

Name of City/Urban Agglomeration **Indore Municipal Corporation**

State **Madhya Pradesh**

Parameter B1 **Hotspot identification within and outside ULB affecting air quality**

Introduction

Indore, 200km from Bhopal, is the largest city and the commercial centre in the state of Madhya Pradesh, with more than 2 million inhabitants. The city is well connected to other parts of the state through a network of national and state highways, because of which, it is fast emerging as an important transport and logistics hub in the country. The major highways passing through the city are national highway No. 3 (Agra to Bombay); national highway No. 59 (Indore to Ahmedabad); national highway No. 59A (Indore to Betul); state highway No. 27 (Indore to Burhanpur); and state highway No. 34 (Indore to Jhansi).

The main economic activities in Indore are manufacturing and service industries (soybean processing, automobile, software, and pharmaceutical). Major industrial areas are in Pithampur special economic zone and the Sanwer industrial belt and is also opening to host information technology related industry.

The city of Indore is taking steps to reduce many of the above-mentioned pollution problems. Since it has become well known that the festival of Diwali often leads to the air being choking with its smoke problems for many days after, the city has put new rules into place that prohibit the use of certain firecrackers, as well as prohibiting their sale and restricting the times in which they can be set off.

The major source of air pollution in Indore is vehicular emission, construction activities, industrial emission etc. M P Pollution Control Board is regularly monitoring the Ambient Air Quality at Indore through three manual NAMP stations installed at Vijay Nagar, Kothari Market and Sanwer Road, as well as one Continuous Ambient Air Quality Monitoring Station installed at Pologround Industrial Area.

B1(A) MPPCB identified below mentioned air pollution hotspot (refer B1 Annexure 1 & B1 Annexure 2) in the city due to various above mentioned reasons;

Sr. No.	Hotspots
1	Regal Square
2	Palasia Square
3	Vijay Nagar
4	Gangwal stand
5	Luv Kush square
6	Bhawarkuan

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7	Dewas Naka
8	Kothari Market
9	Patnipura
10	Bada Ganpati
11	Chandan Nagar
12	Gurudwara Imli saheb

B1 (B) MICRO LEVEL ACTION PLAN FOR IDENTIFIED HOTSPOT**1 REGAL SQUARE**

Regal square is one of the busiest square due to the presence of Bus & Auto stand. Regal bridge connects old & new Indore. It observes traffic 24 hrs. due the regular movement of buses and autos which contributes to heavy vehicular emission. Hotels & small restaurants are also present near the railway station adjacent to square which contributes to coal based air pollution.

Action Plan for the hotspot

- Unregulated bus stand will be shifted to Sarwate bus stand
- Regular mechanized road sweeping to reduce dust
- Coal based ovens will be converted to LPG
- Lane marking & arrow marking will be done to guide traffic flow
- Plantation on Regal bridge

2 PALASIA SQUARE

Palasia has an Indore BRT station & several city bus routes serve the area. It's a major junction on AB Road. Fleet transport auto rikshaws, metro taxi, city van, tata magic and various private taxis are widely available. It is a centrally located area with the major Services & entertainment zone. This area observes major footfall between 10 am to 8:00 pm. Service centers of automobiles are also present.

Action Plan for the hotspot

- Environment friendly road have been developed to reduce pollution level
- End to end paving to minimize casualty and reducing travel time
- Upgradation of signal system for better traffic flow,
- Removal of encroachment on roadsides (decongestion),
- Strict action for parking regulations

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3 VIJAY NAGAR SQUARE



Vijay Nagar Square is in the eastern part of the city. It is a major residential area in Indore. Lately, with the development of BRTS, the area has witnessed rampant growth. Vijay nagar is popular for its malls & food chains. The street of vijay nagar are dotted with shops & high-end shopping plaza. It observes high vehicular movement from 10:00 am to 10: 00 pm.

Action Plan for the hotspot

- Redesigning of Rotary to improve and regulate the traffic flow
- Speed management for reducing the congestion
- Footpaths of adequate width are also provided for pedestrian movements.

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4 GANGWAL STAND

Gangwal square is one of the busiest square due to the presence of Bus & Auto stand. Gangwal Interstate bus terminal is one of the oldest and biggest terminals in Indore. It observes traffic 24 hrs. due the regular movement of buses and autos.

Action Plan for the hotspot

- End to end development (100% paved) which will reduce dust pollution
- Plantation to improve air quality of the surrounding
- Dedicated Parking zone for auto rickshaws

Installing new Traffic lights/ system: The traditional traffic lights installed at the square shall be replaced by newer, better system which shall help smoothen the traffic flow

5 LUV KUSH

This square observes heavy traffic to due to intercity & intra city movement. It connects Ujjain and MR10 through Super corridor which contributes to vehicular emission. Construction of metro work is ongoing. E& F sector and Sawyer road are industrial areas in this area which contributes in industrial pollution.

