

## Revised Action Plans for Control of Air Pollution in Bengaluru City

1	Name of the City		Bengaluru			
2	Air Pollution concerns		PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>2</sub>			
3	Air pollution levels: (provide range of 24-hourly average concentration values; annual average for past five years; No. days in various AQI categories)		Data enclosed			
4	Months with high air pollution levels		January, February, November, December			
5	Action plan:					
Source group	Sl No	Action	Implementation period (Short- Mid- Long ) term	Time Target for implementation	Responsible Agency	Actions are in Progress
Vehicles	1	The restriction on use of two stroke vehicles in phased manner (2-Stroke, 3-stroke) in Bangalore city.	Long	March 2020	Transport Department	All the Auto rickshaws plying in Bangalore city are converted into bi-fuel mode.
	2	To check the calibration of emission monitoring equipments, housed in Emission Testing Centers (ETCs) once in six months to know the status of equipments.	Mid	June -2019	Transport Department	All the emission testing centers in Karnataka State are connected to online network system and also these centers are being audited on a regular basis. At the time of inspection, status of equipments functioning at the centers are also being checked for calibration and AMC as well.
	3	Launch Extensive drive against polluting vehicles for	Short	It is a continuous	Transport	The Transport Department has been checking vehicular air pollution and noise pollution in Bangalore City. The

		ensuring strict compliances and regulate the traffic		program and in progress	Department	<p>details of action taken by the Department have been published in newspapers in order to bring awareness about road safety, air pollution/ sound pollution.</p> <p>The Transport Department has taken action to control overloading of vehicles and also for control of air and noise pollution in Bangalore. The checking details for the year 2018-19 in Bangalore City are as follows:-</p> <p>2018-19 (April 2018 to January 2019)</p> <table><tr><th>Particulars</th><th>No. of MVs Checked</th><th>No. of cases Booked</th><th>Fine Collected (Rs.)</th></tr><tr><td>Air Pollution</td><td>2,62,082</td><td>1,6308</td><td>61,57,420/-</td></tr><tr><td>Noise Pollution</td><td>2,30,008</td><td>4691</td><td>18,85,500/-</td></tr><tr><td>Overload</td><td>1,07,865</td><td>1206</td><td>90,18,213/-</td></tr></table> <p>The checking of vehicles is being carried out throughout the State for control of air and noise pollution.</p>	Particulars	No. of MVs Checked	No. of cases Booked	Fine Collected (Rs.)	Air Pollution	2,62,082	1,6308	61,57,420/-	Noise Pollution	2,30,008	4691	18,85,500/-	Overload	1,07,865	1206	90,18,213/-
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Vehicles	4	Installation of remote sensor based PUC system	Long	March-2020	Transport Department	<p>The Transport Department has intended to enter into a memorandum of understanding (MOU) with Azim Premji Philanthropic Initiatives Pvt Ltd. Bangalore and Clean Air Platform to work on the following:-</p> <ol style="list-style-type: none"> <li>1. Assistance for conducting pilot of on-road remote sensing of vehicle emissions in Bangalore as per directions of the Hon'ble Supreme Court of India.</li> <li>2. Conduct on road real world emission testing of vehicles in Bangalore and public engagement campaign to raise awareness against use of highly polluting vehicles (study, research, policy making)</li> <li>3. Support technology assessment and pilots for retrofitting of particulate filters in diesel vehicles.</li> </ol>

