



Republic of the Philippines  
**QUEZON CITY COUNCIL**  
Quezon City  
17<sup>th</sup> City Council

PO2007-39

40<sup>th</sup> Regular Session

ORDINANCE No. **1906**, S-2008

**AN ORDINANCE CREATING AND ADOPTING GUIDELINES AND PROCEDURES ON ANTI-SMOKE BELCHING FOR MOTOR VEHICLES IN QUEZON CITY.**

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Introduced by Councilors DOROTHY A. DELARMENTE, ANTONIO E. INTON, JR., WINSTON "Winnie" T. CASTELO, JORGE B. BANAL, JR., EDEN "Candy" A. MEDINA, JAIME F. BORRES, EDCEL B. LAGMAN, JR. and DANTE M. DE GUZMAN.

Co-Introduced by Councilors Francisco A. Calalay Jr., Bernadette Herrera-Dy, Victor V. Ferrer, Jr., Joseph P. Juico, Ricardo T. Belmonte, Jr., Ramon P. Medalla, Allan Butch T. Francisco, Voltaire Godofredo L. Liban III, Aiko S. Melendez, Franz S. Pumaren, Wencerom Benedict C. Lagumbay, Diorella Maria G. Sotto, Janet M. Malaya, Vincent DG. Belmonte, Concepcion S. Malangen and Alexis Grace R. Matias.

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WHEREAS, the deterioration of air quality and the increased levels of air pollution brought about by the growing number of motor vehicles are threatening the well being of the City dwellers and the detrimental effects of these pollutants have adverse impacts on the environment and the quality of life of the constituency;

WHEREAS, fuel emissions from buses, jeepneys, cars, utility vehicles and trucks emitting visible smoke are recognized as the largest contributor to urban air pollutions and stands out as the most serious and pressing environmental problem of the City;

WHEREAS, the harmful particulate matters and toxic fumes emitted into the air by these vehicles once inhaled and entered into the respiratory system can bring about a number of symptoms, such as eye and throat irritation, coughing, dizziness, shortness of breathing, chest pains, allergies and respiratory distress, in which long-term exposure to the same can eventually lead to more serious disorders such as bronchitis, sinusitis, chronic pulmonary diseases, high blood pressure, emphysema, lung cancer and heart ailments;

WHEREAS, there is now a need for the City to set standards for a comprehensive policy and program for air quality management and prevention and control of air pollution in order to achieve and maintain healthy ambient air quality for all;

WHEREAS, Section 36 of Republic Act No. 8749, otherwise known as the Philippine Clean Air Act of 1999, states that "LGU's share the responsibility in the management and maintenance of air quality within their territorial jurisdiction";

WHEREAS, Section 16 of Republic Act No. 7160, otherwise known as the Local Government Code of 1991, specifically grants the LGUs the power to promote the general welfare of the people by ensuing and supporting, among other things, promotion of health and safety and enhancement of the right of the people to a balanced ecology;

WHEREAS, Section 17(4)(e) of Republic Act No. 7160 states that "national agencies or offices concerned shall devolve to local government units the responsibility for the provision of basic services and facilities enumerated in this section x x x";

WHEREAS, Section 17(3)(iii) of Republic Act No. 7160 further states that such basic services and facilities includes, but not limited to the protection of the environment;

WHEREAS, Section 458(1) of Republic Act No. 7160 still further states that the City Council shall enact ordinances to protect the environment and impose appropriate penalties for acts which endanger the environment and such other activities that result to pollution or ecological imbalance;

NOW THEREFORE,

BE IT ORDAINED BY THE CITY COUNCIL OF QUEZON CITY IN REGULAR SESSION ASSEMBLED:

SECTION 1. TITLE - This Ordinance shall be known and referred to as "ANTI - SMOKE BELCHING GUIDELINES AND PROCEDURES FOR MOTOR VEHICLES IN QUEZON CITY."