Action Plan for the hotspot

- Conversion of industrial boilers into CNG based system
- Actions to reduce fugitive emission
- Industrial area to be 100% paved) which will reduce dust pollution
- Upgradation of signal system for regular traffic flow
- Plantation along the roads for the better air quality

6 BHAWAR KUAN

Bhawarkuan is in the western side of the city. It connects 6 roads of the city. It connects outer ring road as well as bypass that contributes to heavy truck load. It is one of the education hub area in the city due to which two-wheeler congestion is high. Transport Nagar contributes to heavy vehicle emission due to the presence of logistic and repairment stations. Hotels & restaurants

Action Plan for the hotspot

- Regulating parking regulations
- Reduction in heavy vehicle movement through speed management
- End to end development (100% paved) which will reduce dust pollution & reduce travel time, as well as will improve riding quality
- Introduction of low emission zone

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7 DEWAS NAKA

Dewas naka is a suburb residential locality in the city. It is a gateway of the city. It is transport hub with godowns & industries which contributes to vehicular emission. Small restaurants & eateries which contributes to coal-based emission. It is one of the major transport hub contributes to heavy vehicle emission due to the presence of logistic and repairment stations.

Action Plan for the hotspot

- Conversion of industrial boilers into CNG based system
- Actions to reduce fugitive emission
- Industrial area to be 100% paved which will reduce dust pollution
- Footpaths & roadside paving along the corridor
- Maintenance pothole free roads
- Coal based ovens will be converted to LPG
- Regulating parking regulations for heavy vehicles
- Reduction in heavy vehicle movement through speed management

8 KOTHARI MARKET

It is a CBD area of the city which comprises clothing & accessories market. It observes heavy traffic movement of two-wheeler vehicles during peak hours. It is an old city area which connects Rajwada to MG road.

Action Plan for the hotspot

- This square is set in a very dense area there is no possibility of road widening activities for reducing traffic loads. Therefore, left turns at all the arms of this square will be segregated from straight moving and right turning traffic for reducing conflict in the vehicles.
- Redevelopment of multi-level parking for two-wheeler & four-wheeler.

B1 (A) NEW HOTSPOT IDENTIFIED IN THE CITY ARE (B1 ANNEXURE 2)

Micro planning for four new hotspots identified by MPPCB in the city;

1) Patnipura Square



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2) Chandan Nagar Square



3) Bada Ganpati Square



4) Gurudwara Imli Saheb Square



B1 (B) MICRO LEVEL ACTION PLAN FOR NEW IDENTIFIED HOTSPOT

9 PATNIPURA SQUARE:

Patnipura square witnesses high traffic movement between 10:00 am and 10:00 pm. During this period a significant amount of pollution is caused due to tailpipe emissions. The approach roads for the square are narrow and inadequate for traffic seen at this junction

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Solution: For alleviating traffic problems at Patnipura square, following initiative will be taken

1. Freeing left turns: Left turning traffic on all the sections of the square shall be facilitated through cleaning and segregation. This will keep the traffic moving and reduce unnecessary stalling of vehicles.
2. Installing new Traffic lights/ system: The traditional traffic lights installed at the square shall be replaced by newer, better system which shall help smoothen the traffic flow.

10 CHANDAN NAGAR SQUARE:

Chandan Nagar square and its adjacent areas see significant traffic movement through it. Apart from being the hub for timber trade in the city, this area also serves as Indore's entry-exit point for traffic coming in/going to Dhar. Also, this area is densely populated.

Solution: Due to unavailability of anymore space for road widening left turns will be created from existing pavement width. This shall help in continuous flow of traffic with reduced conflict between vehicles.

11 BADA GANPATI SQUARE:

This square is amongst the most prominent squares of the city. This is one of the most prominent and busy squares because,

1. Mahatma Gandhi Road which is the city's main road originates from this square
2. One arm of this square leads to the Indore airport

Owing to these two reasons this square sees a lot of traffic movement between 10:00 am and 10:00 pm and a lot of air pollution as a result.

Solution: Due to the nature of the traffic passing through this square it is important that throughput is increased. To this end left turns at this junction have been demarcated and segregated from straight moving and right turning traffic on all arms. Moreover, plantation work will be done to increase green cover around the junction to offset air pollution caused by tailpipe emissions from the traffic.

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12 GURUDWARA IMLI SAHEB SQUARE

This square on Jawahar Marg is the busiest square of central Indore. This square experience immense traffic load from 8:00 am to 10:00 pm. The traffic at this square is the reason for air pollution experienced here. This square is situated in the midst of a densely packed commercial area of the city and also Rajwada area. The frequent jams occurring at this square and the resulting tailpipe emissions are biggest reasons for air pollution in this area.

Solution: Since this square is set in a very dense area there is no possibility of road widening activities for reducing traffic loads. Therefore, left turns at all the arms of this square will be segregated from straight moving and right turning traffic for reducing conflict in the vehicles.