Vehicles Vehicles	5	Steps to promote battery operated vehicles	Long	March 2022	Transport Department	<p>The Government of Karnataka under the powers vested under section 74(3)(A) of Motor Vehicles Act 1988, has issued Notification No. 168 SAEPA 20158 (P), dt:6.5.2016 and published e-rickshaw scheme prescribing general conditions and permit conditions for the purpose of authorizing the operation of e-rickshaw vehicles throughout Karnataka State, except in the areas of BBMP limits. Further, the Government vide Notification No. SARIE 76 ASEPA 2016, dated 31.3.2016 has exempted all transport and non-transport battery operated vehicles from payment of road tax w.e.f.1.4.2016. Accordingly, the Transport Department has issued necessary instructions to all the Registering Authorities in the State to take suitable action in the matter. Further, the Registering Authorities are also being directed to register the e-rickshaws (special purpose battery operated 3 wheeled vehicles) which are tested and issued with type approval certificates by the testing agencies in India as required under Rule 126 of Central Motor Vehicles Rules 1989.</p> <p>Further, the Government vide Notification No. SARIE 48 SAEPA 2018, dated 26.3.2018, has accorded sanction for issual of 5000 Electric Auto rickshaw permits under “Karnataka Electric Vehicle Policy 2017”.Similarly , BMTC has initiated action to induct 1500 Electric buses in Bangalore city. Therefore the action to induct battery operated vehicles is underway in phased manner.</p>



Vehicles	6	Initiate steps for retrofitting of particulate filters in diesel vehicles	Long	March 2020	Transport Department	The remarks shown at SI No. (4) Above holds good. Further, the Transport Department has transferred an amount of Rs. 4.0 crore by the way of Deposit contribution to BESCOM for the purpose of establishing the charging stations for electric vehicles.								
	7	To carry out a survey to identify more vulnerable roads with respect to congestion so as to regulate the traffic.	Mid	June -2019	Police Dept. (Traffic)	BTP has identified some important Roads, which have congestions to regulate the traffic. The list of the Roads are  1. Tumkur Road 2. Bellary Road 3. Kanakapura Road, 4. Mysore Road 5. Hosur Road 6. Old Madras Road 7. B.G Road								
	8	To enforce lane discipline rules by stopping /parking of vehicles at designated bus bays/stop.	Short	It is a continuous program and in progress	Police Dept. (Traffic)	Bangalore Traffic Police is booking cases of lane discipline. The No. of cases booked are as follows. <table><tr><th>Year</th><th>No. of lane discipline cases booked</th></tr><tr><td>2016</td><td>3,97,618</td></tr><tr><td>2017</td><td>4,58,167</td></tr><tr><td>2018</td><td>3,64,368 (Upto 30.11.2018)</td></tr></table>	Year	No. of lane discipline cases booked	2016	3,97,618	2017	4,58,167	2018	3,64,368 (Upto 30.11.2018)
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9	Launch public awareness program Campaign for air pollution control, vehicle maintenance, minimizing the use of personal vehicles, lane discipline etc.	Short	It is a continuous program and in progress	Police Dept. (Traffic)	Traffic Police has requested that, Pollution Control Board should take initiative, Bangalore Traffic Police will support.									

