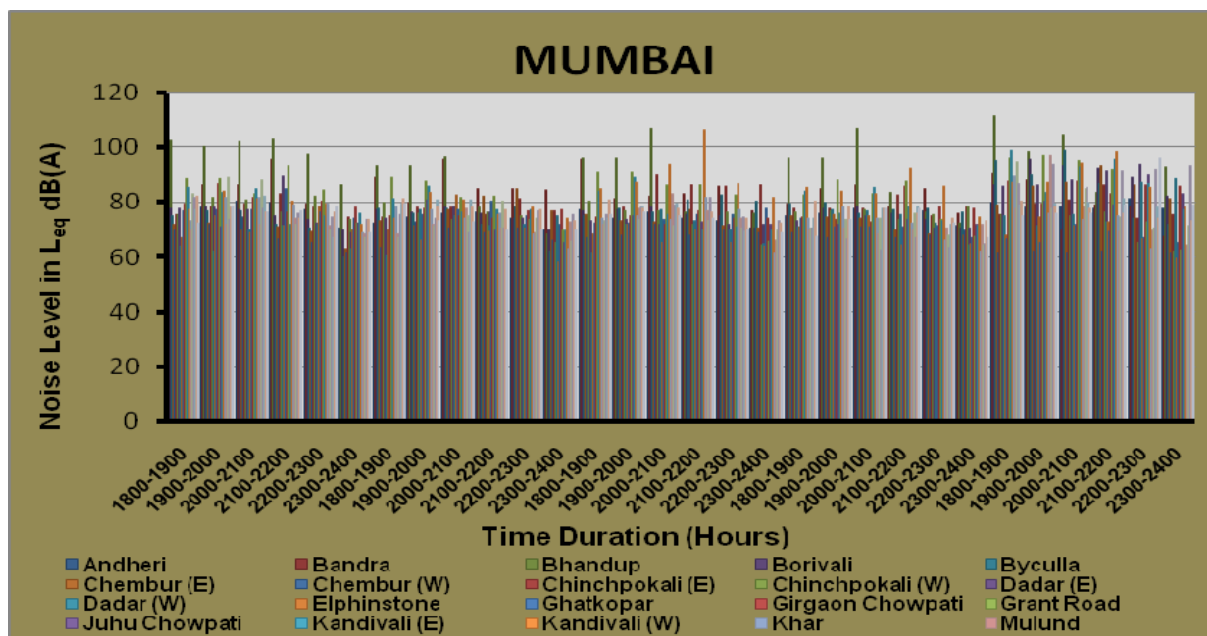


Chart 4.13: Hourly Noise levels from 25th-29th Sept., 2012 in Mumbai

Table 4.3 (a): Hourly Noise levels at various locations in Navi Mumbai on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Airoli	72.7	78.4	77.7	76.3	72.4	73.3
CBD	60.2	68.8	75.8	83.2	65.3	57.9
Kopar Khairane	74.5	72.6	77.5	72.6	73.2	73.1
Uran	79.0	77.4	84.5	75.6	74.4	63.6
Vashi	72.5	76.2	78.9	83.2	74.7	67.8

Table 4.3 (b): Hourly Noise levels at various locations in Navi Mumbai on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Airoli	72.6	76.5	75.6	73.9	69.9	70.6
CBD	81.8	85.5	83.4	78.8	75.8	71.7
Kopar Khairane	73.5	73.7	73.7	72.7	70.7	71.6
Uran	80.4	79.0	80.2	71.4	67.4	55.6
Vashi	68.9	74.8	69.7	77.4	70.5	67.3

Table 4.3 (c): Hourly Noise levels at various locations in Navi Mumbai on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Airoli	79.2	79.4	75.6	72.8	75.6	72.7
CBD	67.0	68.1	70.8	67.2	67.3	70.5
Kopar Khairane	74.2	75.8	74.5	71.7	74.2	72.2
Uran	78.4	76.5	80.6	73.9	70.0	58.5
Vashi	76.9	77.6	79.7	78.7	73.2	67.5

Table 4.3 (d): Hourly Noise levels at various locations in Navi Mumbai on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Airoli	74.7	80.1	77.9	76.4	74.1	71.5
CBD	68.8	75.8	85.5	75.8	71.7	68.1
Kopar Khairane	72.6	71.7	73.8	72.0	73.6	65.9
Uran	76.8	87.0	76.1	75.7	64.9	62.0
Vashi	62.6	69.4	74.1	81.8	86.9	76.7

Table 4.3 (e): Hourly Noise levels at various locations in Navi Mumbai on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Airoli	74.2	77.3	78.5	75.6	80.2	80.0
CBD	78.2	82.4	77.5	76.7	74.6	75.7
Kopar Khairane	55.4	69.6	68.8	72.0	73.6	64.8
Uran	65.9	70.7	72.5	73.6	69.8	68.9
Vashi	83.1	80.1	79.2	70.8	65.5	62.1

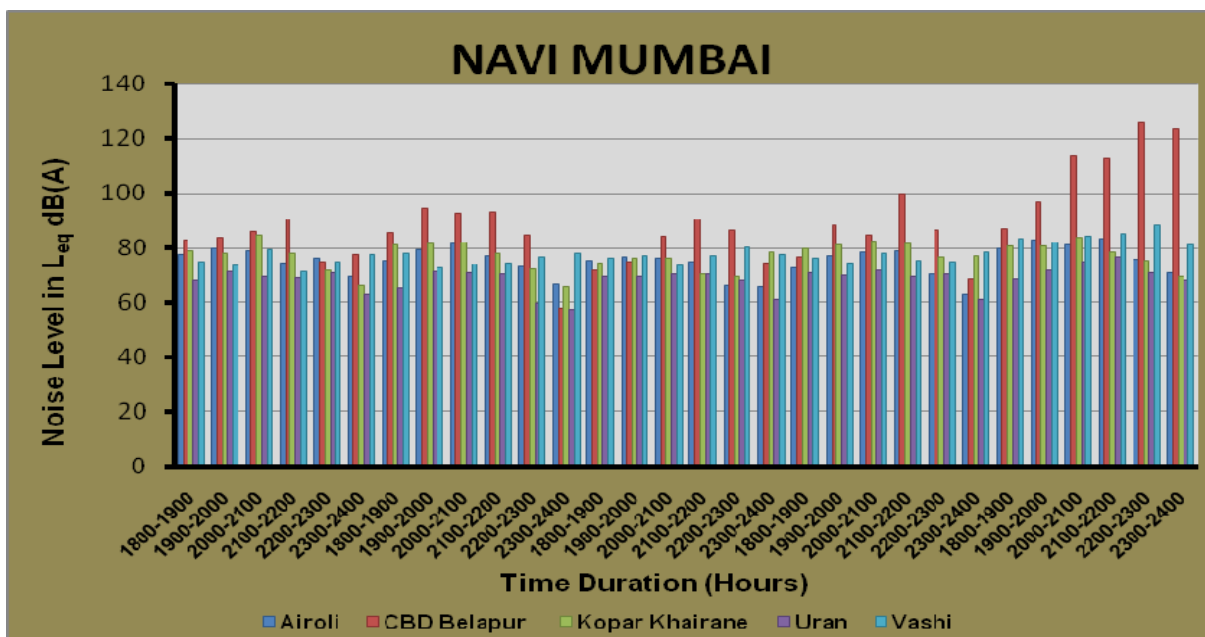


Chart 4.14: Hourly Noise levels from 25th-29th Sept., 2012 in Navi Mumbai

Table 4.4(a): Hourly Noise levels at various locations in Thane on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gokhle Road	66.9	72.4	75.2	76.4	81.9	73.4
Jambli Naka	67.4	70.4	70.5	76.4	76.7	73.0
Gaondevi Mandir	70.6	77.8	81.8	83.0	79.1	75.1
Pokhran Road	80.3	83.6	80.7	80.6	76.8	73.0
Wagle Estate	76.0	75.0	81.3	87.6	87.6	90.7
Court Naka	76.7	68.4	71.7	67.6	69.3	65.3
Mental Hospital	50.3	49.0	56.9	67.6	67.7	69.7
Bedekar Hospital	63.7	64.6	65.7	75.4	68.1	64.5
CSM Hospital, Kalwa	71.8	72.7	74.6	71.2	66.1	61.0

Table 4.4 (b): Hourly Noise levels at various locations in Thane on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gokhle Road	74.3	81.2	77.3	74.8	73.7	72.4
Jambli Naka	72.1	76.2	76.8	75.3	74.9	72.2
Gaondevi Mandir	74.5	73.1	75.7	78.0	74.2	73.4
Pokhran Road	77.3	79.4	76.7	76.5	73.6	69.4
Wagle Estate	58.4	67.0	70.5	68.0	66.6	59.1
Court Naka	73.6	68.1	68.8	71.6	71.4	71.9
Mental Hospital	61.2	59.9	57.0	52.7	51.6	46.4
Bedekar Hospital	66.4	66.9	72.5	70.3	68.2	68.3
CSM Hospital, Kalwa	72.4	74.7	73.5	69.6	72.9	77.1

Table 4.4 (c): Hourly Noise levels at various locations in Thane on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gokhle Road	71.6	75.2	80.5	76.0	72.0	68.1
Jambli Naka	76.2	70.3	78.6	70.5	69.2	60.0
Gaondevi Mandir	75.3	78.3	76.7	78.6	72.0	73.6
Pokhran Road	79.3	80.6	78.0	79.6	73.6	69.8
Wagle Estate	56.0	57.9	63.4	66.0	49.8	49.8
Court Naka	75.7	74.2	73.1	66.4	64.9	57.9
Mental Hospital	49.3	55.4	58.6	50.2	45.9	45.5
Bedekar Hospital	64.4	65.9	70.7	72.5	66.1	64.1
CSM Hospital, Kalwa	75.6	70.7	73.5	65.4	61.7	61.1

Table 4.4 (d): Hourly Noise levels at various locations in Thane on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gokhle Road	65.5	67.3	70.2	70.6	67.2	66.5
Jambli Naka	71.5	76.4	78.8	78.0	72.5	68.4
Gaondevi Mandir	74.4	81.5	77.3	71.1	61.4	60.7
Pokhran Road	73.5	75.2	76.9	75.5	75.1	75.4
Wagle Estate	80.5	79.6	81.0	80.5	72.8	71.7
Court Naka	64.5	67.2	69.2	69.7	62.3	57.2
Mental Hospital	74.3	75.3	73.4	67.7	70.4	68.3
Bedekar Hospital	65.7	68.3	67.5	63.8	58.2	55.3
CSM Hospital, Kalwa	75.8	73.3	67.7	66.6	70.4	75.1

