



BUILDING URBAN RESILIENCE THROUGH SMART AIR QUALITY SOLUTIONS IN MANDALUYONG CITY

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Mandaluyong City Disaster Risk Reduction and Management Department





AIR QUALITY IS MORE THAN ENVIRONMENT



● ○ ○ ○ ○ ○ **A DENSE AND DYNAMIC URBAN ENVIRONMENT**



MANDALUYONG CITY



COMMERCIAL HUB



TRANSPORT CORRIDOR



**RAPIDLY GROWING
RESIDENTIAL CENTER**



**ONE OF METRO
MANILA'S DENSEST CITIES**



● ○ ○ ○ ○ ○ SOURCES OF URBAN AIR POLLUTION



VEHICULAR EMISSIONS



SECONDARY POLLUTANTS



INDUSTRIAL BY-PRODUCTS



CONSTRUCTION ACTIVITIES



URBAN HEAT EFFECTS





PUBLIC HEALTH IMPACTS



RESPIRATORY ILLNESS



HEALTHCARE BURDEN



VULNERABLE POPULATIONS AFFECTED



● ○ ○ ○ ○ MANDALUYONG'S APPROACH





MANDALUYONG'S APPROACH



HYDROMETEOROLOGICAL
MONITORING



SEISMIC MONITORING



FLOOD SURVEILLANCE



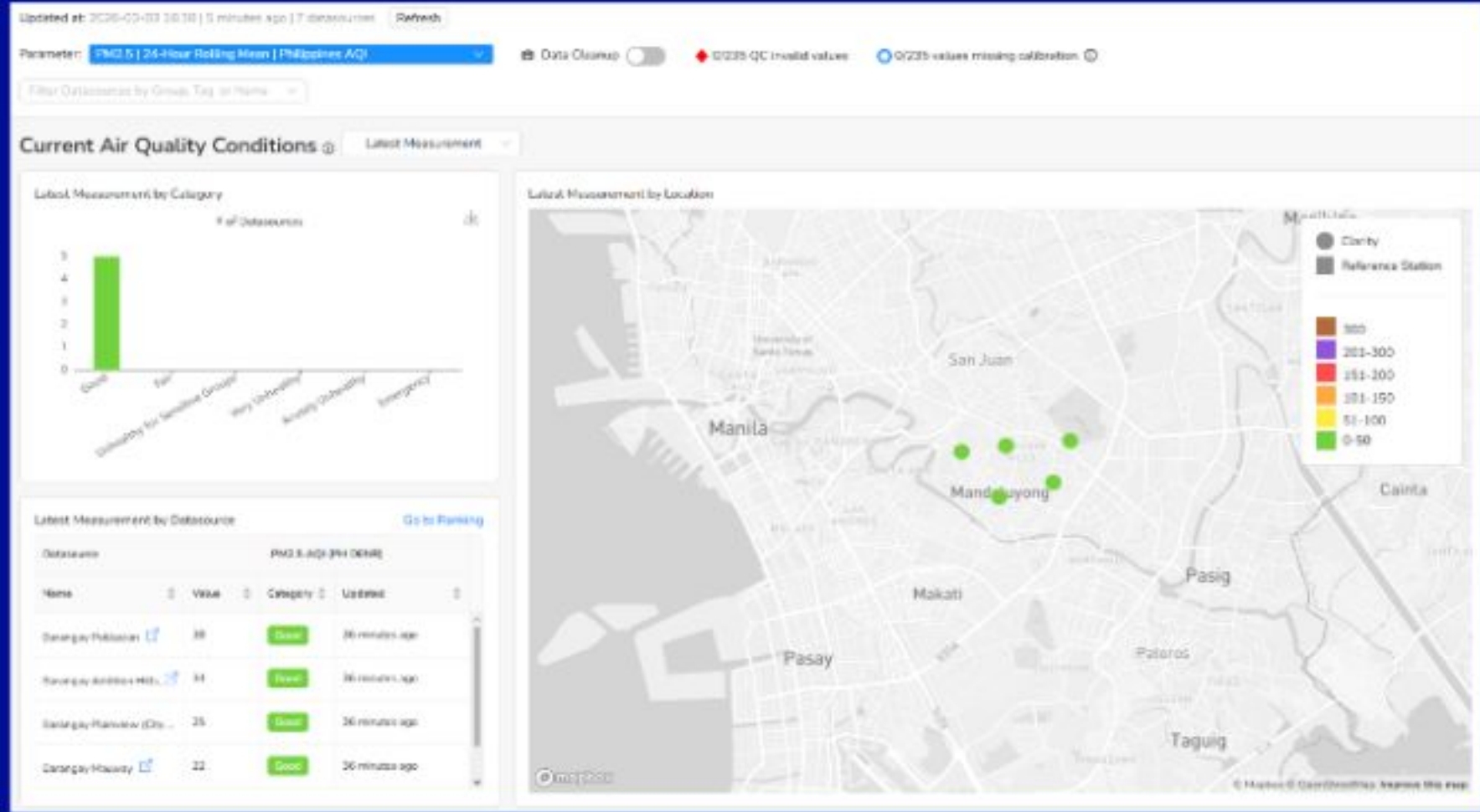
CCTV AND INCIDENT REPORTING SYSTEMS



AIR QUALITY SENSORS



MANDALUYONG'S APPROACH



EMERGENCY OPERATIONS CENTER