Vehicles	10	Prevents and penalize parking of vehicles in non designated areas.	Short	It is a continuous program and in progress	Police Dept. (Traffic)	<div>As of now 95 Towing vehicles are there and towing figure are as follows.</div> <table><tr><th rowspan="2">Year</th><th colspan="2">No. of vehicle towed</th></tr><tr><th>Two wheeler</th><th>Four wheeler</th></tr><tr><td>2016</td><td>67,922</td><td>17,622</td></tr><tr><td>2017</td><td>1,62,729</td><td>1,07,720</td></tr><tr><td>2018</td><td>17,818</td><td>88,713</td></tr></table>	Year	No. of vehicle towed		Two wheeler	Four wheeler	2016	67,922	17,622	2017	1,62,729	1,07,720	2018	17,818	88,713
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Vehicles	11	To increase fine on vehicle owners (not drivers) where the visible smoke is emitted and noticed.	Mid	June -2019	Police Dept. (Traffic)	<div>Bangalore Traffic Police is booking cases against vehicles emitting black smoke. The No. of cases booked are as follows.</div> <table><tr><th>year</th><th>No. of emitting black smoke cases</th></tr><tr><td>2016</td><td>727</td></tr><tr><td>2017</td><td>671</td></tr><tr><td>2018</td><td>1810</td></tr></table>	year	No. of emitting black smoke cases	2016	727	2017	671	2018	1810						
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	12	To take action to remove dust and silt from major roads regularly by deploying mechanical sweeping vehicles.	Short	It is a continuous program and in progress	BBMP	<p>Bruhat Bengaluru Mahanagara Palike has an area of nearly 740.00 sq km. It is divided into 8 zones and the total road network of BBMP is nearly 13,000 kms. Among this 13,000 kms road network the Major Roads (Arterial and Sub-Arterial Roads) comprise of 1400kms. In order to remove the dust from these roads which are deposited besides the kerb edges as well as on median sides, BBMP has already procured 2 years ago nearly 8 truck mounted mechanical sweeping machines of 5 cum capacity at a cost of Rs. 90.00 lakhs each (Total Cost for 8 machines is Rs. 720.00 lakhs). Further, 1 ride on machine of capacity 1 cum at a cost of Rs. 45.00 lakhs has been purchased to sweep smaller roads.</p> <p>During this year nearly 17 self propelled sweeping machines are being purchased at a cost of Rs. 135.00 lakhs for each of the machines (Total Cost for 17 machines is Rs. 2295.00 lakhs). The work order has already been issued for these machines and delivery will happen in next 2 months time.</p> <p>Further, BBMP has also moved a proposal to the council to hire 16 street sweeping machine at a hire cost of Rs. 6.00 lakhs per machine per month. The proposal is before the council and awaiting approval.</p> <p>Further, BBMP has been provided grants under Nagarothanna to procure additional 16 street sweeping machines at a cost of Rs. 2160.00 lakhs. The tenders for these will be called once the model code of conduct is removed.</p>
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Construction activity	13	To initiate action plan for filling potholes and road cuttings to facilitate smooth flow of traffic.	Mid	June -2019	BBMP	The work of filling up of potholes and road cuttings is a continuous work of maintenance and the same is being done regularly by the BBMP. In the last one year nearly 1,430 potholes have been filled up on major roads. Further, nearly 1,60,216 sq.mtr of damaged surface area has been rectified to make the traffic flow smooth. Further, regular asphaltting and concreting of major roads as well as internal roads are being taken up for making the traffic flow smoother without causing congestion and noise and sound pollution.
	14	To remove encroachment of footpaths by hawkers in market places and relocate in the designated places as per Street Vendors Act.	Short	It is a continuous program and in progress	BBMP	The removal of encroachments of footpaths by the hawkers is a continuous activity by the BBMP. Recently, by the orders of the Hon'ble High Court encroachments by the hawkers were removed by BBMP at K.R.Market. These exercises of removal of encroachments by the hawkers are being taken up at major markets such as Madiwala Market, Russel Market, Johnson Market, Malleshwaram Market etc.
	15	To construct more number of multilevel vehicle parking facilities.	Long	March 2020	BBMP	In BBMP there are 2 MLCP's constructed on PPP Model viz., at Maharaja Complex near K.G.Road, at Garuda Mall near Commissariat Road and 1 MLCP constructed by BBMP on J.C.Road. Further, BBMP is constructing MLCP near Freedom Park for 500 car parks and 500 two wheeler parking at a cost of Rs. 95.00 Crores. The project is likely to be completed by December-2019.



						Further, under Smart City Project of Bengaluru, BBMP has proposed for construction of Multi Level Car Parking at Gandhinagar, near Hosmat Hospital and near Gandhi Bazar. Apart from these MLCP's of BBMP, there are many MLCP's constructed by BMTC during the construction of TTMC (Traffic and Transportation Management Centres).
Construction activity	16	To take action to enforce covering of construction and demolition debris carried through trucks and create/approve facility for re-processing of C and D waste.	Mid	It is a continuous program and in progress	BBMP	<p>To manage the construction and demolition waste in BBMP area, after due process of tenders the Government has accorded approval for setting up of 500 MT per day capacity C&amp;D Plant at Kannur. This plant will be set up by the Agency at his own cost within a period of next 6 months. The process of collection of C&amp;D waste from the City will be done by empanelment of agencies for collection of C&amp;D waste from house hold and major builders.</p> <p>Further, under Nagarothanna scheme the development of C&amp;D plants Rs. 15.00 Crores has been provided by the Government.</p>