Table 4.4 (e): Hourly Noise levels at various locations in Thane on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gokhle Road	84.3	86.1	86.0	81.8	76.9	73.1
Jambli Naka	86.5	89.2	88.0	88.3	69.4	67.7
Gaondevi Mandir	74.4	82.7	81.5	85.4	81.3	78.0
Pokhran Road	81.3	83.4	88.1	83.7	79.1	79.8
Wagle Estate	79.8	88.3	91.4	89.3	89.7	86.2
Court Naka	72.1	71.6	70.7	63.1	61.0	58.1
Mental Hospital	66.1	69.7	71.8	68.6	67.8	63.7
Bedekar Hospital	82.0	73.2	74.1	72.9	72.4	67.4
CSM Hospital, Kalwa	70.0	64.1	63.9	64.4	59.7	57.3

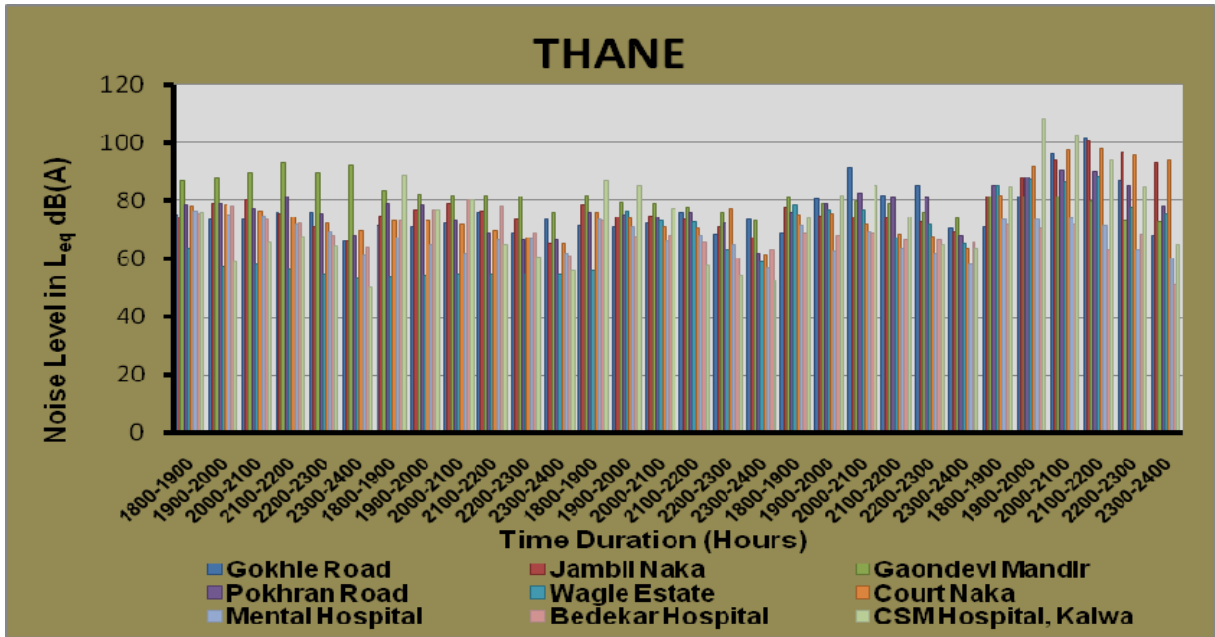


Chart 4.15: Hourly Noise levels from 25th-29th Sept., 2012 in Thane

Table 4.5(a): Hourly Noise levels at various locations in Pune on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Shivaji Nagar	85.5	90.0	90.3	85.9	73.8	67.2
Karve Road	76.3	82.3	86.5	84.9	82.9	71.4
Swargate	79.5	80.7	81.5	79.9	75.5	73.9
Satara Road	77.2	77.7	77.6	75.3	77.3	77.6
Shaniwar Peth	78.8	79.4	80.4	80.7	73.3	74.8
Yerawada	84.9	85.9	83.3	85.8	79.1	76.1
Laxmi Road	79.5	80.6	75.8	83.1	56.0	26.5
Kothrud	84.0	88.3	86.4	86.8	83.0	79.7
MahatmaPhule Mandai	80.2	80.9	77.2	88.4	80.7	73.2
Sarus Baug	78.4	80.2	75.5	74.3	73.1	63.2
Hadapsar	84.1	83.7	85.9	85.7	84.8	82.5
Deccan	76.8	80.3	86.7	84.9	84.9	72.6
Dagdu Sheth Mandir	81.8	78.8	80.4	73.8	67.0	58.5
Alka Chowk	85.3	85.6	87.4	86.3	81.1	77.4
Babu Genu Chowk	85.3	84.7	84.6	82.5	81.5	80.2
Khadaki	75.3	80.3	86.9	79.7	71.2	68.5
M G Road	87.6	92.8	86.0	87.4	75.6	65.3
Chapekar Chowk	73.5	82.1	89.9	80.0	71.7	72.0
Pimpri Shastri Chowk	100.0	98.5	95.3	100.3	98.2	96.8
Thergaon	83.6	88.7	93.9	92.3	70.8	64.2

Table 4.5 (b): Hourly Noise levels at various locations in Pune on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Shivaji Nagar	85.4	85.2	76.5	80.0	72.5	65.0
Karve Road	78.6	80.1	91.4	89.3	85.4	76.5
Swargate	75.8	76.7	82.9	77.5	74.3	77.5
Satara Road	72.8	75.6	78.1	75.3	76.2	75.8
Shaniwar Peth	75.5	79.0	80.6	80.1	78.5	75.9
Yerawada	75.2	81.4	83.1	83.0	79.1	75.1
Laxmi Road	94.2	94.9	93.3	89.0	88.8	87.3
Kothrud	75.2	83.8	84.8	86.4	83.0	74.1
Mahatma Phule Mandai	78.7	82.2	85.3	87.4	83.9	76.2
Sarus Baug	79.0	80.0	80.7	78.0	81.9	78.2
Hadapsar	84.5	83.9	89.8	90.4	85.7	76.6
Deccan	76.9	80.1	82.3	82.7	80.9	73.6
Dagdu Sheth Mandir	61.7	61.9	59.1	54.5	52.2	51.9
Alka Chowk	77.5	82.1	82.3	83.4	83.1	77.2
Babu Genu Chowk	84.2	85.3	83.7	83.6	80.7	79.6
Khadaki	74.3	79.6	80.7	84.7	71.8	72.3
M G Road	71.5	81.6	95.5	94.2	77.1	64.7
Chapekar Chowk	75.7	82.7	84.7	86.0	72.1	74.4
Pimpri – Shastri Chowk	77.1	78.6	77.2	81.0	75.3	72.3
Thergaon	83.8	89.6	97.3	87.5	78.4	60.6

Table 4.5 (c): Hourly Noise levels at various locations in Pune on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Shivaji Nagar	88.9	86.8	90.5	77.9	75.5	70.5
Karve Road	76.8	84.4	82.0	92.9	80.0	68.2
Swargate	82.1	87.3	91.1	93.0	86.1	77.7
Satara Road	77.4	74.5	75.2	76.7	75.6	75.9
Shaniwar Peth	76.0	77.7	78.5	77.2	77.4	74.3
Yerawada	75.6	80.5	81.7	82.6	82.9	68.5
Laxmi Road	94.0	93.0	93.7	83.7	83.2	82.1
Kothrud	77.7	86.2	92.4	87.0	81.9	76.0
Mahatma Phule Mandai	76.8	82.3	93.7	90.3	87.0	84.1
Sarus Baug	76.8	81.5	80.8	86.9	79.5	62.5
Hadapsar	83.0	85.3	83.3	87.6	89.2	79.9
Deccan	70.5	76.6	83.4	82.7	84.5	73.4
Dagdu Sheth Mandir	87.8	82.3	82.9	82.0	77.0	77.7
Alka Chowk	77.9	86.2	86.6	86.1	82.3	74.6
Babu Genu Chowk	85.4	83.5	93.1	88.3	76.8	79.1
Khadaki	74.1	80.9	79.4	95.4	82.4	78.5
M G Road	69.5	79.2	83.6	81.5	74.3	58.6
Chapekar Chowk	77.6	80.7	81.4	94.7	82.8	79.1
Pimpri Shastri Chowk	65.3	76.0	78.6	77.7	74.0	61.1
Thergaon	70.8	78.9	86.2	76.4	67.8	60.7

Table 4.5 (d): Hourly Noise levels at various locations in Pune on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Shivaji Nagar	88.1	82.1	87.9	77.2	73.0	78.4
Karve Road	78.6	83.6	84.2	90.1	88.3	81.2
Swargate	79.5	82.6	82.2	76.7	78.3	77.6
Satara Road	87.0	84.3	81.4	80.6	83.3	77.6
Shaniwar Peth	76.9	78.6	78.2	78.4	80.7	78.4
Yerawada	77.7	82.1	84.1	78.9	73.0	69.3
Laxmi Road	68.5	71.4	88.7	81.9	81.3	80.1
Kothrud	76.0	81.7	86.5	85.2	78.8	74.1
Mahatma Phule Mandai	80.2	81.8	86.2	82.6	77.1	72.9
Sarus Baug	78.3	75.8	76.3	79.8	77.4	75.0
Hadapsar	92.0	86.7	83.9	85.4	84.2	76.3
Deccan	69.5	79.3	83.4	84.5	87.8	78.0
Dagdu Sheth Mandir	69.7	73.0	73.2	71.8	61.1	72.0
Alka Chowk	78.3	77.8	83.1	85.9	78.7	72.4
Babu Genu Chowk	83.6	86.5	89.5	85.4	86.2	71.5
Khadaki	79.7	81.0	81.7	82.8	79.7	78.5
M G Road	71.4	77.7	82.2	82.3	69.5	57.9
Chapekar Chowk	80.1	81.4	82.6	83.3	80.6	81.1
Pimpri Shastri Chowk	74.2	73.9	77.3	73.6	67.3	59.8
Thergaon	77.0	81.3	80.0	73.6	65.9	63.8