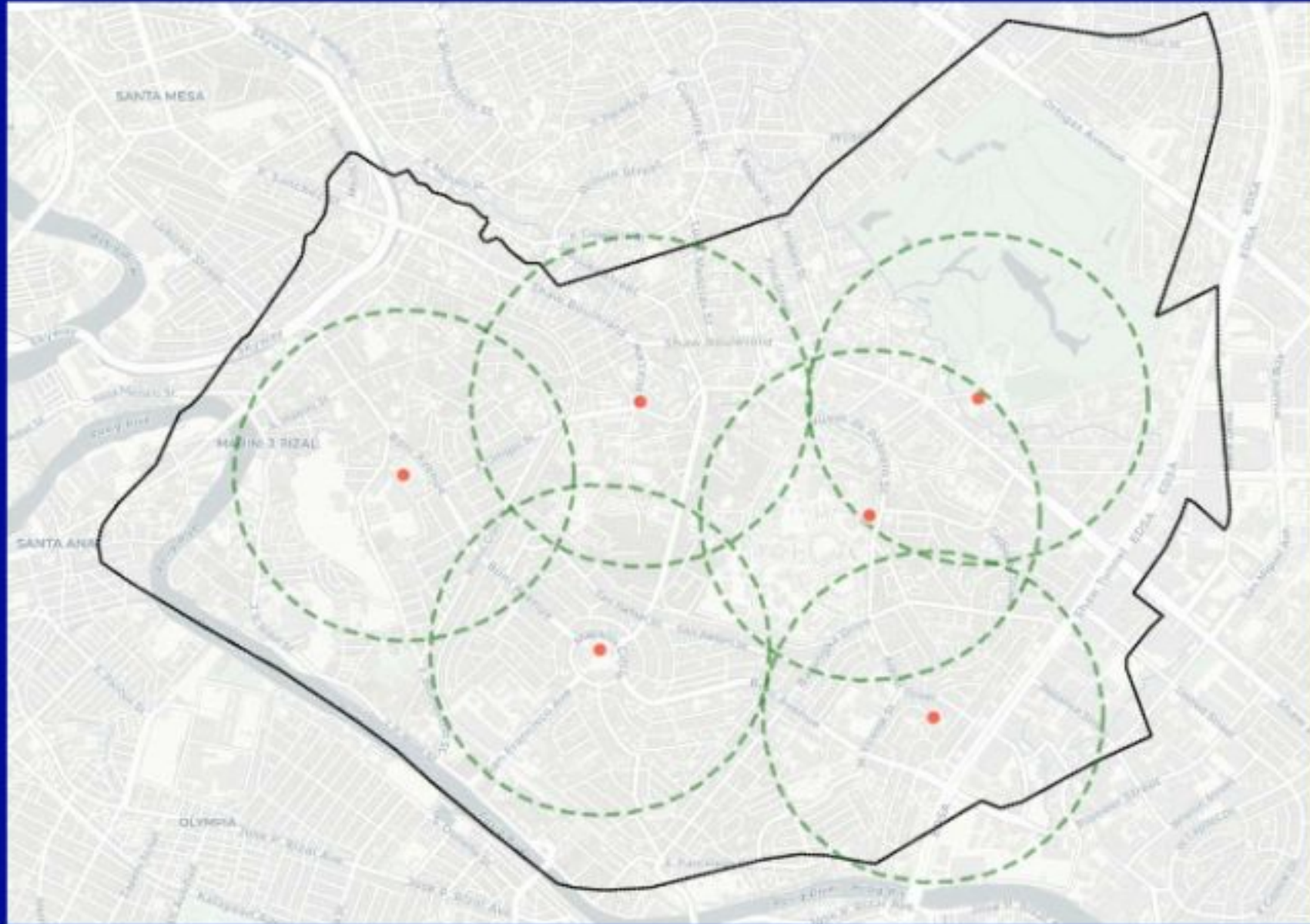


SMART SENSOR DEPLOYMENT



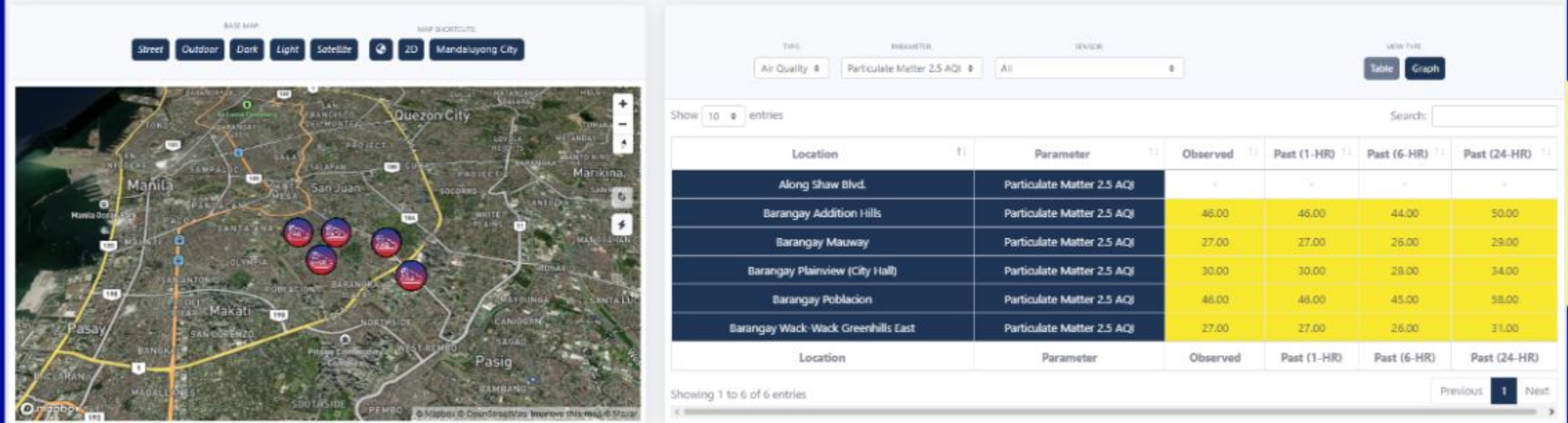


SMART SENSOR DEPLOYMENT



INTEGRATING AI AND ANALYTICS IN URBAN GOVERNANCE

Sensor Data Observation (As of March 6, 2026 at 1:15 PM)



**PROJECT
MENCHIE**



INTEGRATING AI AND ANALYTICS IN URBAN GOVERNANCE

Sensor Data Observation (As of March 6, 2026 at 1:15 PM)



Legend

TYPE: Air Quality | PARAMETER: All | SENSOR: All | VIEW TYPE: Table | Graph

Show 10 entries | Search:

Location	Parameter	Observed	Past (1-HR)	Past (6-HR)	Past (24-HR)
Barangay Addition Hills	Internal Dewpoint	23.70 °C	23.73 °C	23.17 °C	22.72 °C
Barangay Addition Hills	Internal Heat Index	40.59 °C	40.75 °C	36.84 °C	34.43 °C
Barangay Addition Hills	Internal Humidity	54.31 %	54.15 %	60.48 %	64.44 %
Barangay Addition Hills	Internal Temperature	34.27 °C	34.36 °C	31.87 °C	30.35 °C
Barangay Addition Hills	Nitrogen Dioxide AQI	41.00	40.00	40.00	41.00
Barangay Addition Hills	Particulate Matter 10 AQI	54.00	53.00	53.00	54.00
Barangay Addition Hills	Particulate Matter 2.5 AQI	46.00	46.00	44.00	50.00
Barangay Mauway	Internal Dewpoint	23.30 °C	23.42 °C	23.03 °C	22.45 °C
Barangay Mauway	Internal Heat Index	39.66 °C	40.62 °C	37.58 °C	34.57 °C
Barangay Mauway	Internal Humidity	54.05 %	52.58 %	57.68 %	62.62 %
Barangay Mauway	Internal Temperature	33.93 °C	34.56 °C	32.55 °C	30.62 °C
Barangay Mauway	Nitrogen Dioxide AQI	44.00	44.00	43.00	45.00
Barangay Mauway	Particulate Matter 10 AQI	29.00	29.00	27.00	30.00
Barangay Mauway	Particulate Matter 2.5 AQI	27.00	27.00	26.00	29.00
Barangay Plainview (City Hall)	Internal Dewpoint	23.42 °C	23.44 °C	22.98 °C	22.29 °C



PROJECT
MENCHIE





AIR QUALITY IN GOVERNANCE DECISIONS

Mandaluyong City Disaster Risk Reduction and Management Department
January 1 · 🌐

Mandaluyong City Air Quality Index Update
As of 5:00 AM, January 1, 2026



AIR QUALITY ADVISORY

MANDALUYONG CITY IS CURRENTLY EXPERIENCING POOR AIR QUALITY. FOR THE HEALTH AND SAFETY OF SENSITIVE GROUPS, SUCH AS CHILDREN, THE ELDERLY, AND THOSE WITH RESPIRATORY OR HEART CONDITIONS, IT IS HIGHLY RECOMMENDED TO WEAR FACE MASKS, ESPECIALLY IF YOU ARE OUTDOORS. AVOID STRENUOUS ACTIVITIES AND LIMIT YOUR EXPOSURE TO THE POLLUTED AIR.

STAY PREPARED AND STAY SAFE! 

Disclaimer: The air quality data shown uses Non-Reference Method for indicative measurement of ambient air quality.



Deorella Manio and 67 others · 1 comment · 28 shares

Like · Comment · Share



MANDALUYONG CITY AIR QUALITY POLICIES



Republika ng Pilipinas
SANGGUNIANG PANLUNGSOD
Lungsod ng Mandaluyong

ORDINANCE NO. 251, S-2003

**AN ORDINANCE PENALIZING SMOKE BELCHING VEHICLES
PLYING WITHIN THE TERRITORIAL JURISDICTION
OF THE CITY OF MANDALUYONG**

WHEREAS, it is a declared policy of the state to provide for a comprehensive management program for the control and prevention of air pollution;

WHEREAS, it is a declared principle of the state to promote and protect the global environment to attain sustainable development while recognizing the primary responsibility of local government units to deal with environmental problems;

WHEREAS, the City Government of Mandaluyong believes that a clean and healthy environment is for the good of all and should therefore be the concern of all;

WHEREAS, the City Government also recognizes the principle that "Polluters must Pay";

NOW, THEREFORE, be it ordained by the Sangguniang Panlungsod of Mandaluyong in session assembled;

SECTION 1. TITLE. This Ordinance shall be known as "An Ordinance penalizing smoke belching vehicles plying within the territorial jurisdiction of the City of Mandaluyong".

SECTION 2. SCOPE. All vehicles emitting thick black smoke are covered by this Ordinance. Thick black smoke in this regard shall mean to be that as provided or included in Rule XXXI of the Implementing Rules and Regulations of Republic Act 8749.

SECTION 3. PENALTIES. Violators will be penalized as follows:

FIRST OFFENSE	P 1,000.00
SECOND OFFENSE	P 2,000.00
THIRD OFFENSE	P 3,000.00

and recommendation for the suspension and re-issuance of the registration of the Motor Vehicle Registration 30/10.

SECTION 4. EFFECTIVITY. This Ordinance shall take effect immediately upon approval.