Road dust	17	To suppress the dust by using treated water of BWSSB by sprinkling on the roads during night times in the areas where dust levels are high.	Short	It is a continuous program and in progress	BBMP	To suppress the dust from the roads as well as footpaths BBMP has planned for procurement of pressure jet cleaners/ washers which would help in cleaning of the roads and footpaths. Under Nagarothanna Grants Rs. 5.00 Crores has been provided for purchase of these pressure jet cleaners. These machines will be procured in the next 6 months time. The usage of these machines will be done with the treated water from BWSSB Treatment Plants.
Other Air Pollution control measures	18	Strictly implement notification No.FEE 06 ENG 2017 dated: 03.08.2017 issued by the Department of Forest, Ecology and Environment regarding prohibition of open burning of solid waste in the city.	Short	It is a continuous program and in progress	BBMP	BBMP has appointed Marshals for imposing penalty on people burning solid waste in the City. In this regard, each of the wards 1 junior health inspector has been appointed to manage solid waste by segregation of wet and dry wastes. There are more than 160 dry waste segregation centers established in BBMP limits to handle dry waste collected on day to day basis. BBMP has also established 7 waste processing plants for processing of wet waste to convert to compost. The burning of waste is mainly by general public and trouble mongers who lit fire on open garbage on streets. Measures have been taken up to catch hold of such persons and impose penalty with the help of Marshals.
	19	To create green buffer along the traffic corridor/ greening of open areas, developing gardens, greening in schools.	Mid	June -2019	BBMP	BBMP has independent forest & Horticulture department which looks after plantation of Avenue Trees and also development of parks. BBMP has developed so far nearly 1,400 parks (small, medium, large parks). In order to develop these new parks and maintain these parks BBMP spends nearly Rs. 40.00 Crores per annum.

						Further, from the forest department every year Nursery is being developed and Rs. 2.00 Crores per year is earmarked for Avenue Plantation and pruning of tree branches.
Other Air Pollution control measures	20	To create separate space/zone/ to handle solid waste , C&D waste and any other waste in all BBMP wards / BDA new layouts	Long	March 2020	BBMP	<p>Bruhat Bengaluru Mahanagara Palike has an area of 740 sqkm and present population of BBMP is nearly 1.25 crores. Bengaluru generates nearly 4,200 MT per day solid waste. Out of these 4,200 MT of waste nearly 600 MT of waste is sent to 7 waste processing plants. Further, nearly 500 MT of wastes is processed at M/s. MSGP. BBMP has also established nearly 160 dry waste collection centers and in these DWCC nearly 100 MT of dry waste is handled. The remaining waste of nearly 2500 MT is scientifically disposed at landfill sites.</p> <p>To manage the construction and demolition waste in BBMP, after due process of tenders the Government has accorded approval for setting up of 500 MT per day capacity C&amp;D Plant at Kannur. This plant will be set up by the Agency at his own cost within a period of next 6 months. The process of collection of C&amp;D waste from the City will be done by empanelment of agencies for collection of C&amp;D waste from house hold and major builders.</p>