Table 4.5 (e): Hourly Noise levels at various locations in Pune on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Shivaji Nagar	81.6	82.1	77.3	70.7	70.2	79.5
Karve Road	74.4	86.5	96.2	99.4	98.0	100.6
Swargate	91.4	93.2	96.5	94.2	89.2	89.5
Satara Road	97.4	96.1	93.2	94.2	87.8	89.1
Shaniwar Peth	83.0	84.3	90.5	88.5	88.6	89.4
Yerawada	77.5	91.2	90.7	93.9	91.0	73.2
Laxmi Road	96.1	94.4	94.1	100.1	98.7	98.4
Kothrud	93.7	95.4	98.2	94.6	89.5	75.8
Mahatma Phule Mandai	95.8	95.8	95.7	98.0	98.0	98.2
Sarus Baug	99.9	96.7	98.9	96.3	96.1	95.4
Hadapsar	92.6	94.1	93.1	91.6	88.0	75.1
Deccan	82.7	88.7	85.7	88.8	86.5	83.1
Dagdu Sheth Mandir	75.4	80.1	89.4	92.5	67.3	64.5
Alka Chowk	95.1	102.5	105.3	103.6	104.2	104.1
Babu Genu Chowk	85.0	80.9	81.9	82.0	81.2	80.1
Khadaki	83.2	95.3	99.3	100.8	95.1	92.1
M G Road	85.8	89.9	97.5	101.2	105.2	100.8
Chapekar Chowk	89.5	93.2	96.1	99.5	100.4	99.2
Pimpri – Shastri Chowk	71.5	74.5	74.5	72.7	72.5	64.4
Thergaon	86.8	92.5	98.6	100.2	105.8	100.1

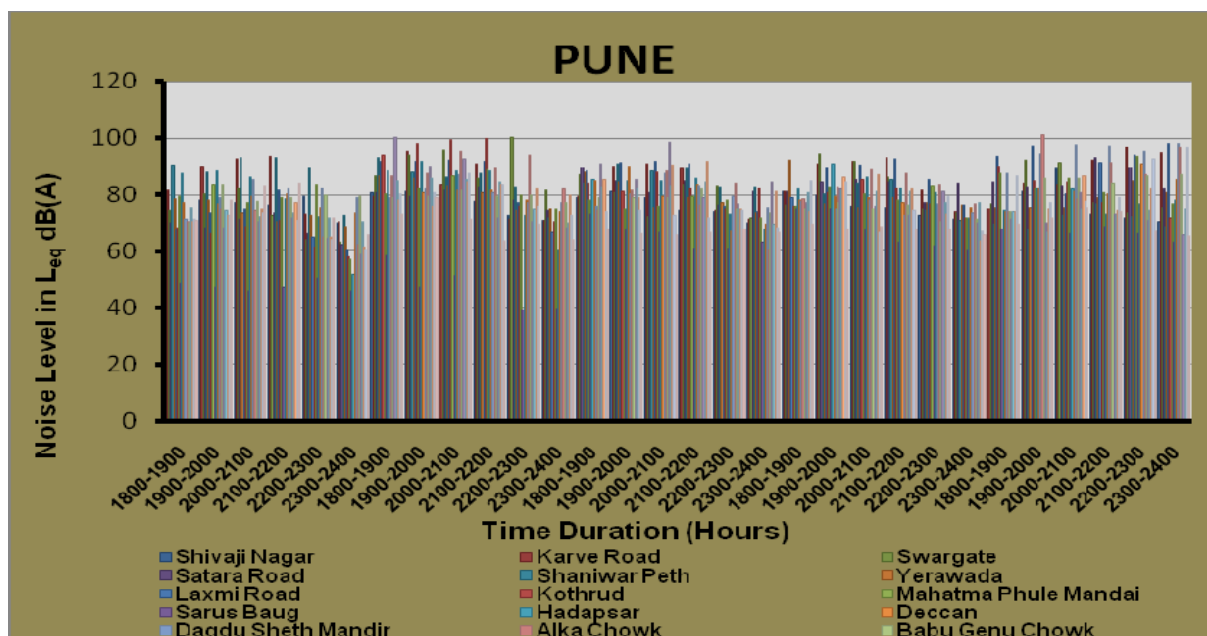


Chart 4.16: Hourly Noise levels from 25th-29th Sept., 2012 in Pune

Table 4.6 (a): Hourly Noise levels at various locations in Nashik on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Nashik Road	73.8	78.7	84.3	82.6	74.1	73.0
Panchvati	83.7	84.8	82.8	82.6	78.4	74.3
CIDCO	89.2	82.5	97.1	90.5	76.1	79.5
CBS	85.2	90.8	95.8	96.5	75.9	72.6
Dahi Pool	76.6	88.7	83.5	82.4	76.0	73.9

Table 4.6 (b): Hourly Noise levels at various locations in Nashik on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Nashik Road	75.7	85.1	81.9	82.5	78.5	70.2
Panchvati	91.4	78.8	83.1	86.4	71.0	73.3
CIDCO	89.3	79.5	82.2	87.7	68.8	70.1
CBS	79.6	82.1	84.9	85.5	78.5	59.9
Dahi Pool	87.1	80.7	83.4	85.9	70.0	67.9

Table 4.6 (c): Hourly Noise levels at various locations in Nashik on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Nashik Road	91.7	93.2	92.2	101.1	82.3	72.9
Panchvati	72.6	87.0	84.7	74.6	73.0	77.1
CIDCO	73.4	89.1	89.0	78.9	77.0	78.1
CBS	90.2	88.9	98.4	82.6	79.3	70.5
Dahi Pool	75.0	87.9	87.0	75.8	74.1	77.0

Table 4.6 (d): Hourly Noise levels at various locations in Nashik on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Nashik Road	77.8	79.1	106.6	83.9	76.3	73.2
Panchvati	84.3	87.4	88.9	88.9	83.4	80.0
CIDCO	85.9	88.3	86.8	79.2	77.0	73.9
CBS	75.6	81.1	83.3	84.5	84.1	82.8
Dahi Pool	77.9	78.3	84.1	86.2	85.9	81.4

Table 4.6 (e): Hourly Noise levels at various locations in Nashik on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Nashik Road	89.0	85.3	87.7	95.0	78.7	67.7
Panchvati	81.4	92.5	79.4	85.4	94.1	89.1
CIDCO	83.3	81.5	92.2	112.1	91.7	101.3
CBS	71.2	81.4	76.0	84.0	86.0	73.2
Dahi Pool	81.2	77.4	75.9	70.5	67.3	80.2

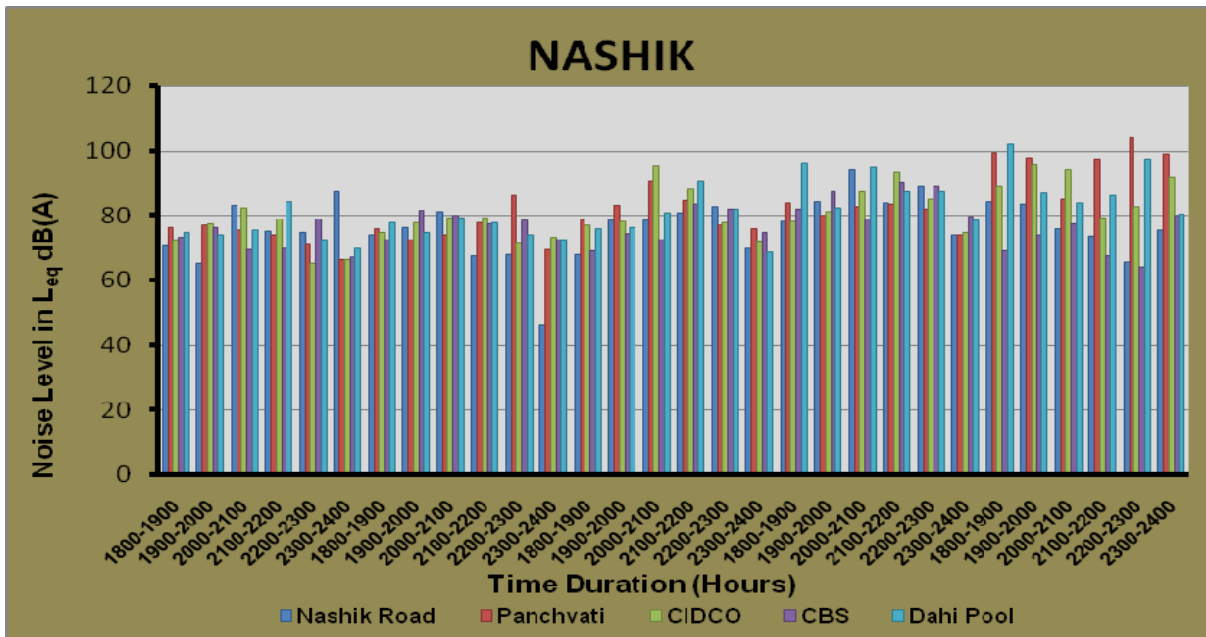


Chart 4.17: Hourly Noise levels from 25th-29th Sept., 2012 in Nashik

Table 4.7 (a): Hourly Noise levels at various locations in Aurangabad on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gulmandi	76.3	75.7	74.2	73.3	71.8	69.3
City Chowk	71.6	68.9	70.5	70.1	70.6	68.3
Kranti Chowk	74.5	74.3	72.5	71.1	72.8	71.0
CIDCO Residential	66.9	60.2	55.8	53.3	51.3	50.2
Usmanpura	69.9	68.8	68.1	67.0	65.8	62.5

Table 4.7 (b): Hourly Noise levels at various locations in Aurangabad on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gulmandi	75.4	84.8	83.6	80.5	75.9	68.3
City Chowk	71.6	74.9	73.5	71.1	70.6	70.2
Kranti Chowk	82.0	80.7	77.4	75.1	73.6	71.4
CIDCO Residential	68.5	72.6	64.2	60.1	58.3	55.7
Usmanpura	72.6	72.5	77.1	74.2	72.7	68.3

Table 4.7 (c): Hourly Noise levels at various locations in Aurangabad on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gulmandi	77.5	85.4	82.3	84.3	78.3	71.6
City Chowk	70.7	77.1	74.9	73.2	72.8	70.5
Kranti Chowk	80.3	83.5	78.5	77.4	74.5	72.3
CIDCO Residential	66.6	74.3	69.4	65.6	60.2	54.4
Usmanpura	70.1	73.6	71.5	70.2	68.4	65.9