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

- A. *Air-Pollution* - refers to any alteration of the physical, chemical and biological properties of the atmospheric air or any discharge thereto of any liquid, gaseous or solid substance that will or is likely to create or to render the air resources 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 purpose;
- B. *Ambient Air Quality* – means the general amount of pollution present in a broad area and refers to the atmosphere's average purity as distinguished from discharge measurements taken at the source of pollution;
- C. *ASBU* – refers to the Anti-Smoke Belching Unit of the Environmental Protection and Waste Management Department (EPWMD);
- D. *CAA* – refers to the Clean Air Act of 1999;
- E. *Compression Ignition Engine* – refers to an internal combustion engine in which atomized fuel temperature is raised through compression, resulting in ignition, e.g. diesel engines;
- F. *Emission* - refers to any measurable air contaminant, pollutant, gas stream or unwanted sound from known source which is passed to the atmosphere;
- G. *EPWMD* – refers to the Environmental Protection and Waste Management Department;
- H. *In-use Vehicle* – refers to a motor vehicle duly registered with the LTO;

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- I. *Motorcycle - refers to any two-wheeled motor vehicle with at least one headlight, taillight and stoplight and one or more saddle seats. For purposes of these rules, motorcycles shall include motorcycle with attached cars also known as "tricycles";*
  
- J. *Motor Vehicle - refers to any vehicle propelled by a gasoline or diesel engine or by any other means other than human or animal power constructed and operated principally for the conveyance of persons or transportation of goods in a public highway or street open to public use*
  
- K. *Motor Vehicle Registration (MVR) - refers to the official recording of motor vehicle by the Land Transportation Office (LTO) subject to the conformance of the vehicle to the safety and emission standards provided under Section 21 of Republic Act No. 8749 or the Clean Air Act, including the pre-evaluation of the documents/requirements pursuant to Section 5 of Republic Act No. 4136 as amended, otherwise known as the Land Transportation Code;*
  
- L. *Opacity - refers to the amount of light obscured by particle pollution in the atmosphere;*
  
- M. *Operator - refers to a person or entity that manages a transport business but not necessarily a vehicle owner;*
  
- N. *OVR - refers to the Ordinance Violation Receipt;*
  
- O. *Owner - refers to the person or entity identified as the motor vehicle owner in the motor vehicle registration or by a valid deed of sale;*
  
- P. *Particulate Matter - refers to any material other than uncombined water which exists in a finely divided form as a solid or liquid;*

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- Q. *Reference Weight* – refers to the weight of the vehicle in running order with a full fuel tank and including the set of tools and spare wheel, plus 100 kilograms but does not include the weight of the passengers and driver;
- R. *Smoke Capacity Meter (or Opacimeter)* – refers to an instrument which determines the smoke opacity in exhaust gases emitted by the engine system;
- S. *Spark-Ignition Engine* – refers to an internal combustion engine in which the air/fuel mixture is ignited by spark plug, e.g., a gasoline engine;
- T. *Toxic Fumes* – refers to any emission and fumes which do not conform to internationally-accepted standards, including but not limited to World Health Organization (WHO) guideline values;
- U. *Type Approval* – refers to the official ratification of the compliance of a vehicle type with applicable national or international regulations.

**SECTION 3. APPLICABILITY** – The Ordinance shall be made applicable within the entire territory and jurisdiction of Quezon City and shall be enforced and implemented by the Anti-Smoke Belching Unit (ASBU) of the Pollution Control Division of EPWMD.

**SECTION 4. INSTITUTIONAL ARRANGEMENTS** – As an enforcement unit, ASBU shall be manned by competent personnel that meet the government set qualification standards. They shall be properly trained by duly-deputized ASBU training staff on CAA-consistent roadside apprehension and other anti smoke belching procedures, and shall be equipped with CAA-compliant smoke opacity meters. The program shall include training in the correct use, maintenance and calibration of smoke-testing equipment. No individual shall be deputized without satisfactorily completing the training.