	21	Prepare plan for widening of roads and improvement of infrastructure for decongestion of roads.	Long	March 2020	BBMP	<p>Bruhat Bengaluru Mahanagara Palike has already widened many of the roads since the year 2008. Among them are Bellary Road, Palace Road, Race Course Road, Sheshadri Road, Kasturba Road, Hosur Luskar Road, Mysore Road, Sankey Road, Dickenson Road etc. Further, BBMP has also taken up widening of Bannerghatta Road and Sarjapura Road at a cost of Rs. 242.00 Crores and these works are under progress.</p> <p>In order to develop the CBD Roads comprehensively by giving priority to pedestrians, cyclists, public transport and then to private transport, BBMP has implemented unique concept of road development involving all the aspects of urban road development called Tender SURE Project. In this project nearly 12 roads are completed at a cost of Rs. 200.00 Crores. One such road is Church Street wherein the road is primarily developed keeping in view the pedestrian safety. Similarly, other roads developed under Tender SURE are St. Marks Road, Commissariat Road, Museum Road, Residency Road, Richmond Road, Cunningham Road, Vittal Mallya Hospital Road, K.G.Road, Nrupatunga Road, Siddaiah Puranik Road, Modi Hospital Road. In the 2<sup>nd</sup> Phase and 3<sup>rd</sup> Phase BBMP has planned to take up another 42 roads development under Tender SURE Project at a cost of nearly Rs. 450.00 Crores.</p>
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					<p>Further, BBMP in order to make the traffic smooth and long life of the roads has made plans to construct White Topping Roads in BBMP area. This road has a life span of nearly 25 to 30 years and free from potholes. In the 1<sup>st</sup> phase of implementation out of 92 kms, nearly 25 kms has been white topped. The total project cost in the 1<sup>st</sup> Phase is nearly Rs. 600.00 Crores and nearly 29 roads will be white topped. In the 2<sup>nd</sup> Phase 42 roads are taken up for white topping at a project cost of Rs. 690.00 Crores and tenders are already finalized and work orders are issued. These works will be started soon and completed within a period of one year.</p> <p>BBMP so far as constructed nearly 11 Flyovers and 19 Underpasses in its jurisdiction. Further, BDA has constructed nearly 21 Flyovers and 6 Underpasses and the same are handed over to BBMP for maintenance purpose and the same are being maintained. BBMP also constructing Signal Free Corridors on Old Airport Road, Old Madras Road, Outer Ring Road. Many of the Grade Separators are being planned by BBMP. The work on 8 lane corridor at Okalipuram at a cost of Rs. 127.00 Crores is under progress. Similarly, Elevated Corridor of nearly 2.4 kms, is under construction on Inner Ring Road from Ejipura Junction up to Hosur Road via Sony World Junction and Water Tank Junction (Sarjapura Road Junction) at a cost of Rs. 214.00 Crores.</p>
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Other Air Pollution Control measures	22	Plant specific native species which are absorbing fine dust where the pollution levels are very high viz., Central Silk Board, Whitefield industrial area, Mysore road and other areas.	Long	March 2020	BBMP	BBMP has independent forest & Horticulture department which looks after plantation of Avenue Trees and also development of parks. BBMP has developed so far nearly 1,400 parks (small, medium, large parks). In order to develop these new parks and maintain these parks BBMP spends nearly Rs. 40.00 Crores per annum. Further, from the forest department every year Nursery is being developed and Rs. 2.00 Crores per year is earmarked for Avenue Plantation and pruning of tree branches.
Industrial pollution	23	KIADB to earmark adequate land in industrial areas surrounding Bangalore for the purpose of establishing truck terminals by the Department of Transport & Road safety Department.	Long	March 2020	KIADB	KIADB is earmarking and reserving 5% of the total industrial area for "Surface Parking" in all new industrial Areas developed/developing by KIADB. Details of Surface Parking Areas earmarked in new Industrial Areas of KIADB in Bangalore Metropolitan Region
Construction activity	24	Blacktopping of metalled roads including pavement of road shoulders	Long	It is a continuous program undertaken	BBMP	It is a continuous program and planned in a phased manner
	25	To increase the green cover by planting trees in Bangalore city where empty spaces are available on road sides, industrial premises, public parks, etc.	Mid	It is a continuous program undertaken	BBMP	It is a continuous program and planned in a phased manner