Table 4.7 (d): Hourly Noise levels at various locations in Aurangabad on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gulmandi	79.1	87.1	85.0	83.2	80.4	74.4
City Chowk	73.8	80.5	78.9	76.3	75.0	72.7
Kranti Chowk	79.8	85.3	87.4	80.7	78.3	76..33
CIDCO Residential	69.3	77.2	74.0	70.6	60.7	57.5
Usmanpura	72.3	78.8	75.3	73.7	72.7	66.5

Table 4.7 (e): Hourly Noise levels at various locations in Aurangabad on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Gulmandi	89.5	90.9	93.1	92.3	93.3	82.0
City Chowk	97.1	96.6	95.8	95.7	93.9	82.6
Kranti Chowk	82.6	83.7	88.3	81.1	79.0	77.9
CIDCO Residential	70.3	69.7	68.0	64.9	60.5	56.2
Usmanpura	83.2	80.5	75.5	72.8	68.8	67.1

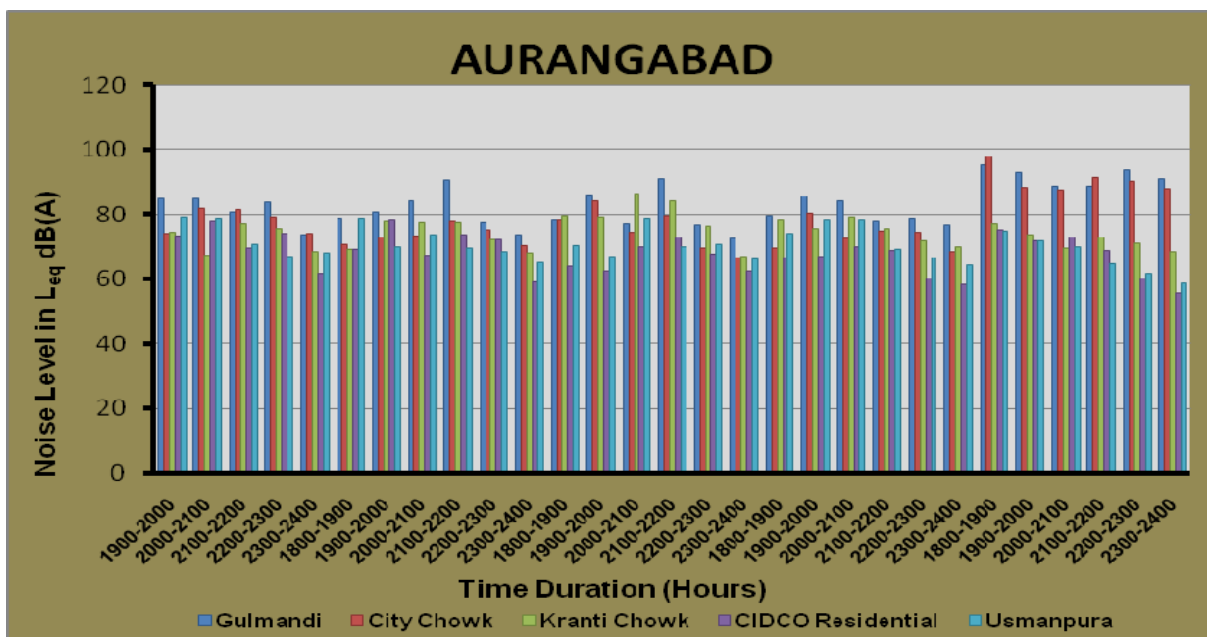


Chart 4.18: Hourly Noise levels from 25th-29th Sept., 2012 in Aurangabad

Table 4.8 (a): Hourly Noise levels at various locations in Nagpur on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Ramdaspath	80.7	92.3	95.0	94.4	86.8	79.0
Cotton Market	74.3	72.7	72.1	72.7	70.0	68.9
Golibar Chowk	72.6	74.4	74.6	72.4	69.9	67.8
Reshimbag	75.5	76.9	79.3	79.6	70.3	65.3
Gandhiputala	84.7	83.6	81.9	85.2	80.4	79.7

Table 4.8 (b): Hourly Noise levels at various locations in Nagpur on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Ramdaspath	67.7	77.4	77.3	77.5	71.8	68.3
Cotton Market	75.6	76.6	75.3	73.4	70.4	68.2
Golibar Chowk	71.2	76.0	79.1	78.8	74.7	64.4
Reshimbag	85.1	81.7	82.6	84.0	80.3	78.8
Gandhiputala	75.6	75.2	72.5	70.7	69.5	66.4

Table 4.8 (c): Hourly Noise levels at various locations in Nagpur on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Ramdaspath	72.5	74.5	77.4	77.3	71.9	64.1
Cotton Market	74.3	72.7	72.1	72.7	70.1	66.1
Golibar Chowk	77.2	76.8	74.1	72.8	68.3	64.8
Reshimbag	69.1	79.2	80.5	80.3	74.7	72.3
Gandhiputala	85.7	81.6	84.3	84.4	80.5	80.4

Table 4.8 (d): Hourly Noise levels at various locations in Nagpur on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Ramdaspath	69.8	77.1	75.6	77.9	71.4	65.2
Cotton Market	75.4	72.8	72.6	72.2	68.8	66.0
Golibar Chowk	76.9	77.5	74.5	72.5	64.9	61.1
Reshimbag	75.1	77.8	79.6	81.9	75.0	62.9
Gandhiputala	85.4	86.8	90.2	90.1	85.9	78.1

Table 4.8 (e): Hourly Noise levels at various locations in Nagpur on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Naik Talao	74.4	83.6	86.4	89.6	86.0	88.6
Sonegaon Lake	64.4	63.2	67.2	76.2	75.3	73.3
Gandhi Sagar	98.8	98.1	98.1	96.4	103.4	104.4
Futala Lake	69.8	71.1	73.6	74.0	72.6	73.5
Sakkardara Lake	77.6	78.6	74.4	75.3	73.7	73.9

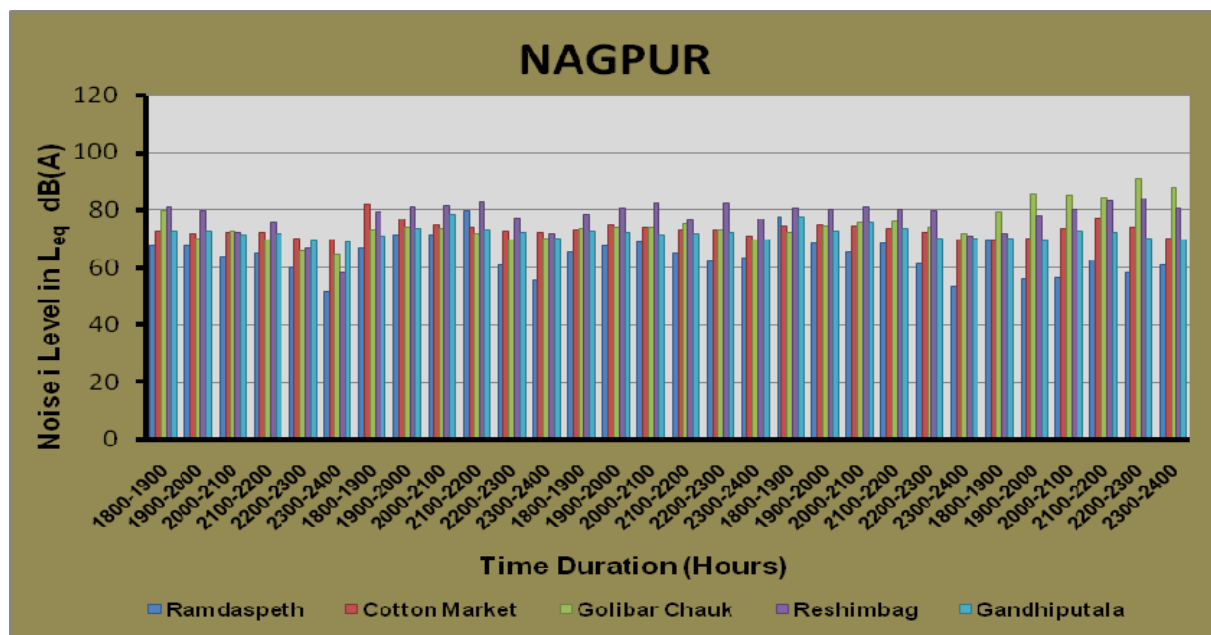


Chart 4.19: Hourly Noise levels from 25th-29th Sept., 2012 in Nagpur

Table 4.9 (a): Hourly Noise levels at various locations in Kalyan on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bajar Peth Police Station	83.3	80.9	81.7	74.6	77.6	71.2
Shivaji Chowk	71.5	73.6	76.1	67.4	88.1	70.0
Camp no. 1, Goal Maidan, Ulhasnagar	71.6	75.8	69.3	68.2	64.6	63.2

Table 4.9 (b): Hourly Noise levels at various locations in Kalyan on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bajar Peth Police Station	81.0	78.9	69.4	74.6	66.6	53.0
Shivaji Chowk	75.0	77.7	78.9	73.5	75.4	71.5
Camp no. 1, Goal Maidan, Ulhasnagar	79.3	65.3	67.9	67.6	66.6	53.0

Table 4.9 (c): Hourly Noise levels at various locations in Kalyan on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bajar Peth Police Station	83.8	81.0	76.9	70.1	82.3	77.6
Shivaji Chowk	75.3	76.7	78.4	75.5	74.8	72.4
Camp no. 1, Goal Maidan, Ulhasnagar	75.2	72.1	75.5	69.7	70.2	61.7

Table 4.9 (d): Hourly Noise levels at various locations in Kalyan on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bajar Peth Police Station	75.2	74.3	79.1	74.6	73.4	75.4
Shivaji Chowk	77.2	77.3	77.2	77.4	73.5	73.0
Camp no. 1, Goal Maidan, Ulhasnagar	71.3	68.1	71.6	67.9	66.7	63.6

Table 4.9 (e): Hourly Noise levels at various locations in Kalyan on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bajar Peth Police Station	74.9	73.3	79.4	73.2	74.4	76.0
Shivaji Chowk	103.3	106.9	88.2	87.4	96.5	78.3
Camp no. 1, Goal Maidan, Ulhasnagar	70.4	70.9	71.3	70.1	71.0	65.9