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**SECTION 5. EMISSION STANDARDS FOR MOTOR VEHICLES** - The EPWMD shall implement the emission standards for motor vehicles pursuant to and as provided in Republic Act No. 8749. To further improve the standards, the EPWMD, in coordination with the DENR, shall review, revise and publish the standards every two (2) years, or as the need arises, it shall consider the maximum limits for all major pollutants to ensure substantial improvement in air quality for the health, safety and welfare of the general public. The following standards for the different types of motor vehicles shall be applied:

**a. FOR VEHICLES WITH COMPRESSION-IGNITION ENGINES:  
 (Diesel Engines)**

	Naturally-Aspirated	Turbo Charged	1,000 m increase in elevation
Registered for the first time on or before December 31, 2002	2.5	3.5	4.5
Registered for the first time on or After January 1, 2003 but before January 1, 2008	2.5	3.5	4.5
Registered for the first time After December 31, 2007	2.0	3.5	4.5

Opacity under free acceleration should not exceed the approved level by more than  $0.5 \text{ m}^{-1}$  light absorption coefficient.

**b. FOR VEHICLES WITH SPARK-IGNITION ENGINES:  
 (Gasoline Engines) Except Motorcycles**

Vehicle Category	CO (% by Volume)	HPC (ppm as hexane)
Registered for the first time on or before December 31, 2002	4.5	800
Registered for the first time on or After January 1, 2003 but before January 1, 2008	3.5	600
Registered for the first time After December 31, 2007 At low idle at High idle (rpm>2,500)	0.5 0.3 ( $\lambda=1\pm 0.03$ )*	250

\*Or in accordance with manufacturer's specification.

**c. FOR MOTORCYCLES WITH 4-STROKE ENGINES:**

Reference Weight R(1) (kg)	CO (G/KM)		HC (g/km)	
	Type Approval	Conformity of Production	Type Approval	Conformity of Production
<100	17.5	21	4.2	8
100-300	$(17.5+17.5(R-100)/200)$	$(21+21(R-100)/100)$	$(4.2+1.8)(R-100)$	$(6+2.4)(R-100)/200)$
>300	35	42	8	9.4

Note: Reference Weight (R) = Motorcycle Weight + 75 kg.

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**d. FOR MOTORCYCLES WITH 2-STROKE ENGINES:**

Reference Weight R(1)(kg)	CO (g/km)		HC (g/km)	
	Type Approval	Conformity of Production	Type Approval	Conformity of Production
<100	12.8	16	8	10.4
100-300	$12.8 + 19.2(R/100)/200$	$(16+24)(R-100)/200$	$(8+4)(R-100)$	$(10.4+6.4)(R-100)/100$
>300	32	40	12	18.8

Note; Reference Weight (R) = Motorcycle Weight + 75 kg.

CO emission for motorcycles at idle registered for the first time on or before December 31, 2002 shall not exceed 6.0%

CO emission for motorcycles at idle registered for the first time after December 31, 2002 shall not exceed 4.5%

**e. FOR MOPEDS:**

Vehicle Type	2-Wheeled		3-Wheeled	
	CO g/km	HC g/km	CO g/km	HC g/km
Licensing	8.0	5.0	15.0	10.0
Production	9.6	6.5	18.0	13.0

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(Mopeds are vehicles of less than 400 kgs. And equipped with an engine having a cylinder capacity of less than 50 cubic centimeters).

CO emissions for all types of Mopeds at idle shall not exceed 6%

**SECTION 6. SITE LOCATION FOR THE CITY IN-HOUSE EMISSION CENTER** – The designated site for the City In-House Emission Center shall be determined by the City General Services Office upon the recommendation of the EPWMD. The operation of the in-house emission center may be replicated by opening future sites at every congressional district of the City.

**SECTION 7. EMISSION TEST FOR ALL PUBLIC UTILITY VEHICLES PRIOR TO REGISTRATION** - All public utility vehicles (PUV's) such as, but not limited to, public utility buses (PUB's), public utility jeepneys (PUJ's), owned and/or operated by organized transport groups whose terminals and garages are located within the territorial jurisdiction of Quezon City, shall be required to undergo emission tests to any accredited testing centers as a requisite to the issuance of an environmental clearance and for renewal of annual vehicle registration with the Land Transportation Office (LTO). Upon request, emission tests can be conducted by ASBU at the respective garage terminals of the organized transport groups. As a DOTC/DTI-accredited and authorized emission testing agency, ASBU test results shall be deemed official and executory. Public utility vehicles that failed to meet the emission standards must undergo necessary repairs at any accredited repair shop of choice.