	26	To establish truck terminals on all major highways leading to Bengaluru in a phased manner.	Long	March 2020	BDA	The proposal is incorporating in BDA revised Master Plan-2031. In this regard, awaiting Government approval.
	27	To create separate bus bays in new proposed BBMP, BDA layout and Private layouts	Long	March 2020	BBMP	BBMP has created separate bus bays in Bengaluru city.
	28	To construct flyovers/under pass at congested / highly traffic intersection of BBMP area in phased manner.	Long	March 2020	BBMP	It is a continuous program and planned in a phased manner
	29	To create water fountains at traffic intersections like Upparpet Police stations, Corporation circle, M.G.Road, Cauvery bhavan, Vidhana Soudha, K.R.Circle, Majestic, Railway stations etc to reduce air pollution in traffic intersections and also give an aesthetic look to that place.	Mid	June -2019	BBMP	It is a continuous program and planned in a phased manner
Fuel Adulteration	30	Prevent and penalize adulteration of fuel with cheap oils and solvents.	Short	It is a continuous program and in progress	Food and Civil Supplies Department	The Department informed that, there is no adulteration of fuel found during 31 inspections. However, the inspections will be carried out regularly to check the adulteration and reviewed in the AQMC meetings.
	31	Gradually restrict sale of un-scientificallly reprocessed oil by the street vendors	Long	Mar-2020	Food and Civil Supplies Department	The Karnataka State Pollution Control Board through regular inspections ensure that, all the used oil generated is diverted to the registered reprocessing units under the Hazardous Waste Management Rules -2016. The Food



					and KSPCB	and Civil Supplies Department initiate the action against the street vendors selling un-scientificallly reprocessed oil through regular inspections.
<b>Fuel Adulteration</b>	32	Periodic check of all petrol bunks established in Urban and Rural Districts of Bangalore and initiate action against the violators.	Short	It is a continuous program and in progress	Food and Civil Supplies Department	The Department is conducting periodic checks in all petrol bunks.
<b>Construction activity</b>	33	To complete Metro Rail Route (Reach 2 & 3) as per schedule.	Long	Dec -2020	BMRCL	Bangalore Metro Rail route reach-2 & 3 will be completed as per the schedule.
	34	To sweep the street using mechanical suction vacuum cleaner, where the metro construction work is under progress and sprinkle water to suppress the dust emission	Short	It is a continuous program and in progress	BMRCL	Action has been take to sweep the street using Mechanical Suction vacuum cleaner and sprinkling of water to suppress the dust emission at metro construction work site.
	35	To remove the C & D waste that is already dumped in the lakes in phased manner (Ex.Kengeri and other lakes).	Short	It is a continuous program and in progress	BMRCL	Action has been taken to remove the C & D waste dumped in the Kengeri lake.



Vehicles	36	To phase out all BS-III vehicles and to increase BH –IV fleet size of Bangalore Metropolitan Transport Corporation gradually.	Mid	June -2019	BMTC	BMTC has a practice of scrapping the buses, which have covered 8.5 lakh kms or 11 years of operation (whichever is earlier). As per this practice all BS-III vehicles will be phased out which are eligible as per the norms. At present, BMTC is operating 3000 BS-III norm buses, the procurement of these buses was stopped during September-2011 onwards and only BS-IV norm buses are being procured and at present there are 3437 BS-IV norm buses in operation. All the BS-III norm buses will be scrapped in phased manner as and when they are eligible for scrapping.
	37	To increase the Bus service to all the satellite bus stands and last destination of BBMP area	Short	It is a continuous program and in progress	BMTC	<p>At present transport facilities are being provided to different parts of city and sub urban areas of Bangalore from important Bus Stations as per the demand and requirement of the public.</p> <p>BMTC operational jurisdiction is extended till 25kms from BBMP limits. The villages which comes under BMTC operational jurisdiction and roads which are suitable for the operation of heavy vehicles are been provided with the transport facility based on the demand and requirement.</p> <p>At present as on 06.04.2019 , BMTC is operating 1007 schedules with 15,715 trips to city area and 5186 schedules with 54,016 trips to sub urban areas totally 6193 schedules operating 69,731 trips and the present operated schedules/trips are as per the demand.</p>