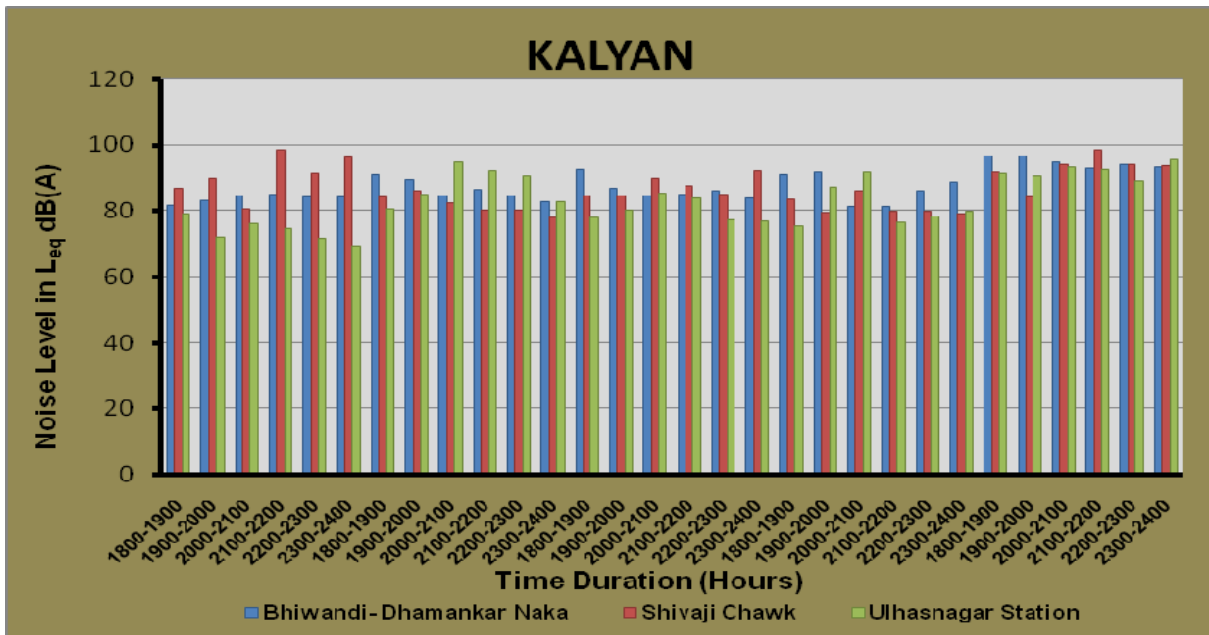


Chart 4.20: Hourly Noise levels from 25th-29th Sept., 2012 in Kalyan

Table 4.10 (a): Hourly Noise levels at various locations in Amravati on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bhudhwara	64.4	69.8	75.8	74.0	70.8	63.1
Rajkamal Square	67.8	71.6	77.9	76.9	73.6	65.5
Irvin Hospital Square	63.1	65.3	66.7	63.8	59.4	57.8

Table 4.10 (b): Hourly Noise levels at various locations in Amravati on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bhudhwara	66.1	72.0	77.8	76.6	77.4	66.0
Rajkamal Square	74.4	78.9	78.2	76.7	73.5	67.4
Irvin Hospital Square	62.5	67.6	67.5	67.8	63.4	58.6

Table 4.10 (c): Hourly Noise levels at various locations in Amravati on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bhudhwara	65.8	77.5	82.1	75.8	71.1	61.9
Rajkamal Square	71.0	78.4	79.2	78.5	74.8	68.1
Irvin Hospital Square	61.1	66.7	67.4	65.6	61.0	62.1

Table 4.10 (d): Hourly Noise levels at various locations in Amravati on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bhudhwara	72.8	78.9	79.7	80.9	79.9	68.8
Rajkamal Square	71.2	79.5	78.5	74.8	73.0	68.5
Irvin Hospital Square	66.5	67.4	66.8	62.2	65.6	57.7

Table 4.10 (e): Hourly Noise levels at various locations in Amravati on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Bhudhwara	78.3	74.3	77.1	77.9	71.7	67.9
Rajkamal Square	70.0	75.3	75.9	77.9	72.6	67.6
Irvin Hospital Square	62.6	64.9	64.2	62.8	69.4	65.4

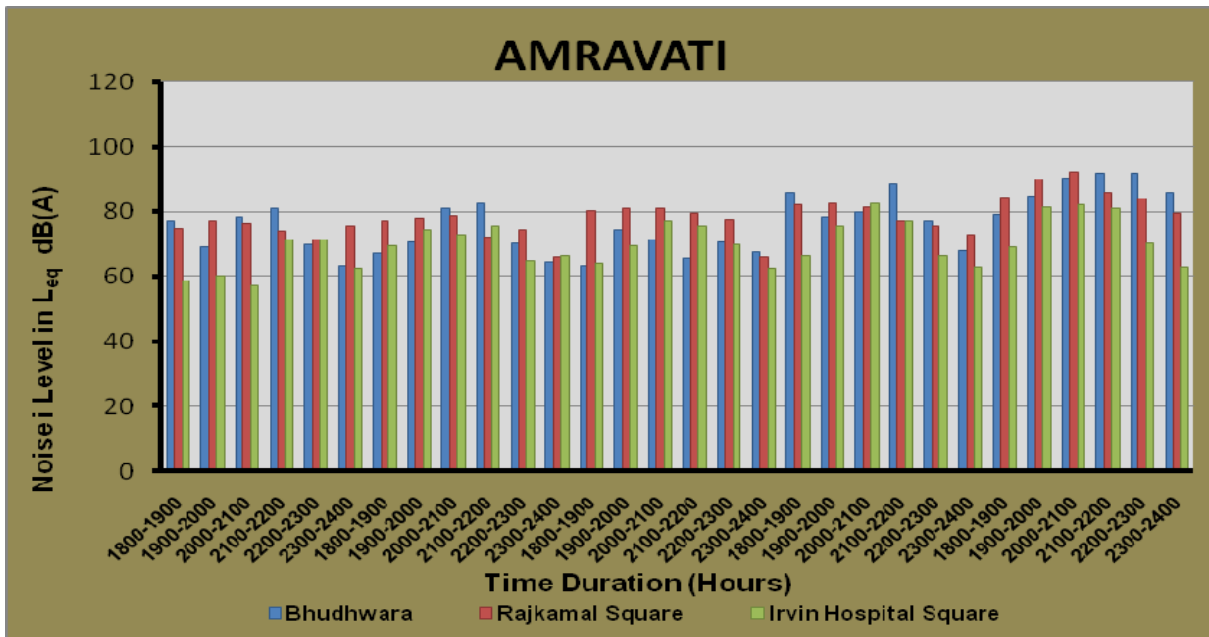


Chart 4.21: Hourly Noise levels from 25th-29th Sept., 2012 in Amravati

Table 4.11 (a): Hourly Noise levels at various locations in Jalgaon on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Subhash Chowk	78.8	72.8	80.9	86.3	89.7	70.5
Shashtri Tower Chowk	72.2	79.7	86.3	89.1	75.8	70.1
Shanipeth Police Station	62.2	69.7	70.2	76.8	73.1	69.9

Table 4.11 (b): Hourly Noise levels at various locations in Jalgaon on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Subhash Chowk	65.2	81.0	87.5	76.3	90.4	66.7
Shashtri Tower Chowk	69.7	80.2	83.6	91.2	86.7	65.0
Shanipeth Police Station	65.7	70.1	79.3	80.2	73.9	69.8

Table 4.11 (c): Hourly Noise levels at various locations in Jalgaon on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Subhash Chowk	61.3	95.6	79.7	72.6	75.1	73.3
Shashtri Tower Chowk	62.7	82.7	87.4	70.6	80.1	77.8
Shanipeth Police Station	63.3	86.0	99.3	82.2	70.3	68.0

Table 4.11 (d): Hourly Noise levels at various locations in Jalgaon on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Subhash Chowk	68.7	72.9	86.1	90.4	87.8	80.2
Shashtri Tower Chowk	72.0	89.8	85.9	92.2	90.1	82.6
Shanipeth Police Station	68.2	69.9	70.1	78.3	70.0	73.5

Table 4.11 (e): Hourly Noise levels at various locations in Jalgaon on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Subhash Chowk	75.8	79.2	86.9	90.2	81.3	83.7
Shashtri Tower Chowk	72.2	79.9	86.2	90.7	80.5	95.6
Shanipeth Police Station	67.8	79.1	80.2	73.0	77.7	75.9

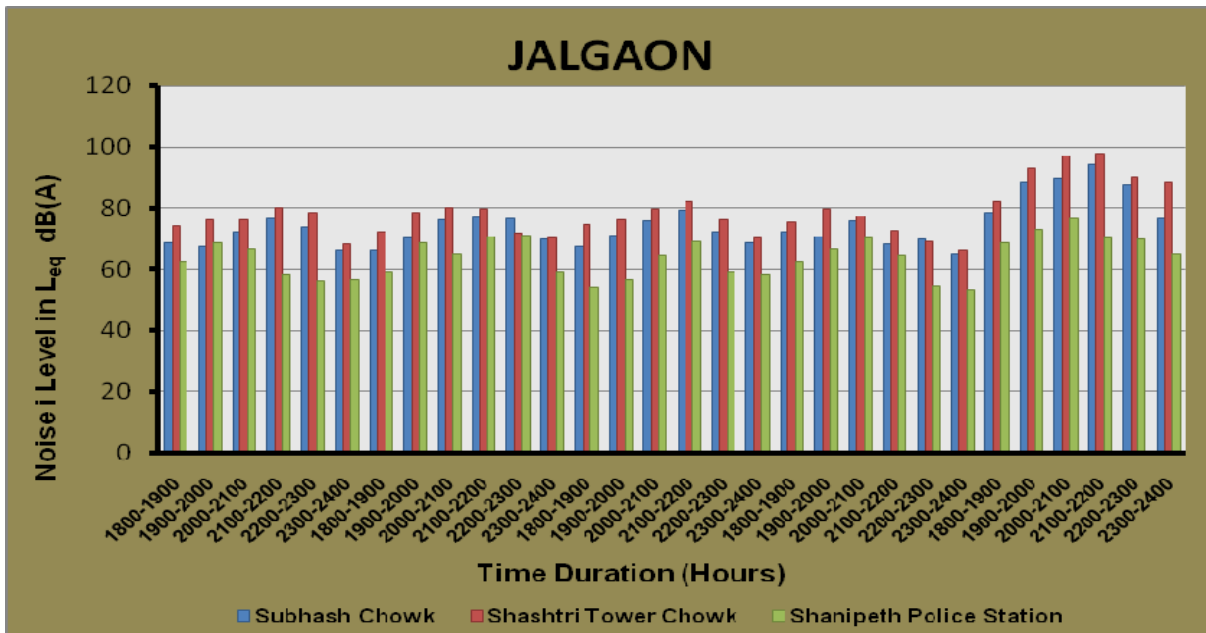


Chart 4.22: Hourly Noise levels from 25th-29th Sept., 2012 in Jalgaon

Table 4.12 (a): Hourly Noise levels at various locations in Kolhapur on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Rajaram Puri	81.2	81.7	84.1	81.9	77.7	77.6
Mahalaxmi Mandir	60.9	75.3	77.2	73.1	63.0	57.5
Khas Baug Maidan	84.6	81.1	81.3	82.3	76.7	71.3