**SECTION 8. FREE CALIBRATION TEST FOR IN-USE COMPRESSION-IGNITION MOTOR VEHICLES** – The test is a smoke opacity measurement for in-use motor vehicles equipped with compression-ignition engines, using the free acceleration from low idle speed method.

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**8a. MOTOR VEHICLE TEST CONDITION:**

8a.1. The test shall be carried out on a stationary vehicle and the engine shall be the first brought to normal operating conditions during a road run or dynamic test. In particular, cooling water and oil should be at normal temperature.

8a.2. The combustion chamber should not have been cooled or fouled due to prolonged period of idling preceding the test.

8a.3. The exhaust system shall not have any orifice or leaks wherein gases emitted by the engine might be diluted.

8b. **TEST EQUIPMENT** - The light-absorption coefficient of the exhaust gases shall be measured with a Smoke Opacity Meter (Opacimeter) satisfying the conditions laid down in ECE Regulation No. 2, Revision 2E/ECE/TRANS 505. Rev 2, Annex 8: Characteristics of the Opacimeter.

**8c. TEST PROCEDURE AND SMOKE OPACITY MEASUREMENT:**

8c.1. Follow the Opacimeter manufacturer's instruction on the proper installation, operations/use and checking the accuracy and calibration before and after each test;

8c.2. Set the vehicle gear-change control in the neutral position and the hand-brake effectively engaged;

8c.3. Start the engine and warm it up to its normal operating temperature;

8c.4. Accelerate the engine two (2) to three (3) times prior to smoke sampling in order to remove deposits of soot and other carbon particles in the tail pipe;

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8c.5. With the engine idling, depress the acceleration quickly, but not violently to obtain maximum delivery from the injection pump. Maintain this position until maximum engine speed is reached for about two (2) to four (4) seconds and the governor comes into action. As soon as this speed is reached, release the accelerator until the engine resumes its idling speed. Record the maximum reading of the smoke meter;

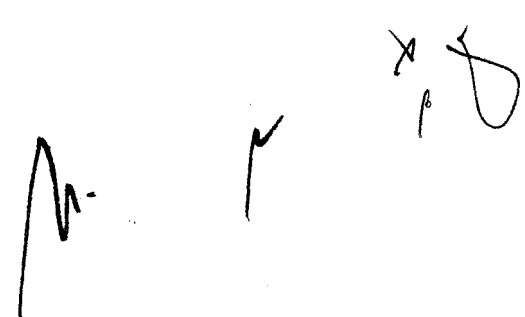
8c.6. The operation described in paragraph 8c.5 shall be repeated not less than six (6) times in order to clear the exhaust system and to allow for any necessary adjustment of the apparatus.

The maximum opacity values read in consecutive readings are within a hand width of  $0.25 \text{ m}^{-1}$  and do not form a decreasing sequence. The arithmetic mean of the four (4) stabilized values shall be the test result for the concerned vehicle;

8c.7. For motor vehicles designed with several exhaust outlets that are individually connected from paired exhaust ports, the free acceleration test shall be carried out on each outlet. In this case, the values used for calculating the correction to the absorption coefficient shall be arithmetical mean values recorded at each outlet and the test shall be valid only if the extreme values do not differ by more than 0.15-1.

For more vehicles designed with several exhaust outlets connected from one (1) exhaust pipe coming from the engine's exhaust manifold collector, the free acceleration test shall be carried out only on one exhaust outlet, the other outlets effectively blocked to prevent leaks.

SECTION 9. EMISSION TEST PROCEDURE FOR IN-USE VEHICLES EQUIPPED WITH SPARK IGNITION ENGINES - The test procedure is for the determination of the concentration of exhaust carbon monoxide (CO) and hydrocarbon (HC) emissions from in-use motor vehicles equipped with spark ignition engines running at idle speed.



9a. TEST EQUIPMENT (Reference: ISO-3930)

9a.1. Carbon Monoxide Analyzer – A NDIR (Non-Dispersive Infra-red) CO Exhaust Gas Analyzer;

9a.2. Hydrocarbon Analyzer - A NDIR HC Exhaust Gas Analyzer, HC as hexane (C<sub>6</sub>H<sub>14</sub>);

9a.3. Tachometer – an easily-installed and operated tachometer to measure engine speed (RPM).