						<p>Further, high traffic mobility places are being identified and transport facilities are being extended from important Bus stations and from other places which comes under the</p> <p>BMTC operational jurisdiction with a view to increase the modal shift to mass transport from personal mode of transportation. Thereby considerable decrease in the use of fossil fuels and to mitigate the air pollution.</p>
Vehicles	38	To carryout regular vehicular emission monitoring of KSRTC and BMTC buses and take corrective action for meeting the tail pipe emission standards.	Short	It is a continuous program and in progress	BMTC	At Present, BMTC buses are being subjected to emission check on a monthly basis, for which all the depots are equipped with computerized smoke emission testing facilities. In the event of any bus emitting smoke beyond the permissible limit, action is being taken at the depot level to withdraw the bus from operation for taking corrective measures.
	39	Induct electric buses in phased manner in Bangalore city.	Long	March 2020	BMTC	BMTC has invited Expression of Interest (EoI) on 8.3.2019, for 1500 Electric buses in phased manner over a period of five years and also installation of charging infrastructure required for 1500 electric buses for eventual transition to e-mobility in BMTC

Construction activity	40	To construct satellite bus stands at all National high ways leading to Bengaluru.	Long	Dec-2020	KSRTC	In order to reduce the traffic congestion in the heart of the city the KSRTC already established satellite bus stands at MCTC-Mysore Road, Basaveshwara bus station-Peenya and Shanthinagar bus station-Shanthinagar. Further it is very much essential to establish some more satellite bus stations at Hosur Road, Old Madras Road, Magadi Road, Nelamangala, Kanakapura Road as well as near Yelahanka- Bellary Hyderabad Road. The proposed lands for same are to be identified at traffic zones.
Source Apportionment Study	41	To conduct Source Apportionment Study of Bangalore (BBMP area).	Mid	June -2020	KSPCB	M/s CSTEP has entered the MoU with Department of Ecology and Environmental to carry out Inventerisation of sources and Source Apportionment Study of Bangalore city at an estimated cost of Rs 3.00 Crores . The Firm has started the work from March 2019
Public awareness	42	To carryout ambient air quality monitoring of air pollutants and publish the Air Quality Index (AQI) in the website and communicate the Air Quality Status to the line departments on regular basis.	Short	It is a continuous program and in progress	KSPCB	The Board has established 36 manual ambient air quality monitoring stations and 31 CAAQMS in Karnataka covering all Districts and calculating the AQI and publishing in Website of the Board , communicating the air quality status to line Departments . Also send the AQI through SMS to the all Departments
	43	Carryout regular monitoring of industries and initiate action against the defaulting industries.	On going	It is a continuous program and in progress	KSPCB	The Board is monitoring the industries as per the periodicity and taking action against defaulting industries



Other Air Pollution Control measures	44	To make an action plan to ensure round –the clock supply of electricity to 4 non – attainment cities in the State.	Long	June -2020	Dept of Energy	The Dept of Energy of GoK is assessing the power demand and supply in the State and initiating appropriate action in the matter.
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**Member Secretary**  
**Karnataka State Pollution Control Board**  


Encl: Reply to Annexure-I



### ANNEXURE-I

State : Karnataka

City : Bengaluru

SI No	Key component	Comments on the revised plans by CPCB	KSPCB's Reply
1	Air Quality Monitoring Network	Adequate	No action is required.
2	Source Identification	Major Sources identified except domestic fuel	The Department of Food and Civil Supplies, GoK has informed that, in Bengaluru city the supply of Kerosene to households through public distribution system is stopped and action initiated to supply LPG cylinders under the State and Central Government schemes. With this, the entire Bengaluru city is supplied with LPG.
3	Source Apportion (SA) and Emission Inventory	Included	No action is required
4	Action Points	<ul style="list-style-type: none"><li>• Prepare action plan for domestic fuel</li><li>• The plan provides general information for most of the action points and lacks specific action plan related to source group. The detail comments are at Annexure I(b)</li></ul>	<ul style="list-style-type: none"><li>• Same as at SI No.2</li><li>• The specific action plan related to source group as per the comments at Annexure I(b) has been prepared and incorporated in the action plan.</li></ul>
5	Long term strategy	<ul style="list-style-type: none"><li>• Included</li><li>• Timelines proposed for various actions (Up to two years)</li><li>• Specify defined time period for long/Mid/Short term</li></ul>	<ul style="list-style-type: none"><li>• Incorporated in the action plans</li><li>• Incorporated in the action plans</li></ul>