Table 4.12 (b): Hourly Noise levels at various locations in Kolhapur on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Rajaram Puri	83.1	83.5	80.2	82.2	79.8	80.1
Mahalaxmi Mandir	65.9	69.2	61.2	51.6	49.1	45.3
Khas Baug Maidan	80.5	81.1	81.6	81.8	82.5	70.6

Table 4.12 (c): Hourly Noise levels at various locations in Kolhapur on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Rajaram Puri	82.9	85.5	84.5	87.3	85.6	83.8
Mahalaxmi Mandir	72.2	69.0	65.0	61.0	50.8	49.9
Khas Baug Maidan	83.2	83.2	87.7	85.7	84.4	80.4

Table 4.12 (d): Hourly Noise levels at various locations in Kolhapur on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Rajaram Puri	86.5	82.9	86.8	87.6	85.0	88.4
Mahalaxmi Mandir	73.8	69.2	64.4	61.7	47.8	43.7
Khas Baug Maidan	82.6	86.7	88.1	86.8	84.5	84.8

Table 4.12 (e): Hourly Noise levels at various locations in Kolhapur on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Rajaram Puri	80.2	81.8	74.1	74.9	67.0	65.7
Mahalaxmi Mandir	60.9	85.2	80.2	79.1	77.0	80.0
Khas Baug Maidan	94.6	91.1	94.3	98.3	96.7	97.1

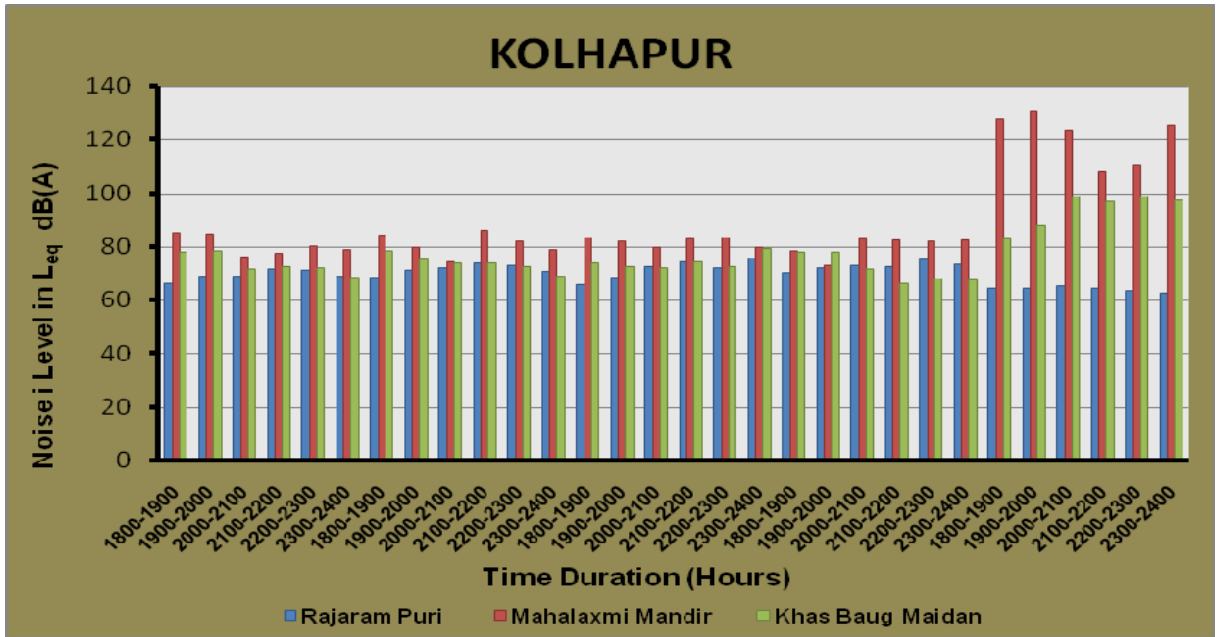


Chart 4.23: Hourly Noise levels from 25th-29th Sept., 2012 in Kolhapur

Table 4.13 (a): Hourly Noise levels at various locations in Satara on 25th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Powai Naka	79.2	85.5	81.0	91.0	86..6	74.0
Moti Chowk	77.0	79.0	89.3	92.1	90.5	72.1
Rajwada	75.3	89.3	89.1	94.4	76.3	79.0

Table 4.13 (b): Hourly Noise levels at various locations in Satara on 26th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Powai Naka	75.5	78.0	82.3	81.2	81.2	69.3
Moti Chowk	78.0	81.0	87.3	91.0	67.5	69.1
Rajwada	66.5	79.3	87.5	84.5	91.0	69.3

Table 4.13 (c): Hourly Noise levels at various locations in Satara on 27th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Powai Naka	81.3	83.3	77.5	78.1	86.5	91.1
Moti Chowk	77.2	73.3	75.1	81.3	79.3	79.0
Rajwada	84.5	73.2	72.5	89.5	95.3	76.5

Table 4.13 (d): Hourly Noise levels at various locations in Satara on 28th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Powai Naka	71.3	83.2	83.0	85.0	91.0	67.0
Moti Chowk	78.0	78.5	81.2	83.0	76.0	81.0
Rajwada	81.0	81.3	86.5	91.0	94.0	79.9

Table 4.13 (e): Hourly Noise levels at various locations in Satara on 29th Sept.

Location	1800-1900	1900-2000	2000-2100	2100-2200	2200-2300	2300-2400
	Day Time	Day Time	Day Time	Day Time	Night Time	Night Time
Powai Naka	83.2	89.1	96.5	96.9	99.1	95.1
Moti Chowk	83.1	86.8	92.5	96.8	97.1	99.9
Rajwada	82.2	86.5	90.5	93.2	95.8	93.1

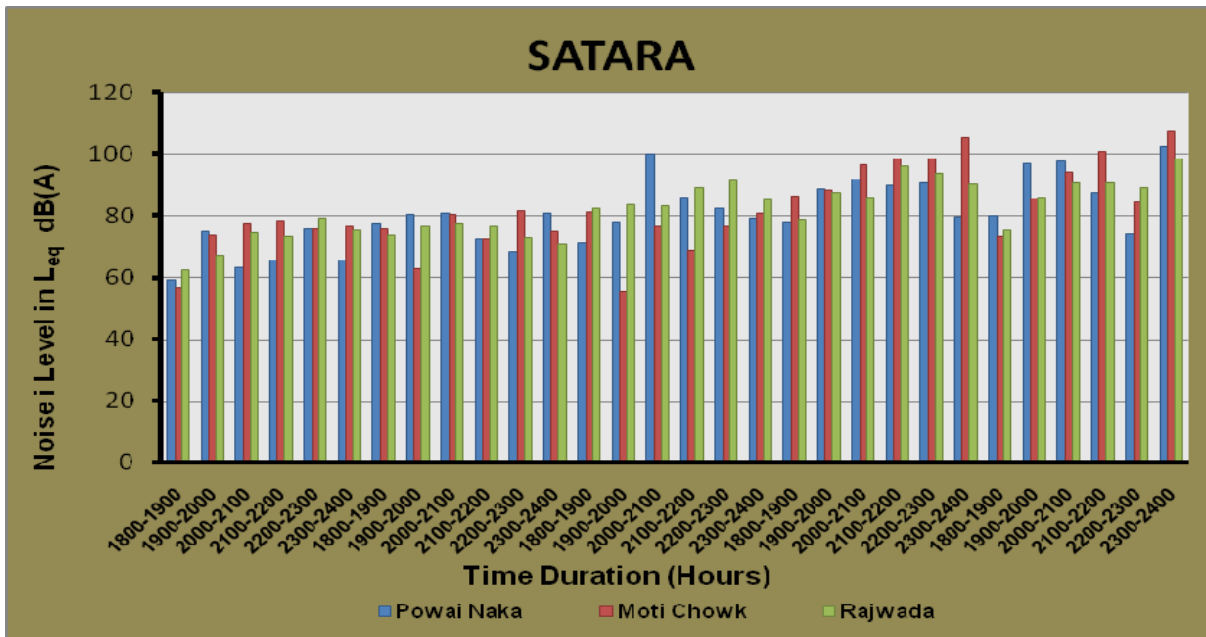


Chart 4.24: Hourly Noise levels from 25th-29th Sept., 2012 in Satara

Comparative Study of Noise levels from 2008 to 2012

Table 4.14 shows the maximum and minimum noise levels in last five years during Ganesh Festival. Comparative study shows that noise levels in some of the cities decrease this year significantly, but these are still higher than the permissible limits. Maximum and minimum values gives the range of noise levels measured during Ganesh Festival.

By comparing the noise levels of previous year during Ganesh Festival with this year results, we can observe that the maximum noise level came down in all the cities except Kalyan and Jalgaon, however Pune and Nashik shows the similar pattern as it was in previous year.

Although the noise level get decreased but these are still higher than the permissible limits, which is the matter of concern. Comparative study shows the following results in different cities of Maharashtra:

Mumbai: Comparative study shows that there is an increase in noise levels this year (53-102dBA) in Mumbai as compared to last years (49-97dBA). The maximum noise level is the highest in the last five years.

Navi Mumbai: In Navi Mumbai there is decrease in noise levels is observed this year as compared to previous 4 years. The highest noise level was observed in the year 2010 (57-126dBA)

Thane: In Thane, minimum and maximum level of noise increased a bit this year from last year, but is comparatively lower than the noise level on 2010.