ENACTED on this 29th day of January 2003 in the City of Mandaluyong.

I HEREBY CERTIFY THAT THE FOREGOING ORDINANCE
WAS ENACTED AND APPROVED BY THE SANGGUNIANG
PANLUNGSOD OF MANDALUYONG IN REGULAR SESSION
HELD ON THE DATE AND IN THE MANNER ABOVE SAID.

ARMY D. GACAYAN
Sangguniang Panlungsod

ATTEST:

JESUS C. CRUZ
City Vice Mayor &
Presiding Officer

ATTEST:

BENJAMIN C. ABALOS, JR.
CITY CLERK
Date: FEB 14 2003



Republic of the Philippines
SANGGUNIANG PANLUNGSOD
City of Mandaluyong

ORDINANCE NO. 467, S-2011

**ORDINANCE REGULATING SMOKING IN PUBLIC PLACES, INCLUDING
PUBLIC CONVEYANCES, ADVERTISEMENTS, PROMOTIONS
AND SPONSORSHIPS OF TOBACCO PRODUCTS,
AND PROVIDING PENALTIES FOR VIOLATION THEREOF**

WHEREAS, the Tobacco Regulation Act of 2003 (Republic Act 9211) recognizes the need for a balanced policy in the regulation and use of tobacco products that takes into account the need for both a healthful environment and the protection of citizens from the hazards of tobacco smoke, and at the same time to ensure that the interests of tobacco farmers, growers, workers and other stakeholders are not adversely compromised;

WHEREAS, Section 39 of Republic Act 9211 also provides that all other laws, ordinances, decrees, administrative orders, rules and regulations that are inconsistent with the TRA 2003 are repealed or amended accordingly;

WHEREAS, Title VI, Rule II, Section 2 of the Implementing Rules of Republic Act 9211 empowers city and municipal mayors, building officials, and members of the Philippine National Police to take the necessary steps to assure full compliance with the provisions of the law;

WHEREAS, in order to fully protect the health and welfare of citizens of the City of Mandaluyong and at the same time safeguard the interests of other stakeholders, there is a need to enact a local ordinance regulating smoking in public places and conveyances, advertising, promotion and sponsorships activities, in harmony with the basic policies and regulations laid down under Republic Act 9211;

THUS, this Ordinance!

BE IT ORDAINED, by the Sangguniang Panlungsod, City of Mandaluyong, in session assembled:

SECTION 1. DEFINITION OF TERMS. As used in this Ordinance, the following shall be understood:

1. **ADVERTISEMENT** - refers to any visual and/or audible message disseminated to the public about or on particular product that promote and give publicity by words, designs, images or any other means through broadcast, electronic, print or whatever form of mass media, including outdoor advertisements, such as, but not limited to, signs and billboards. For the purpose of this ordinance, advertisement shall be understood as tobacco advertisement.

2. **ADVERTISING** - refers to the business of contemplating, presenting, making available and communicating to the public, through any form of mass media, any fact, data or information about the attributes, features, quality or availability of consumer products, services or credit. For purposes of this ordinance, advertising shall be understood as tobacco advertising. This shall specifically refer to messages and images promoting smoking, the purchase or use of cigarettes or tobacco products, and cigarette or tobacco trademarks, brand names, design and manufacturer's names.



Republic of the Philippines
SANGGUNIANG PANLUNGSOD
City of Mandaluyong

ORDINANCE NO. 396, S-2008

**AN ORDINANCE ENACTING THE CITY OF MANDALUYONG
VEHICLE EMISSION CONTROL CODE AND PROVIDING
PENALTY FOR VIOLATION THEREOF**

BE IT ENACTED, as it is hereby ENACTED by the Sangguniang Panlungsod of Mandaluyong, by virtue of the powers vested in it by law, in session assembled, that:

ARTICLE I GENERAL PROVISIONS

SECTION 1. This Ordinance shall be known as the "Mandaluyong City Vehicle Emission Control Code"

ARTICLE II DEFINITION OF TERMS

SECTION 2. DEFINITION OF TERMS. As used in this Ordinance, the following terms shall mean and defined as follows:

1. **AIR POLLUTANT** - means any matter found in the atmosphere other than oxygen, nitrogen, water vapor, carbon dioxide and other inert gases in their natural or normal concentrations, that is detrimental to health or the environment, which includes but not limited to smoke, dust, soot, oxides, fly ash, solid particles of any kind, gases, fumes, chemical mist, steam and radio active substances.
2. **AIR POLLUTION** - means any alteration of the physical, chemical and biological properties of the atmospheric air, or any discharge thereof of any liquid, gaseous or solid substances that will or is likely to create or to render the air respirable of the country harmful, detrimental, or injurious to public health, safety or welfare or which will adversely affect their utilization for domestic, commercial, industrial, agricultural, recreational or other legitimate purposes.
3. **EMISSION** - means any air contaminant, pollutant gas stream which passed into the atmosphere.
4. **MOTOR VEHICLE** - means any vehicle propelled by or through combustion of carbon-based or other fuel, constructed and operated principally for conveyance of persons or the transportation of property or goods.
5. **MOTORCYCLE** - refers to any two-wheeled motor vehicle with at least one headlight, taillight and spotlight, and one or more saddle seats. For purposes of these rules, motorcycle shall include those with attached cars also known as "tricycles".



Republic of the Philippines
SANGGUNIANG PANLUNGSOD
Lungsod ng Mandaluyong

ORDINANCE NO. 247, S-2003

**AN ORDINANCE BANNING SMOKING IN THE CITY OF
MANDALUYONG AND PROVIDING PENALTY FOR
VIOLATION THEREOF**

BE IT ENACTED, by the Sangguniang Panlungsod of Mandaluyong, by virtue of the powers vested in it by law, in session assembled that:

SECTION 1. TITLE. This Ordinance shall be known as the "ANTI-SMOKING ORDINANCE OF MANDALUYONG"

SECTION 2. DEFINITION OF TERMS. As used in this Ordinance, the following terms shall have the meanings ascribed to them in this section, unless the context of their usage indicates another meaning:

1. **CIGARETTE** - roll of finely cut leaf tobacco, or any substitute thereof, wrapped in paper or any other material.
2. **CIGAR** - a small roll of tobacco leaves prepared for smoking.
3. **PUBLIC CONVEYANCE** - mode of transport serving the general population, such as, but not limited to, elevators, escalators, lifts, jeeps, buses, light railway trains, trams, trolleys and other similar vehicles.
4. **ENCLOSED PUBLIC PLACE** - refers to a building or any other enclosed structure, whether government or privately owned, that is open to the public for general inclusion or admission, such as but not limited to private workplaces, offices, schools, hospitals, medical clinics, department stores, malls, markets, supermarkets, restaurants, bars, clubs, nightclubs, lounges, cocktail rooms, auditoriums, private clubs, tennis courts, but not airport terminals, elevators, lobbies, corridors, staircases, courtyards, greenery areas, ship terminals and other similar places where smoking may expose a person other than the smoker to tobacco smoke.

The imposition of an entry fee, use charge, membership requirement or other condition of entry to an enclosed area shall not prevent its constitution as a public place, provided that admission is granted on a uniform basis to persons who meet the established criteria for use or admission.

5. **SMOKING** - the act of conveying a lighted cigarette, cigar or a pipe whether or not it is being inhaled or smoked.

6. **DEDICATED SMOKING AREA** - refers to an indoor area where smoking is allowed, physically separated from the declared "no-smoking" area, equipped with effective and strong ventilation so that smoke emanating therefrom does not drift, permeate, or re-circulate into the "no-smoking" area. No ventilation floor-to-ceiling walls which are interrupted only by doors which must be constantly closed except during ingress or egress.

4



CHALLENGES



**HIGH TRAFFIC VOLUME
(VEHICULAR EMISSIONS)**



**LIMITED PUBLIC AWARENESS
ON AIR POLLUTION IMPACTS**



**DENSE URBAN DEVELOPMENT
AND LIMITED OPEN SPACES**





STRATEGIC DIRECTION FORWARD



**EXPANDED
SENSOR NETWORK**



**STRENGTHENED AIR QUALITY
POLICY ENFORCEMENT**



**INCREASED PUBLIC AWARENESS AND
ENVIRONMENTAL EDUCATION**



**ENHANCED PREDICTIVE ANALYTICS
FOR POLLUTION FORECASTING**





Thank
you!