		measures	
6	Public Awareness and complaint redressal mechanism	Detail proposal to be worked out	As a part of public awareness following actions are initiated: 1. The Board is sending the Air Quality Index(AQI ) data to all heads of the State Government departments, Chief Secretary and CPCB through SMS on daily basis. 2. During World Environment Day-2019 extensive awareness programmes have been conducted by involving students, general public, NGOs, Industries and Government Departments on air pollution control. The programmes includes Cycle Jathas, Walkathan, Planting of saplings, Use of mass transport etc. 3. In the 2019-20 budget Rs.----earmarked for conducting awareness programmes. 4. Publishing Air Quality data in local News media and strengthening of complaint redressal Mechanism, conducting Awareness programme on urban pollution issues , the Board has allotted Rs. 5.00 lakhs to each non- attainment cities. 5. The complaints redressal system is established in the Board. A dedicated telephone bearing No. 080-25589114 is allotted to address the complaints.
7	Budget support	Provided	No action is required
8	Overall Recommendations	Not recommended	The revised action plans are submitted to accord approval.

  
**Member Secretary**  
**Karnataka State Pollution Control Board**

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# Air Quality Index (AQI) of Manual Ambient Air Quality Monitoring Stations in Bengaluru City for the month of April - 2019

Sl. No	Name of the Monitoring Stations	Monthly average values of Pollutants in $\mu\text{g}/\text{m}^3$					Sub Index					Check	Index Value	Category	Prominent Pollutant
		PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>				
1	Export Promotion Industrial Park, ITPL, White Field Road.	109	46	2	31	31	106	77	3	39	8	1	106	MODERATE	PM10
2	AMCO Batteries, Mysore Road	99	42	2	33	29	99	70	3	41	7	1	99	SATISFACTORY	PM10
3	Rail Wheel Factory, Yelahanka	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	Monitoring was not done	
4	Swan Silk Pvt. Ltd., Peenya Industrial Area	114	51	2	33	29	109	85	3	41	7	1	109	MODERATE	PM10
5	Victoria Hospital, K. R. Market	59	28	2	33	27	59	47	3	41	7	1	59	SATISFACTORY	PM10
6	Yeswanthapura Police Station, Yeswanthapura.	93	41	2	34	27	93	68	3	43	7	1	93	SATISFACTORY	PM10
7	TERRI Office Premises, Domlur.	80	35	2	33	30	80	58	3	41	8	1	80	SATISFACTORY	PM10
8	Central Silk Board, Hosur Road,	122	44	2	35	28	115	73	3	44	7	1	115	MODERATE	PM10
9	Mr. Madhachari's House, Kazissonnihalli.	98	40	2	31	24	98	67	3	39	6	1	98	SATISFACTORY	PM10
10	Urban Eco Park, KSPCB Office Premises, Peenya.	92	45	2	32	26	92	75	3	40	7	1	92	SATISFACTORY	PM10
11	Indhira Gandhi Children Health Care Centre.	68	32	2	31	25	68	53	3	39	6	1	68	SATISFACTORY	PM10
12	Banasawadi Police Station, Banasawadi	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	-*-	Monitoring was not done	
13	S.K.R Silver Jubilee Building, K. R. Circle.	38	-*-	2	24	29	38	-*-	3	30	7	1	38	GOOD	PM10

\* Concentrations of minimum three pollutants are required; one of them should be PM<sub>10</sub> or PM<sub>2.5</sub>

Note : -\*- Monitoring was not done

\* The check displays "1" when a non-zero value is entered

Sl. No.	Range	Category	Possible Health Impacts
1	0-50	Good	Minimal Impact
2	51-100	Satisfactory	Minor breathing discomfort to sensitive people
3	101-200	Moderate	May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease Children and older adults
4	201-300	Poor	May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease
5	301-400	Very Poor	May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases
6	> 401	Severe	May cause respiratory effects even on healthy people and serious health effect on people with lung/heart diseases

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Chief Scientific Officer - 1