Pune: The maximum and minimum noise level value in Pune this year is found to be increased a little from last year.

Nashik: In Nashik, the maximum noise level this year 112dBA is higher than last year noise level. But the minimum noise level have decreased.

Aurangabad: In Aurangabad also, little increase in noise levels are observed this year as compared to last year. The noise levels of 2011 fall in the range of 49-96dBA and now in 2012 it is 50-97dBA.

Nagpur: The noise levels this year (49-92dBA) in Nagpur are increased as compared to the previous year i.e. in 2010 (51-90dBA).

Kalyan: In Kalyan, a slight decrease in maximum value of noise levels are observed this year as compared to last year. The noise levels of 2011 it is 58-107dBA, in 2010 fall in the range of 69-98dBA and now in 2012 it is 53-106.9dBA.

Amravati: Decrease in noise levels are observed in Amravati this year (57.7-82.1dBA) as compared to noise levels in year 2011 (53-84.8dBA).

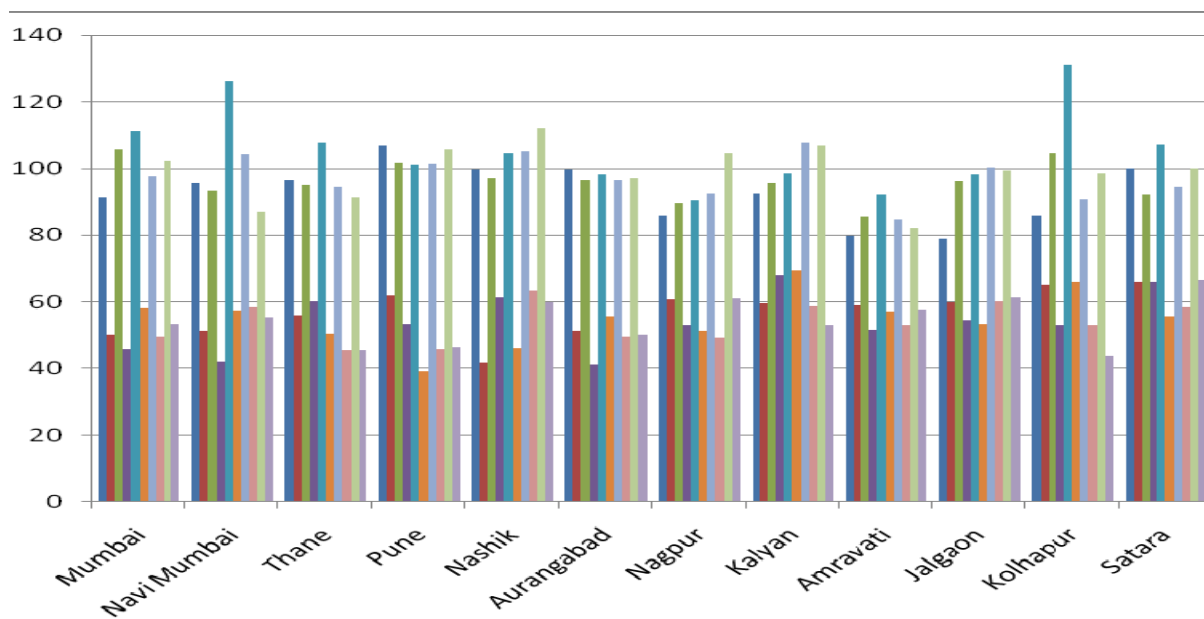
Jalgaon: In jalgaon, the maximum noise level have decreased compared to 2011 noise level and minimum noise levels are almost in the same range.

Kolhapur: There is increase in the maximum noise level of Kholapur region as compared to 2011 but the minimum noise level have decreased further. With comparison to the 2010 noise level there is decrease in the overall frequency.

Satara: In Satara, increase in maximum and minimum noise level is observed this year. If we consider the overall range of values, the overall decrease in noise levels is predicted this year in satara as compared to year 2010.

Table 4.14: Noise Levels during Ganesh Festival for last 5 years in different cities of Maharashtra

Sr. No.	City	2008 Noise Levels in L _{eq} dB(A)		2009 Noise Levels in L _{eq} dB(A)		2010 Noise Levels in L _{eq} dB(A)		2011 Noise Levels in L _{eq} dB(A)		2012 Noise Levels in L _{eq} dB(A)	
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	Mumbai	91.3	50.2	105.8	46.0	111.3	58.2	97.8	49.6	102.3	53.3
2	Navi Mumbai	95.8	51.3	93.3	42.1	126.3	57.4	104.2	58.3	87.0	55.4
3	Thane	96.5	56.0	95.0	60.1	108.0	50.3	94.5	45.5	91.4	45.5
4	Pune	107.0	62.0	101.8	53.3	101.3	39.1	101.4	45.8	105.8	46.5
5	Nashik	99.8	41.9	97.3	61.5	104.4	46.1	105.2	63.3	112.1	59.9
6	Aurangabad	99.5	51.3	96.5	41.3	98.0	55.6	96.7	49.6	97.1	50.2
7	Nagpur	85.9	60.7	89.6	53.0	90.6	51.4	92.5	49.1	104.4	61.1
8	Kalyan	92.7	59.6	95.7	67.8	98.4	69.3	107.9	58.7	106.9	53.0
9	Amravati	79.7	59.0	85.6	51.7	92.2	57.2	84.8	53.0	82.1	57.7
10	Jalgaon	79.0	60.0	96.3	54.5	98.0	53.1	100.3	60.2	99.3	61.3
11	Kolhapur	86.0	65.0	104.5	52.9	131.1	66.1	90.9	52.9	98.3	43.7
12	Satara	100.0	66.0	92.2	66.1	107.3	55.6	94.5	58.3	99.9	66.5



- █ 2008 Noise Levels in Leq dB(A) Max
- █ 2008 Noise Levels in Leq dB(A) Min
- █ 2009 Noise Levels in Leq dB(A) Max
- █ 2009 Noise Levels in Leq dB(A) Min
- █ 2010 Noise Levels in Leq dB(A) Max
- █ 2010 Noise Levels in Leq dB(A) Min
- █ 2011 Noise Levels in Leq dB(A) Max
- █ 2011 Noise Levels in Leq dB(A) Min
- █ 2012 Noise Levels in Leq dB(A) Max
- █ 2012 Noise Levels in Leq dB(A) Min

Chart 4.25: Noise Levels during Ganesh Festival for last 5 years in different cities of Maharashtra

5. Conclusion

In the present study, the ambient noise level monitoring has been conducted in 12 cities at 89 locations for 5 days from 25th September to 29th September 2012 on a daily basis from 6.00 p.m. to 12.00 p.m. The noise levels were found to decrease at Navi Mumbai, Kalyan, Amravathi and Jalgoan this year. In Mumbai, there is increase in the maximum noise level and also at Thane, Pune, Nashik, Aurangabad, Nagpur, Kholapur and Aurangabad also the noise level have increased. There is also a significant variation in the noise levels observed from the period 6.00 p.m. to 10.00 p.m. and 10.00 p.m. to 12.00 p.m. at all the locations. This is matching the field observations of the celebration activities, particularly on the last day of the Ganesh Festival.

In the present study, the ambient noise monitoring has been conducted and therefore the observed noise levels are the cumulative result of various urban sources such as traffic, household activities construction activities besides the festival related noise.

Though the contribution of the festival celebration is significant which is reflected in the hourly noise level variations, the exact contribution of the same is not covered under the scope of work of the present study. However, there is an overall decreasing trend which can be attributed to the public awareness activities carried out by various State Government Agencies and also improved enforcement of the noise regulations.

The ambient noise levels are exceeded the standards specified under the Noise Rules, 2000 and therefore, it is necessary to continue the efforts to create more awareness about the noise pollution and also to take effective steps to reduce the noise levels through various initiatives on a long term basis. The study highlights the continual need of such initiatives in a more prioritized manner.

6.0 Definitions

A-Weighting

"A-weighting" is the frequency weighting characteristic as specified in IEC 123 or IEC 179 and 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 application of the A-weighting. It is measured in dBA, A-weighted, and denoted as dBA.

Decibel

The "decibel" is a dimensionless measure of sound level or sound pressure level; see sound pressure level.

Equivalent Sound Level

The "equivalent sound level" sometimes denoted L_{eq} , is the value of the constant sound level which would result in exposure to the same total A-weighted energy as would the specified time-varying sound, if the constant sound level persisted over an equal time interval. It is measured in dBA.

Fast Response

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

Percentile Sound Level

The "x percentile sound level", designated L_x , is the sound level exceeded x percent of a specified time period, It is measured in dBA.

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

"Sound level" is the A-weighted sound pressure level.

Sound Level Meter

A "sound level meter" is an instrument which 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 μ Pa. Thus the sound pressure level in dB = $20 \log_{10} P/P_r$.

Glimpses of the Event



**Borivali - Manav Mitra Mandal,
Mumbai**



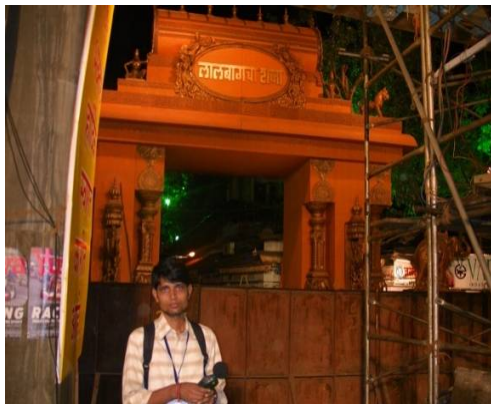
Mumbai Central - Belasis Road, Mumbai



**Sarvajanik Ganeshotsav
Mandal, Bandra (W), Mumbai**



**Sector-10, D-Mart, Kopar Khairane, Navi
Mumbai**



**Chinchpokali (E) - Lalbaug Raja
Sarvajanik Ganeshutsav Mandal,
Mumbai**



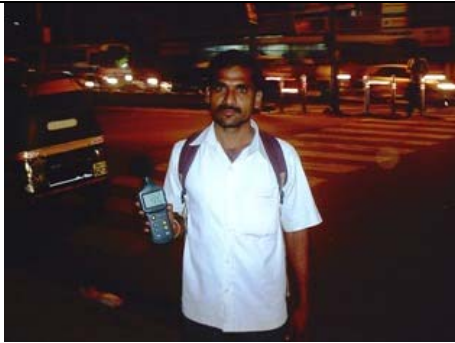
**Vashi - Shivaji Chowk Near Bus Depot, Navi
Mumbai**