9b. VEHICLE PREPARATION

9b.1. Set the vehicle transmission at neutral with the hand-brake engaged;

9b.2. With the accelerator in the rest position, make sure that the idling speed or the engine rpm conforms with the vehicle manufacturer's recommendation;

9b.3. All accessories like rear window heating, air-conditioning system, air fan and other equipment necessary for the vehicle operation at idle should be switched-off;

9b.4. Check that the temperature of the engine is at least 70°C; otherwise run the vehicle for at least 15 minutes on a normal road before testing;

9b.5. Ensure that the vehicle exhaust system of the engine is reasonably leak proof and will allow the insertion of the sampling probe by at least 30 cm. from the tailpipe outlet. If this is not possible due to tailpipe configuration, use the appropriate correction factor;

9c. MEASUREMENT

9c.1. Immediately preceding the instrument, adjust the instrument to zero and accelerate the engine to about 2,500 rpm, using the tachometer, if available. Maintain this speed from ten (10) to fifteen (15) seconds, then release the pedal to return the engine at idle speed;

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9c.2. While the engine idles, insert the sampling probe into the exhaust pipe as deeply as possible which shall not be less than 30 cm. Wait for twenty (20) seconds and take the ACO/HC reading;

9c.3. If the vehicle has multiple exhaust outlets, the arithmetic average of the aco/hc readings in each exhaust outlet is taken as the final result;

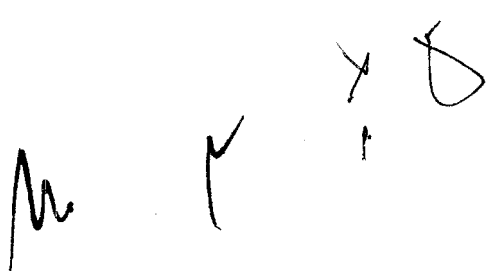
**SECTION 10. ROADSIDE INSPECTION OF MOTOR VEHICLES AND APPREHENSION PROCEDURE:**

10a. Any vehicle suspected of violation of emission standards through visual manifestations while operating in any public highway of the City shall be flagged down by the apprehending crew of the Anti-Smoke Belching Unit (ASBU) of the EPWMD;

10b. The apprehending crew shall conduct an emission test of the vehicle using a portable Smoke Opacity Meter equipment and using test procedures specified under Section 8 and Section 9 to determine whether the vehicle complies with the emission standards;

10c. If the testing result indicated to have exceeded the emission standards on smoke-belching, the computerized print-out generated by the portable emission testing equipment shall serve as prima facie evidence of violation of the emission standards;

10d. An Ordinance Violation Receipt (OVR) shall be issued by ASBU personnel to the driver and his/her driver's license shall be confiscated pending the fulfillment of the undertaking by the owner/operator of the motor vehicle to make the necessary repairs so as to comply with the standards. Confiscated driver's license shall be stored for safekeeping at the ASBU designated storage area.



10e. Upon payment of the fine at the City Treasurer's Office, temporary pass shall be issued to the driver by ASBU allowing him the use of the motor vehicle within a specified period that shall not exceed seven (7) days for the sole purpose of making the necessary repairs on the said vehicle. The owner/operator of the vehicle shall be required to correct its defect and show proof of compliance to ASBU before the vehicle can be allowed to be driven on any public or subdivision roads.

10f. Failure of the driver/operator to comply and pay the corresponding fines and penalties within the prescribed period shall compel ASBU to initiate necessary action by forwarding the name/s of the violator/s to the City Legal Office for the appropriate legal action.

10g. Motor vehicles released for purposes of repairs shall not be operated or used in public roads except for purpose of transporting of the same to the calibration service center for repairs and to the authorized emission testing center for emission testing;

10h. When the repairs are made, the vehicle must undergo an emission test at the ASBU-designated emission testing center or any authorized and accredited emission testing center to ascertain if it already meets the emission standards;

10i. Once the vehicle meets the standards, the ASBU testing center or any authorized and accredited emission testing center shall issue a Certificate of Emission Compliance (CEC) to the driver of the vehicle.

10j. Upon presentation of Certificate of Emission Compliance (CEC), the driver shall recover his driver's license from ASBU which has custody over the driver's license.