Main Road- Gaondevi Mandir, Pune



Yerawada (Near Gunjan Theatre), Pune



Karve Road (Nul stop), Pune



Dagdu Sheth Mandir (City Post Chowk), Pune



Gandhiputala / Sakkardara lake, Nagpur



Reshimbag / Futala lake, Nagpur



Moti Chowk - Satara



Pawai Naka - Satara



City Chowk, Aurangabad



Shanipeth Police Station, Jalgoan



Khas Baug Maidan, Kolhapur



Golibar Chauk / Gandhisagar, Nagpur

Annexure - I

Annexure: 1. Detailed List of Locations in Maharashtra

Sr. No.	City	Location Name (details)
1.0	Mumbai	Andheri - Azad Nagar, Sarvajanic Utsav Samiti Sr. 2, Vir Desai Marg
	Mumbai	Bandra - Sarvajanic Ganeshutsav Mandal-Sr.A2329, S.V. Road, Bandra (W)
	Mumbai	Bhandup - Jay Bajrang Mitra Mandal (Bhandup Samrat), Bhandup Station Rd
	Mumbai	Borivali - Manav Mitra Mandal, L.T. Road, Borivali (W), Mumbai - 400092
	Mumbai	Byculla - Sarvajanic Ganeshutsav mandal, Dr. Ambedkar Marg, Byculla (E)
	Mumbai	Chembur (East) - Near Ashish Talao / Ashish Theatre
	Mumbai	Chembur (West) - Sahyadri Krida Mandal Tilak Nagar, Chembur
	Mumbai	Chinchpokali (E) - Lalbaug Raja Sarvajanic Ganeshutsav Mandal
	Mumbai	Chinchpokali (W) - Parsiwadi Mitra Mandal, Auther Road Naka, Sarvajanic Ganeshutsav Mandal
	Mumbai	Dadar (East) - Khodadad Circle, Dadar TT
	Mumbai	Dadar (West) - Sai Ganesh Sadan, Senapati Bapat Marg, Sarvajanic Ganeshutsav Mandal, Sunder Nagar
	Mumbai	Elphinstone - Shiv Sai Sarvajanic Ganeshutsav Mandal, B.M. Marg, Elphinstone Rd
	Mumbai	Ghatkopar - Amar Mitra Mandal, Tilak nagar, Ghatkopar (E)
	Mumbai	Girgaon Chowpati - Akhil Chowpati Bhirvi Lane, Sarvajanic Ganeshutsav
	Mumbai	Grant Road - Saltar Road Sarvjanik Ganeshutsav Mandal, Grant Road (W)
	Mumbai	Juhu Chowpati - Om Kareshver Shiv Mandir (Trust), Fort Juhu Choupati
	Mumbai	Kandivali (East) - Thakur Village
	Mumbai	Kandivali (W) - Balla Mitra Mandal, Behind Poisur Depot, Nr Ganesh Medics
	Mumbai	Khar - Sarvajanic Ganeshutsav Mandal Sr. 1441-34/35, Sharma Building, 4th Road, Opp. Khar Police Station(W)
	Mumbai	Mulund - Sargam Mitra Mandal R.H.B. Road, Mumbai - 400 080
	Mumbai	Mumbai Central - Belasis Road, B.I.T. Chawl, Mumbai Central
	Mumbai	Parel - Sarvajanic Ganeshutsav Mandal Bal Gopal Mandal Parel (W), Tata Mill Compound
	Mumbai	Santacruz (East) - Milan Subway, Neet & Geet Society
	Mumbai	Vikhroli - Balmitra Kala Mandal, Vijay House, Vikhroli Statn Rd, Vikhroli (W)
	Mumbai	Wadala - G.B.S. Sarvajanic Ganeshutsav Mandal, Shree Ram Mandir, Before Wadala Depot Signal,
2.0	Navi Mumbai	Airoli - Traffic Police Chouki (before Mulund Airoli Bridge)

	Navi Mumbai	CBD - MGM Hospital Chowk, Near Police Chowki
	Navi Mumbai	Kopar Khairane - Sector-10, D-Mart Main Road
	Navi Mumbai	Uran - Ganpati Chowk
	Navi Mumbai	Vashi - Shivaji Chowk Near Bus Depot
3.0	Thane	1 Gokhle Road-Malhar Cinema
	Thane	2 Jambli Naka- Lake immersion Point
	Thane	3 Main Road- Gaondevi Mandir, Naupada
	Thane	4 Pokhran Road- Vartak Nagar Chowk
	Thane	5 Wagle Estate- Raila Devi Lake
	Thane	6 Court Naka
	Thane	7 Mental Hospital
	Thane	8 Bedekar Hospital
	Thane	9 Chatrapati Shivaji Maharaj Hospital, Kalwa
4.0	Pune	1 Shivaji Nagar (Sakhar Sankul)
	Pune	2 Karve Road (Nul stop)
	Pune	3 Swar Gate (Tilak Road)
	Pune	4 Satara Road (Balaji Nagar)
	Pune	5 Shaniwar Peth (Shanivar Wada)
	Pune	6 Yerawada (Near Gunjan Theatre)
	Pune	7 Laxmi Road (Shagun Chowk)
	Pune	8 Kothrud (Near Shivaji Putala)
	Pune	9 Mahatma Phule Madai (Near Mandai)
	Pune	10 Sarus Baug (Mitra Mandal Chowk)
	Pune	11 Hadapsar (Nera Bhaji Mandai)
	Pune	12 Deccan (Nataraj Theater)
	Pune	13 Dagdu Sheth Mandir (City Post Chowk)
	Pune	14 Alka Chowk (Nera Alka Chowk)
	Pune	15 Babu Genu Chowk (Near Babu Genu Chowk)
	Pune	16 Khadaki (Near Bazar)
	Pune	17 M G Road (Babajan Chowk)
	Pune	18 Chapekar Chowk (Chinchwadgaon)
	Pune	19 Pimprigoan - Shastrinagar
	Pune	20 Thergaon (Dange Chowk)
5.0	Nashik	1 Nashik Road
	Nashik	2 Panchvati

	Nashik	3 CIDCO
	Nashik	4 CBS
	Nashik	5 Dahi Pool
6.0	Aurangabad	1 Gulmandi
	Aurangabad	2 City Chowk
	Aurangabad	3 Kranti Chowk
	Aurangabad	4 CIDCO Residential
	Aurangabad	5 Usmanpura
7.0	Nagpur	1 Nashik Road/ Ramkund
	Nagpur	2 Panchvati/ Near Ashok Stambh
	Nagpur	3 CBS / Near Gadge Maharaj Statue
	Nagpur	4 CIDCO/ River Bank of Waldevi
	Nagpur	5 Dahi Pool/ CIDCO (Behind PF Off.)
8.0	Kalyan	1 Bajar peth Police station
	Kalyan	2 Shivaji Chawk
	Kalyan	3 Camp No 1, Goal Maidan, Ulhasnagar
9.0	Amaravati	1 Budhwara
	Amaravati	2 Rajkamal Square
	Amaravati	3 Irvin Hospital Square
10.0	Jalgaon	1 Subhash Chowk
	Jalgaon	2 Shashtri Tower Chowk
	Jalgaon	3 Shanipeth Police Station
11.0	Kolhapur	1 Rajaram Puri (Near Rajaram Puri)
	Kolhapur	2 Laxmi Puri (Near Laxmi Puri)
	Kolhapur	3 Khas Baug Maidan
12.0	Satara	1 Powai Naka (Near Powai Naka)
	Satara	2 Moti Chowk (Near Moti Chowk)
	Satara	3 Rajwada (Near Rajwada)

Annexure - II

Sound Level Meter MS 6701, Type II



Annexure – III

**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 ठराधिक 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 सभोवताली १०० मीटर क्षेत्र
- ३) रुग्णालयाच्या सभोवताली १०० मीटर क्षेत्र

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

रोटा/श्च-०१००[५०७-५-२००९]-१

२

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

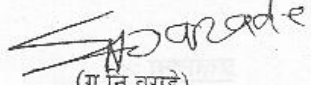
A.

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 a 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, २००१ रोजी या विषयाबाबत निर्गमित केलेला शासन निर्णय खारीज करण्यात येत आहे. हा शासन निर्णय निर्गमित झाल्याच्या दिनांकापासून लागू राहिल.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

B.


(ग.नि.वराडे)
संचालक (पर्यावरण)

प्रत माहितीसाठी :-

मा.मुख्यमंत्र्यांचे प्रधान सचिव

मा.उपमुख्यमंत्र्यांचे प्रधान सचिव

मा. मुख्यसचिव

अतिरिक्त मुख्यसचिव, गृह विभाग, मंत्रालय

अतिरिक्त मुख्यसचिव, सार्वजनिक आरोग्य विभाग, मंत्रालय

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प्रधान सचिव, नगर विकास विभाग (१), मंत्रालय

प्रधान सचिव, नगर विकास विभाग (२), मंत्रालय

प्रधान सचिव, महसूल विभाग, मंत्रालय

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सचिव, पर्यावरण

मा. मंत्री (पर्यावरण), यांचे खाजगी सचिव,

मा. राज्यमंत्री (पर्यावरण), यांचे खाजगी सचिव,

सर्व मा. मंत्री / राज्यमंत्री यांचे खाजगी सचिव

सर्व जिल्हाधिकारी

सर्व पोलीस आयुक्त / उप आयुक्त

सर्व जिल्हा पोलीस अधिक्षक / उप अधिक्षक

पर्यावरण विभाग सर्व अधिकारी / कार्यासन / निवडनस्ती - तांक १

परिशिष्ट - १

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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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A.

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>

E

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).

(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/Nm³ 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.

3

* 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)_{pk} 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 1st 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 1st 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 st January, 2003
	Displacement upto 80 cm ³	75	
	Displacement more than 80 cm ³ but upto 175 cm ³	77	
	Displacement more than 175 cm ³	89	
2.	Three Wheeler		1 st January, 2003
	Displacement upto 175 cm ³	77	
	Displacement more than 175 cm ³	80	
3.	Passenger Car	75	1 st January, 2003
4.	Passenger or Commercial Vehicles		1 st 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	

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

Sr.No.	Type of vehicles	Noise Limits
1.0	Two Wheelers	
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	Three Wheelers	
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 31st 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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