10k. In the event the driver of the apprehended vehicle contests the apprehension and/or result of the emission standards, he may appeal the same to the City Legal Office where he will be given the opportunity to be heard and present his evidence;

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Pending the creation of the City Adjudication Service, through a Local Executive Order, the City Legal Department shall function as such. The City Adjudication Service may adopt its rules and procedures in the conduct of its hearing.

**SECTION 11. CITY IN-HOUSE EMISSION TESTING CENTER** – When the repairs are made, the vehicle may undergo an emission test at the DOTC/DTI-accredited emission testing center of EPWMD to ascertain if it already meets the standards. Once the vehicle meets the standards, ASBU shall issue a Certificate of Emission Compliance (CEC) to the driver of the vehicle.

**SECTION 12. FEES/CHARGES** - Motor vehicle owners and/or operators shall be charged corresponding fees for the in-house emission testing services rendered with 50 % discount of the market rates.

**SECTION 13. FINES AND PENALTIES FOR VIOLATION OF EMISSION STANDARDS FOR MOTOR VEHICLES AND VIOLATION OF SECTION 7** - Vehicle found to have exceeded the emission standards for motor vehicles shall suffer the following penalties. (As provided for in Section 1 Part XIII of the Clean Air Act - Fines and Penalties).

13a. Fines for violation of Section 7 on Emission Limits for motorcycles/tricycles

First Offense – One hundred pesos  
Second Offense – Three hundred pesos  
Third Offense – Five hundred pesos

13b. Fines for violation of Section 7 on Emission Limits for Public Utility vehicles including private vehicles.

First Offense – A fine in the amount of One Thousand (P1,000.00) Pesos;

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*Second Offense – A fine in the amount of Three Thousand (P3,000.00) Pesos;*

*Third Offense – A fine in the amount of Five Thousand (P5,000.00) Pesos , and the offender must undergo a seminar on pollution control and management to be conducted by ASBU;*

*In case the third offense was committed within a year from the commission of the first offense, ASBU shall endorse to LTO for the suspension of the Motor Vehicle Registration (MVR) for a period of one (1) year.*

*In the case of Violation of Section 7 (Emission Test for Public Utility Vehicle Prior to Registration), the imposition of a Closure Order shall be recommended to the Business Permit and Licensing Office (BPLO).*

**SECTION 14. COLLECTION AND DISPOSITION OF FINES.**  
*The City Treasurer's Office shall receive all payment of fines for violation of this Ordinance.*

**SECTION 15. SEPERABILITY CLAUSE –** *If for any reason, any provision, section, or part of this Ordinance is declared not valid by a court of competent jurisdiction, such judgment shall not affect or impair the remaining provisions, sections, or parts which shall continue to be in force and effect.*

**SECTION 16. APPLICABILITY CLAUSE –** *All other matters relating to the impositions in this Ordinance shall be governed by pertinent provisions of existing laws and other ordinances.*

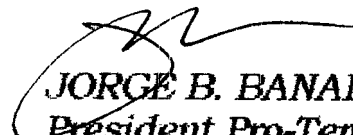
**SECTION 17. REPEALING CLAUSE –** *All ordinances, rules and regulations, or parts thereof, in conflict with, or inconsistent with any of the provisions of this Ordinance are hereby repealed or amended accordingly.*

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SECTION 18. EFFECTIVITY - There shall be a grace period of three (3) months from the date of enactment of this ordinance for the conduct of massive information campaign and another three (3) months for a warning violation with no penalties and other charges. Thereafter, this Ordinance shall take effect after publication in a news paper of general circulation.


ENACTED: September 29, 2008

  
JORGE B. BANAL, JR.  
President Pro-Tempore  
Acting Presiding Officer

ATTESTED:


  
DOROTHY D. LAGRADA, DPA  
City Secretary

APPROVED: FEB 24 2009

  
FELICIANO R. BELMONTE, JR.  
City Mayor

CERTIFICATION

This is to certify that this Ordinance was APPROVED by the City Council on Second Reading on September 29, 2008 and was PASSED on Third/Final Reading on October 6, 2008.

  
DOROTHY D. LAGRADA, DPA  
City Secretary 